Draft Environmental Impact Report

Santa Clara University Five-Year Master Plan

City of Santa Clara

May 2016

PREFACE

This document has been prepared by the City of Santa Clara as the Lead Agency, in conformance with the California Environmental Quality Act (CEQA), the CEQA Guidelines (Title 14, California Code of Regulations §15000 *et seq.*), and the regulations and policies of the City of Santa Clara. The purpose of this Environmental Impact Report (EIR) is to inform decision makers and the general public of the environmental effects of the proposed project, to identify ways in which the significant effects might be minimized, and to identify alternatives to the project that could avoid or reduce those significant impacts.

Purpose of the EIR

In accordance with CEQA, this EIR provides objective information regarding the environmental consequences of the proposed project to the decisions makers who will be considering and reviewing the proposed project. The CEQA Guidelines contain the following general information of the role of an EIR and its contents:

> **§15121(a) – Informational Document.** 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 the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR, along with other information that may be presented to the agency.
>
> **§15145 – Speculation.** If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact.
>
> **§15151 – Standards for Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information that enables them to make a decision that intelligently considers environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should 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.

Noticing and Availability

In accordance with Section 15082 of the CEQA Guidelines, a Notice of Preparation (NOP) was circulated to the public and responsible agencies for input regarding the analysis in this EIR. This EIR addresses those issues which were raised by regulatory agencies in response to the NOP. The NOP and copies of the comment letters received are provided in Appendix I of this EIR.

This EIR and all documents referenced in it are available for public review in the Office of Planning and Inspection at Santa Clara City Hall, 1500 Warburton Avenue, during normal business hours.

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

SUMMARY

The proposed project is the implementation of a Master Plan for Santa Clara University (SCU). The Master Plan describes and outlines SCU's building program for the next five years, identifying campus planning goals and providing guidelines for the physical development of the SCU campus. Construction of the new facilities would be phased over a five year period and would result in a net increase of approximately 262,575 square feet of new academic space and 600 beds, resulting in up to 600 new students.

The following is a summary of the significant impacts and mitigation measures addressed within this EIR. The project description and full discussion of impacts and mitigation measures can be found in *Section 2.0 Description of the Proposed Project, Section 4.0 Environmental Setting, Impacts, & Mitigation, and Section 6.0 Cumulative Impacts* of this EIR.

Significant Impacts	Mitigation Measures
Cultural Resources – Section 4.2	
Impact CUL-1: Redevelopment of project site 1 would result in the exposure and possible destruction of third Mission and American Period resources.	MM CUL-1.1: The final site plan for project site 1, including building foundations and utility trenches, will be designed to avoid disturbance of identified significant architectural resources associated with the third Mission to allow for preservation in place. All non-architectural Mission Period and all American Period features shall be avoided to the extent possible. Final design to avoid significant subsurface features will be based on diagrams of the identified features prepared by the project archaeologist. Design features could include: • Shallow foundation footings and/or rerouting of utility lines to avoid significant archaeological features. • Incorporation of greenspace preserves to protect significant archaeological features from development. • Covering archaeological features with a layer of chemically stable soil before building hardscape over identified features. The final site plan must be approved by the Planning Department prior to issuance of grading permits. MM CUL-1.2: For resources where preservation in place is not feasible, data recovery will occur consistent with the requirements of the *Master Cultural Resources Treatment Plan for the Santa Clara University 2020 Plan* (July 2015). MM CUL-1-3: Upon completion of all field work, but before completion of the Findings Report, a preliminary report outlining the data recovery work on the site shall be submitted to the Director of Planning and Inspection for review and approval prior to issuance of building permits. **Less Than Significant Impact With Mitigation**

Significant Impacts	Mitigation Measures
Cultural Resources – Section 4.2	
Impact CUL-2: Future development under the proposed project could result in the exposure or destruction of as yet unrecorded subsurface prehistoric and historic archaeological artifacts and possibly human remains.	MM CUL-2.1: After completion of final building design for each of the proposed development sites, a site-specific cultural resources treatment plan shall be prepared and approved by the Director of Planning and Inspection prior to issuance of any of demolition permits. The treatment plans will tier off the *Master Cultural Resources Treatment Plan for the Santa Clara University 2020 Plan* (July 2015) and will conform to all requirements outlined in the *Master Cultural Resources Treatment Plan.* [see pages 48-51 of this EIR for the specific elements of the treatment plan] MM CUL-2.2: Upon completion of all field work for each individual treatment plan, but before completion of the Findings Report (outlined in MM CUL-2.1), a preliminary report outlining the data recovery work on the site(s) shall be submitted to the Director of Planning and Inspection for review and approval prior to issuance of building permits for each of the proposed development sites. **Less Than Significant With Mitigation**
Impact CUL-3: Implementation of the proposed Master Plan would result in the demolition of one building and could result in physical damage to five buildings which are listed or eligible for listing on the CRHR and the City's Historic Resources Inventory. Demolition and/or damage to one of more historic structures would constitute a significant impact.	MM CUL-3.1: As mitigation for the demolition of one historic structure on the project site and possible physical damage to five buildings, the project proposes to document these six structures in accordance with Historic American Building Survey (HABS) guidelines. [see page 51 of this EIR] MM CUL-3.2: <u>Salvage:</u> Bergin Hall will be made available to salvage companies facilitating the reuse of historic building materials. MM CUL-3.3: As a condition of approval, the City will require the following measures: <u>Documentation:</u> A Secretary of the Interior qualified historian will prepare an oral history of the project area. The oral history will take the form of a written report with transcribed interviews of former residents and photographs, to the extent that they are available. The final report will be provided to the City and will also be distributed to Santa Clara libraries and historical organizations in Santa Clara. <u>Salvage:</u> The time frame available for salvage will be established by the City. The applicant must provide evidence to City staff that this condition has been met prior to the issuance of demolition permits.

Significant Impacts	Mitigation Measures
Cultural Resources – Section 4.2	
	MM CUL-3.4: A historical architect with a minimum of five years of experience in the rehabilitation and restoration of historic buildings, as well as meeting the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualifications Standards Qualifications Standards shall be engaged to prepare protection plans for the historic resources adjacent to proposed demolition and new construction activities. [see page 52 of this EIR] **Significant Unavoidable Impact**
Air Quality – Section 4.4	
Impact AIR -1: Construction of multiple projects simultaneously that equate to more than 277,000 square feet could exceed construction emission thresholds.	MM AIR 1-1: If the University files for building permits where total construction projects occurring simultaneously would be equal to or greater than 277,000 square feet, the total combined emissions of the projects shall be calculated by a qualified air quality consultant to identify mitigation measures that may be necessary to ensure average daily emissions do not exceed significance thresholds. The findings of the analysis shall be provided to the Director of Planning and Inspection prior to the issuance of building permits. If the combined emissions are below established thresholds, no additional actions are required. If the combined emissions exceed established thresholds, emission control measures must be identified to reduce emissions below the thresholds. The University must show qualitative proof of the effectiveness of the control measures prior to issuance of building permits or reduce the amount of development proposed. Measures that may be required to ensure emissions do not exceed significance thresholds include the following: • Use of construction equipment that meets U.S. EPA Tier 3 emissions standards and where necessary, U.S. EPA Tier 4 emission standards, if commercially available; • Use of alternative fuels that have lower emissions or electric-powered equipment in lieu of diesel powered equipment; and • Scheduling of activities to reduce emissions, such as extending the construction period to avoid intensive periods that produce high emissions. **Less Than Significant Impact With Mitigation**

Significant Impacts	Mitigation Measures
Air Quality – Section 4.4	
Impact AIR -2: Construction of the proposed project would result in a temporary community risk (TAC) impact.	MM AIR 2-1: All diesel-powered off-road equipment larger than 50 horsepower and operating at the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 2 engines or equivalent. **Less Than Significant Impact With Mitigation**
Noise – Section 4.7	
Impact NOI-1: Construction of the proposed student housing could expose future residents in units facing The Alameda to interior noise levels in excess of acceptable City and State standards for residential development.	MM NOI-1.1: Forced air mechanical ventilation, satisfactory to the local building official, shall be incorporated into all residential units facing The Alameda to allow occupants the option of keeping windows closed to control noise intrusion. **Less Than Significant Impact With Mitigation**
Impact NOI-2: Ground-borne vibration resulting from construction activities associated with implementation of the Master Plan could cause structural damage to nearby buildings.	MM NOI-2.1: Heavy vibration-generating construction equipment, such as vibratory rollers or clam shovel drops, are prohibited within 25 feet of any historic buildings or campus residences. **Less Than Significant Impact With Mitigation**
Geology and Soils – Section 4.8	
Impact GEO-1: Future development under the proposed Master Plan could interfere with the shallow groundwater table.	MM GEO-1.1: To account for seasonal variations in the groundwater level, the following measures shall be implemented: • Excavate an additional 12 to 18 inches below subgrade, place a layer of stabilization fabric at the bottom, and backfill with clean crushed rock. • Dewatering shall adhere to all applicable laws and regulations. **Less Than Significant Impact With Mitigation**
Biological Resources – Section 4.10	
Impact BIO-1: Construction activities associated with the proposed project could result in the loss of fertile eggs, nesting raptors or other migratory birds, or nest abandonment.	MM BIO-1.1: Construction shall be scheduled to avoid the nesting season to the extent feasible. The nesting season for most birds, including most raptors in the San Francisco Bay area, extends from February 1 through August 31.

Significant Impacts	Mitigation Measures
Biological Resources – Section 4.10	
	MM BIO-1.2: If it is not possible to schedule demolition and construction between September and January, pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of construction activities during the early part of the breeding season (February 1 through April 30) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May 1 through August 31). During this survey, the ornithologist will inspect all trees and other possible nesting habitats immediately adjacent to the construction areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with California Department of Fish and Wildlife, will determine the extent of a construction-free buffer zone to be established around the nest, typically 250 feet, to ensure that raptor or migratory bird nests will not be disturbed during project construction. **Less Than Significant Impact With Mitigation**
Hazards and Hazardous Materials – Section 4.11	
Impact HAZ-1: Implementation of the proposed project could expose construction workers to residual soil contamination from two recorded LUSTs located adjacent to Building 601.	MM HAZ-1.1: Pursuant to the requirements of the case closure, the County shall be notified prior to any changes in land use, grading activities, excavation, and installation of water wells in the identified contamination area adjacent to Building 601. MM HAZ-1.2: After County notification and prior to issuance of grading permits, soil samples shall be taken to the depth of planned excavation around the area of the previous USTs adjacent to Building 601 to determine if contaminated soil is located on-site with concentrations above established construction/trench worker thresholds. The soil sampling plan must be reviewed and approved by the Santa Clara Fire Chief prior to initiation of work. MM HAZ-1.3: Once the soil sampling analysis is complete, a report of the findings will be provided to the Santa Clara Fire Chief, Director of Planning and Inspection, and other applicable City staff for review.

Significant Impacts	Mitigation Measures
Hazards and Hazardous Materials – Section 4.11	
	MM HAZ-1.4: If contaminated soils are found in concentrations above established thresholds a Site Management Plan (SMP) will be prepared and implemented (as outlined below) and any contaminated soils found in concentrations above established thresholds shall be removed and disposed of according to California Hazardous Waste Regulations. The contaminated soil removed from the site shall be hauled off-site and disposed of at a licensed hazardous materials disposal site. The SMP will be prepared to establish management practices for handling impacted soil material that may be encountered during site development and soil-disturbing activities. Components of the SMP will include: a detailed discussion of the site background; preparation of a Health and Safety Plan by an industrial hygienist; notification procedures if previously undiscovered significantly impacted soil or free fuel product is encountered during construction; on-site soil reuse guidelines based on the California Regional Water Quality Control Board, San Francisco Bay Region's reuse policy; sampling and laboratory analyses of excess soil requiring disposal at an appropriate off-site waste disposal facility; soil stockpiling protocols; and protocols to manage groundwater that may be encountered during trenching and/or subsurface excavation activities. Prior to issuance of grading permits, a copy of the SMP must be approved by the City's Director of Planning and Inspection, and the Santa Clara Fire Chief. **Less Than Significant Impact With Mitigation**

Cumulative Impacts

Implementation of the proposed project would result in in a cumulatively considerable impact on Mission Period architectural artifacts. Please refer to Section 6.0 for a complete discussion.

Summary of Alternatives to the Proposed Project

CEQA requires that an EIR identify alternatives to the project as proposed. The CEQA Guidelines specify that an EIR identify alternatives which "would feasibly attain the most basic objectives of the project but would avoid or substantially lessen many of the significant environmental effects of the project."

Below is a summary of the project alternatives. A full analysis of the project alternatives is provided in Section 7.0 of this EIR.

A. NO PROJECT ALTERNATIVE

The CEQA Guidelines [§15126(d)4] require that an EIR specifically discuss a "No Project" alternative, which shall address both "the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project is not approved, based on current plans and consistent with available infrastructure and community services." The most likely No Project alternative would be for project site 1 to remain developed as is and for Bergin Hall to be retained, which would have no impacts.

B. SITE DESIGN ALTERNATIVE

In an effort to avoid the significant impacts to subsurface Mission Period artifacts on project site 1 that would result from implementation of the Master Plan but still allow the University to construct a new law school building, this alternative evaluates a revised site design. Under the Site Design alternative, the project would still propose a new law school building and would retain Bergin Hall to avoid the significant historic building impact. This alternative would replicate all known aspects of the proposed law school building pertaining to size and massing.

Under current campus conditions, there is no undeveloped location of equal size to project site 1 on which to construct the law school building. An existing building would need to be demolished. Alternatively, the building could be constructed on the west side of O'Connor Hall, which would require a smaller building footprint and equate to a taller building. A third option would be to construct the law school on project site 5, where the Daly Science Center is proposed to be demolished but no development is proposed.

Demolition of another building on-site does not appear feasible as all currently proposed demolition, other than the Daly Science Center, is specifically intended to allow for replacement buildings for existing University operations. Demolition of another building would require identification of replacement space for the existing operations in an existing structure or construction of an additional building. In addition, if another building was proposed for demolition, it would have to be a non-historic structure.

The extent of subsurface artifacts at the O'Connor location is not currently known. Based on available data, it is reasonable to assume that the site would have Mission Period and American Period artifacts. The Mission Period artifacts at this location would, however, likely be less significant than what is on project site 1 due to the site being further removed from the Third Mission Quadrangle.

The third option would be to construct the new law school on project site 5, the current location of the Daly Science Center. This project site has no development proposal. The buildings are proposed to be demolished as they will no longer be required after the new STEM facility is constructed on project site 2. This site is comparable in size to project site 1 and, as a result, the building could remain at four stories.

Areas of Known Controversy

No comments were received from the general public and, as a result, there are no known areas of controversy.

SECTION 1.0 INTRODUCTION AND PURPOSE

1.1 OVERVIEW

Santa Clara University (University) is a private university located within the City of Santa Clara. Current enrollment (as of Spring 2015) is 8,286 students, of which 5,171 are undergraduates and 3,115 are graduate students. In 2003, the University was granted a Master Use Permit to construct a number of improvements on the main campus, including a new business school, a multi-use facility, a parking structure, and expansions of the Benson Center, Heafy Law Library, and Orradre Library. Most of the Master Plan improvements have been implemented. Subsequent to the Master Use Permit approval, in 2005, the University received approval to construct a new Jesuit residence just off the main campus as well as a new surface parking lot on the main campus. In 2012, the University received approval for a new Art/Art History building and parking structure immediately north of the main campus.

This Environmental Impact Report (EIR) evaluates the impacts of the currently proposed project which is comprised of various redevelopment and expansion projects (as described in Section 2.0) within the boundaries of the main campus.

This EIR has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) and the City of Santa Clara. The purpose of this EIR is to provide objective information regarding the environmental consequences of the proposed project to the decision makers who will be reviewing and considering the project, and to the general public.

1.2 PROJECT LOCATION

The approximately 110-acre project site (defined as the main campus) is located on the south side of Franklin Street between Lafayette Street and El Camino Real/The Alameda in the City of Santa Clara. (see Figures 1.0-1 and 1.0-2).

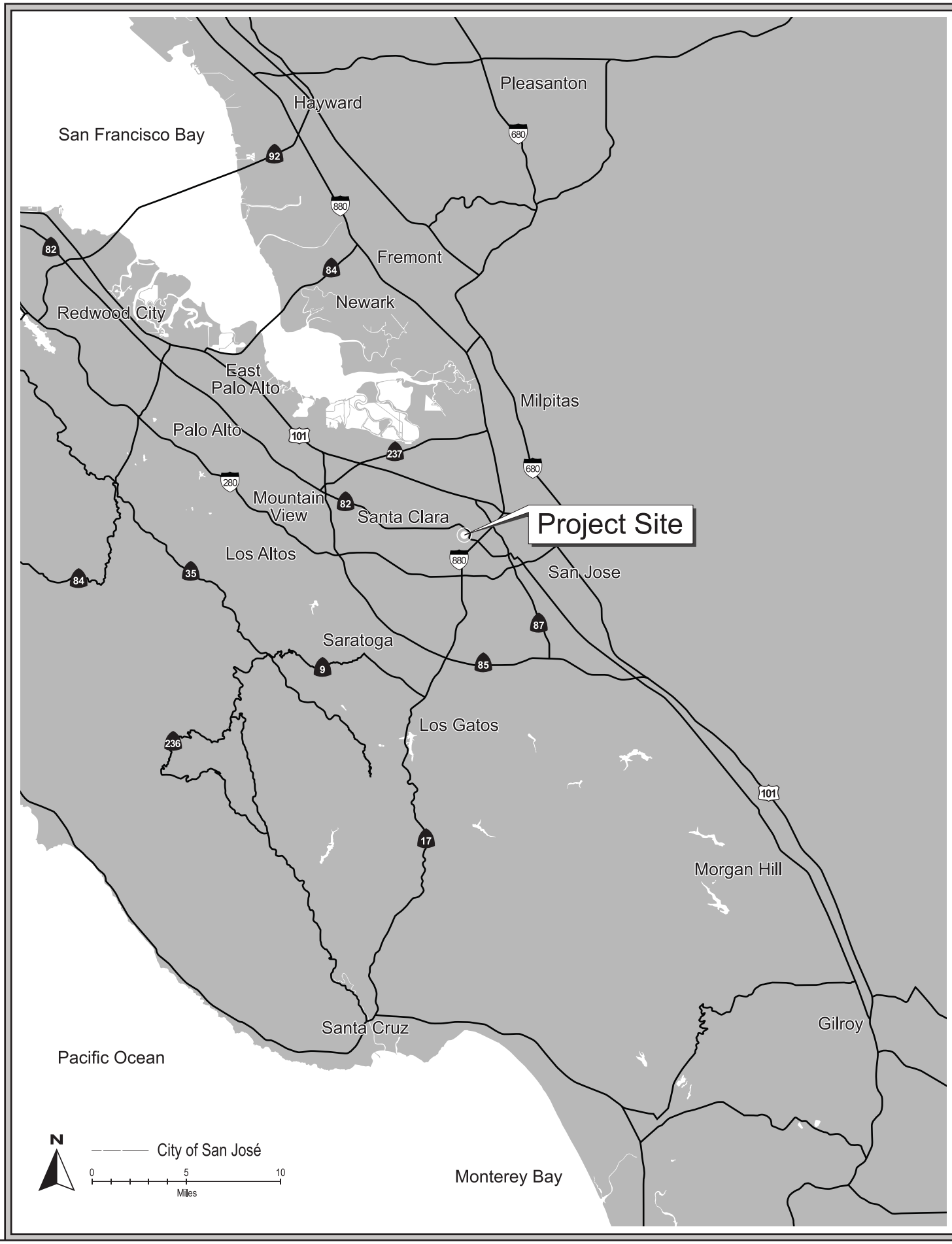
1.3 PROJECT OBJECTIVES

Pursuant to CEQA Guidelines Section 15124, the EIR must identify the objectives sought by the proposed project.

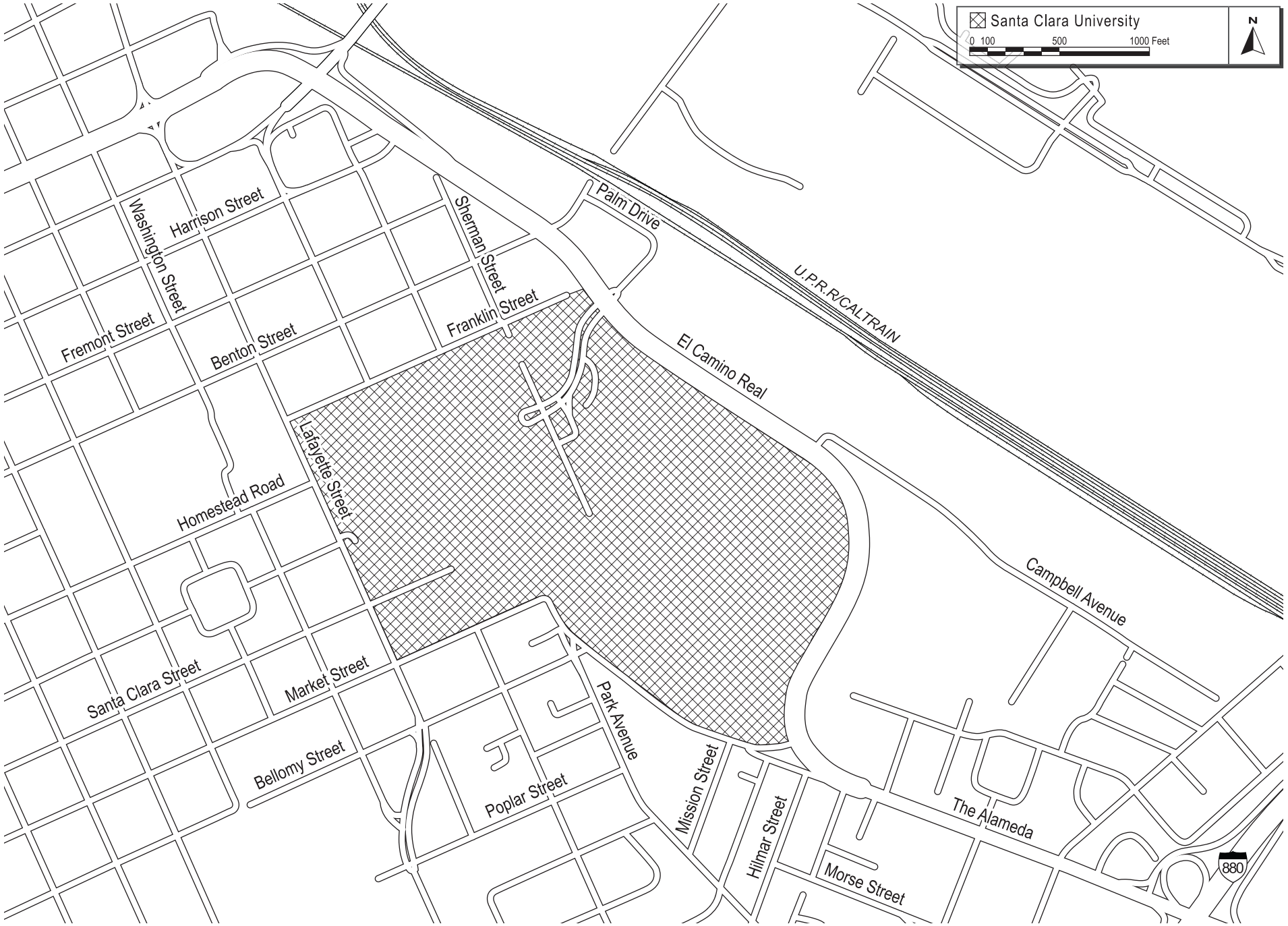
The stated objectives of the project proponent are to:

1. Launch transformative projects that support the University's strategic plan for continued excellence in Jesuit education, engagement with Silicon Valley, global understanding and engagement, and continued support of justice and sustainability.

2. Respond to the emerging challenges in higher education to ensure long-term capacity for growth and/or renewal, provide more students with a college education in which they are likely to graduate in four years, be gainfully employed, and not be burdened with an unreasonable amount of student debt, and achieve greater economies of scale, thereby reducing the average instructional cost per student.



REGIONAL MAP FIGURE 1.0-1



VICINITY MAP

FIGURE 1.0-2

3. Reinforce emerging campus districts.

4. Protect special qualities of campus spaces and buildings.

5. Complement the City of Santa Clara revitalization places and be a good neighbor.

1.4 CITY OF SANTA CLARA OBJECTIVES

The stated objectives of the City of Santa Clara are to:

- Work with Santa Clara University to improve compatibility between University-owned properties and nearby historic resources with development that is compatible in scale, materials, design, height, mass and context with the surrounding neighborhood.
- Encourage adaptive reuse of historic structures to promote preservation.
- Allow expansion of Santa Clara University to meet the needs of the academic community and provide quality education.
- Avoid or reduce impacts to archeological and cultural resources.
- Protect historic resources from demolition.

1.5 USES OF THE EIR

This EIR is intended to provide the City of Santa Clara, other public agencies, and the general public with the relevant environmental information needed in considering the proposed project.

The City of Santa Clara anticipates that discretionary approvals by the City, including but not limited to the following, will be required to implement the project addressed in this EIR:

1. Use Permit
2. Site and Architectural Review
3. Issuance of grading, building, and occupancy permits

SECTION 2.0 DESCRIPTION OF THE PROPOSED PROJECT

The proposed project is the implementation of a Master Plan for Santa Clara University (SCU). The Master Plan describes and outlines SCU's building program for the next five years, identifying campus planning goals and providing guidelines for the physical development of the SCU campus.

The Master Plan includes seven specific building projects that will be constructed within the boundaries of the main campus. Specific site plans have not yet been developed for any of the proposed development projects. (See Figure 2.0-1) Construction of the new facilities will be phased over a five year period and will result in a net increase of approximately 262,575 square feet of new academic space and 600 beds, resulting in up to 600 new students. The projects, in no specific order, are as follows:

2.0.1 Project 1 – School of Law

There is an existing 163-space surface parking lot located at the southeast corner of Franklin Street and Sherman Street. As proposed, the parking lot would be removed and a new Law School building would be constructed. The building would total 100,000 square feet with a maximum height of three stories. The building would include faculty office space and classrooms.

Site 1 is known to contain subsurface cultural resources. As a result, the following building design features are proposed as part of the project:

- Sixty-four drilled piers are proposed as part of the foundation system for the southeast corner of the building. Support beams would span the piers.

- The remainder of the building would be on numerous foundation footings spread throughout the site.

2.0.2 Project 2 – Science, Technology, Engineering, and Mathematics (STEM) Center

The University's STEM program is currently located within the Daly Science Center, which consists of three one-story buildings (207, 210, and 211) totaling 42,813 square feet. The new STEM Center would be comprised of three buildings to be constructed in three phases. Phase 1 will be located in the current location of Buildings 202 (Heafey Law Library) and 203 (Bergin Hall). Building 202 was originally constructed in 1962 and is 47,568 square feet in size. Building 203 was constructed in 1938 and is 15,900 square feet in size. The project proposes to demolish the two buildings (the law library would relocate into the new School of Law building) and construct a 83,000 square foot, three-story structure in the general area of Heafey Law Library. The area currently occupied by Bergin Hall would become open space.

Phase 2 will be located in the current location of Buildings 402 (Murphy Hall) and 403 (Bannan Engineering Labs). The existing buildings, both constructed in 1960, total 38,496 square feet. Building 402 includes classrooms and office for the School of Engineering. Building 403 includes undergraduate teaching and graduate research laboratories along with a large multipurpose space for teaching, presentations, and social events. As proposed, the project would demolish Buildings 402

PROJECT OVERVIEW FIGURE 2.0-1

and 403 and construct two attached structures totaling 163,400 square feet with a maximum height of four stories.

Phase 3 will be located in the current location of Buildings 404 (Bannan Engineering) and 405 (Bannan Hall). Building 404, which was constructed in 1985 and totals 43,418 square feet, currently houses laboratory space. Building 405, which was constructed in 1973 and totals 49,079 square feet, currently houses classrooms and offices for the School of Law. The project proposes to demolish Buildings 404 and 405 and construct a new building totaling a maximum of 123,500 square feet and three stories.

Overall, Project 2 would demolish 194,461 square feet of existing buildings and construct three new buildings totaling 369,900 square feet, for a net increase of 175,439 square feet. The three new buildings combined would comprise the new STEM Center.

2.0.3 Project 3 – New Residence Halls

There is an existing one-story, 19,000-square foot art building located at the southeast corner of The Alameda and Bellomy Street, adjacent to Sobrato Hall student residence. In 2012 the City of Santa Clara approved construction of a new three-story, 44,111 square foot Art/Art History building on the north side of Franklin Street between The Alameda and Alviso Street that would replace the existing facility. As proposed, the project would demolish the existing art building and construct a 55,800 square foot addition to Sobrato Hall.[1] The additional would be a four stories tall and have space for 250 beds.

Immediately south of Sobrato Hall is an existing 158-space surface parking lot. The project proposes to remove the parking lot and construct a four-story, 132,854 square foot residence hall with ~~414~~ 350 beds. Once level of underground parking with 158 parking spaces is proposed under the residence hall to offset the loss of the surface parking lot on project site 3.

2.0.4 Project 4 – Replacement of Cowell Center

The existing Cowell Center is a one-story, 10,414 square foot building that was constructed in 1975 and provide health services to students. The facility is located south of Leavey Center, adjacent to the Tennis Center and in proximity to other sports facilities and student housing. As proposed, the project would demolish the existing building and construct a two-story, 38,000 square foot building. Student Health Services would occupy this building along with indoor practice space for NCAA athletes and recreational sports.

2.0.5 Project 5 – Demolition of the Daly Science Center

The existing Daly Science Center, located south of the Alumni Science Hall at the north end of campus, consists of three buildings totaling 42,813 square feet. The buildings were constructed in 1965 and are currently used for the STEM program. The Master Plan includes construction of three new buildings to house the STEM Center (Project 2). Once all three phases of the proposed STEM

[1] Sobrato Hall is a four-story, 145,500 square foot residential hall with 270 beds for students in all grade levels.

Center are complete, the Daly Science Center would be demolished and the area utilized as passive open space. There are no current development plans for this location.

2.0.6 Project 6 – Renovation of Benson Center

The existing Benson Center is a one- to two-story, 100,716 square foot building (with a below grade building level) constructed in 1965. The facility, located immediately north of Market Street, is used for meeting and dining space, and has common areas for students. The project proposes to expand the building on the north, east, and west, adding 21,363 square feet to support the proposed increase in student population. The building additions would be one-story.

2.0.7 Construction and Phasing

Project construction lay down areas would be within the footprints of the new buildings and additions areas.

It is anticipated that the projects would be constructed in the following order:

1. School of Law
2. Benson Center Expansion
3. 350-bed Residence Hall
4. STEM Phase 1
5. STEM Phase 2
6. Cowell Center Replacement
7. 250-bed Residence Hall
8. STEM Phase 3
9. Demolition of Daly Science Center

In conformance with Section 15125(d) of the CEQA Guidelines, the following section discusses the consistency of the proposed project with relevant adopted plans and policies.

3.1 Bay Area 2010 Clean Air Plan

The Bay Area Air Quality Management District (BAAQMD), in cooperation with the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), prepared the Bay Area 2005 Ozone Strategy (Ozone Strategy). The Ozone Strategy served as a roadmap showing how the San Francisco Bay Area will achieve compliance with the state one-hour air quality standard for ozone as expeditiously as practicable and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. In 2010, BAAQMD adopted a new Clean Air Plan with the intent of updating the 2005 Ozone Strategy to comply with State air quality planning requirements as codified in the California Health and Safety Code.

The Bay Area 2010 Clean Air Plan (CAP) provides a comprehensive plan to improve Bay Area air quality and protect public health. The CAP defines a control strategy that the Air District and its partners will implement to: (1) reduce emissions and decrease ambient concentrations of harmful pollutants; (2) safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily impacted by air pollution; and (3) reduce greenhouse gas (GHG) emissions to protect the climate.

Consistency: The proposed project would replace existing educational buildings on campus with new buildings and construct new student housing, increasing the potential number of students and faculty at the University. While the student population will increase over the timeframe of the Master Plan, the amount of parking on campus (which currently exceeds demand) will not (see Section 4.3, *Transportation)*. At full build-out, the project would result in approximately 1,211 net new daily trips. The project would however, include Green Building design features that would reduce the energy required for heat and light and less water than a standard design educational building and the older buildings being replaced. In addition, the site is an infill location and is currently served by public transportation. As a result, the proposed project would not conflict with the CAP.

3.2 Santa Clara County Congestion Management Program

The Santa Clara Valley Transportation Authority (VTA) oversees the *Santa Clara County Congestion Management Program* (CMP). The relevant State legislation requires that all urbanized counties in California prepare a CMP in order to obtain each county's share of gas tax revenues. The CMP legislation requires that each CMP contain the following five mandatory elements: 1) a system definition and traffic level of service standard element; 2) a transit service and standards element; 3) a trip reduction and transportation demand management element; 4) a land use impact analysis program element; and 5) a capital improvement element. The Santa Clara County CMP includes the five mandated elements and three additional elements, including: a county-wide transportation model and data base element, an annual monitoring and conformance element, and a deficiency plan element.

Consistency: The current CMP model accounts for growth in Santa Clara based on ABAG assumptions and the current General Plan. The proposed project was not part of the planned jobs growth of the City. Nevertheless, traffic trips generated by the proposed project would not exceed the baseline level of service standards adopted by the Santa Clara County Valley Transportation Authority for local intersections. As a result, the proposed project would not have a significant impact on any CMP intersections (see Section 4.9, *Transportation*) and is consistent with the CMP.

3.3 State Water Quality Control Board National Pollutant Discharge Elimination System Permit

The Porter-Cologne Water Quality Control Act and Federal Clean Water Act require local municipalities to implement measures to control construction and post-construction pollution entering local storm drainage systems to the maximum extent practicable. To comply with the requirements of the Porter-Cologne Water Quality Control Act and Federal Clean Water Act, the State Water Resources Control Board (SWRCB) implemented a National Pollution Discharge Elimination System (NPDES) permit for the Santa Clara Valley. Subsequent to implementation of the permit, the San Francisco Regional Water Quality Control Board (RWQCB) issued a Municipal Storm Water NPDES Permit to fifteen co-permittees. The fifteen co-permittees are the City of Santa Clara, twelve other municipalities within the Santa Clara basin watershed area, the County of Santa Clara, and the Santa Clara Valley Water District (SCVWD). Two programs, the Nonpoint Source Pollution Program and the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), have been implemented under the NPDES permit to control construction and post-construction runoff.

Nonpoint Source Management Plan

In 1988, the SWRCB adopted the Nonpoint Source Management Plan in an effort to control nonpoint source pollution in California. In December 1999, the Plan was updated to comply with the requirements of Section 319 of the Clean Water Act and Section 6217 of the Coastal Zone Act Reauthorization Amendment of 1990. The Nonpoint Source Management Plan requires individual permits to control discharge associated with construction activities. The Nonpoint Source Management Plan is administered by the RWQCB under the NPDES General Permit for Construction Activities. Projects must comply with the requirements of the Nonpoint Source Program if:

- they disturb one acre or more of soil; or
- they disturb less than one acre of soil but are part of a larger development that, in total, disturbs one acre or more of soil.

The NPDES General Permit for Construction Activities requires the developer to submit a Notice of Intent (NOI) to the RWQCB and to develop a Stormwater Pollution Prevention Plan (SWPPP) to control discharge associated with construction activities.

Consistency: Implementation of all future projects under the proposed Master Plan would disturb more than one acre of soil and would require compliance with the Nonpoint Source Program. For a discussion of the measures proposed by the project to achieve compliance with the Nonpoint Source

Program, refer to Section 4.9, *Hydrology and Water Quality*. With implementation of the proposed measures, the project will be consistent with the Nonpoint Source Management Plan.

Santa Clara Valley Urban Runoff Pollution Prevention Program – Municipal Regional Stormwater NPDES Permit

The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) was developed by the RWQCB to assist co-permittees to implement the provisions of the NPDES permit. This program was also designed to fulfill the requirements of Section 304(1) of the Federal Clean Water Act, which mandated that the Environmental Protection Agency develop NPDES application requirements for stormwater runoff. The Program's Municipal Regional NPDES stormwater permit (adopted on October 14, 2009) replaces the formerly separate countywide municipal stormwater permits with one permit for all 76 Bay Area municipalities to standardize requirements throughout the region. It specifies actions necessary to reduce the discharge of pollutants in stormwater to the maximum extent practicable and effectively prohibits non-stormwater discharges into the municipal storm drainage system to protect local creeks and the Bay.

Applicable projects consist of all new public and private projects that create 10,000 square feet or more of impervious surface collectively over the entire project site and redevelopment projects that add or replace 10,000 square feet or more of impervious surface area on the project site. Additional requirements must be met by large projects that create one acre or more of impervious surfaces. These larger projects must control increases in runoff peak flow, volume, and duration (referred to as hydromodification) caused by the project if the increase in stormwater runoff has the potential to cause erosion or other adverse impacts to receiving streams.

Consistency: As discussed in Section 4.9, *Hydrology and Water Quality,* all future projects under the proposed Master Plan will include applicable Best Management Practices to ensure that there is no increase in erosion or sedimentation that could impact local waterways. The implementation of erosion control and stormwater management practices during and after project construction will be in accordance with the Municipal Regional Stormwater NPDES permit requirements. Therefore, the proposed project would be consistent with the Municipal Regional Stormwater NPDES permit and the Construction General NPDES Permit.

3.4 City of Santa Clara General Plan

The City of Santa Clara's General Plan is an adopted statement of goals and polices for the future character and quality of development in the community as a whole. The following is a summary of relevant sections of the General Plan that would apply to the proposed project.

3.4.1 Land Use Policies

Policy 5.3.1-P3: Support high quality design consistent with adopted design guidelines and the City's architectural review process.

Consistency: The final design of the individual proposed projects will be subject to the City's architectural review process. Therefore, the project is consistent with Policy 5.3.1-P3.

Policy 5.3.1-P11: Encourage new developments proposed within a reasonable distance of an existing or proposed recycled water distribution system to utilize recycled water for landscape irrigation, industrial processes, cooling and other appropriate uses.

Consistency: The project proposes to utilize recycled water for all landscape irrigation. Therefore, the proposed project is consistent with Policy 5.3.1-P11 and would reduce water use consistence with the City's Climate Action Plan.

Policy 5.3.1-P29: Encourage design of new development to be compatible with, and sensitive to, nearby existing and planned development, consistent with other applicable General Plan policies.

Consistency: All development under the proposed Master Plan would be within the existing University campus and would be comparable in massing and scale to the existing campus development. Therefore, the proposed project is consistent with Policy 5.3.1-P29.

3.4.4 Historic Preservation Policies

Policy 5.6.1-P2: Protect the historic integrity of designated historic properties and encourage adaptive reuse when necessary to promote preservation.

Consistency: Implementation of the proposed project would result in the demolition of one historic structure and possible damage to five historic structures (see discussion in Section 4.2, *Cultural Resources*). Therefore, the proposed project is not consistent with Policy 5.6.1-P2.

Policy 5.6.1-P3: Protect historic resources from demolition, inappropriate alterations and incompatible development.

Consistency: As stated above, implementation of the proposed project would result in the demolition of one historic structure and possible damage to five historic structures. Therefore, the proposed project is not consistent with Policy 5.6.1-P3.

3.4.5 Public Facilities and Services Policies

Policy 5.9.3-P1: Encourage design techniques that promote public and property safety in new development and public spaces.

Consistency: The proposed individual project designs will be reviewed by the police and fire departments through the City's project clearance process. In addition, all structures will be constructed in compliance with building and fire code standards in place at the time of building permit issuance. Therefore, the proposed project is consistent with Policy 5.9.3-P1.

3.4.6 Environmental Quality

Policy 5.10.1-P4: Protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size, and all other trees over 36 inches in circumference measured from 48 inches above-grade on private and public property as well as in the public right-of-way.

Consistency: As proposed, the project would remove all trees (including 108 protected trees) within the identified areas of impact. The trees will be replaced with new trees. Because the proposed project does not preserve existing mature trees with the development sites, it is not consistent with Policy 5.10.1-P4.

Policy 5.10.1-P6: Require adequate wastewater treatment and sewer conveyance capacity for all new development.

Consistency: The existing sanitary sewer system has sufficient capacity to support the proposed project as discussed in Section 4.12, *Utilities*. Therefore, the project is consistent with Policy 5.10.1-P6.

Policy 5.10.2-P6: Require "Best Management Practices" for construction dust abatement.

Consistency: The proposed project will be required to implement best management practices consistent with BAAQMD requirements for construction dust abatement as discussed in Section 4.4. Therefore, the proposed project is consistent with Policy 5.10.2-P6.

Policy 5.10.3-P4: Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.

Consistency: Final design of the proposed buildings will include various green building measures, but no solar is proposed and the site planning and construction techniques do not incorporate sustainable practices. While the project does not propose solar, it proposes to incorporate green building measures and is, therefore, consistent with Policy 5.10.3-P2.

Policy 5.10.3-P5: Reduce energy consumption through sustainable construction practices, materials and recycling.

Consistency: The project proposes to salvage or recycle discarded building materials (i.e., existing hardscape and remnant materials from construction) to reduce the amount of demolition and construction waste going to the landfill. The project does not, however, propose sustainable construction practices or use of materials. Therefore, the proposed project is consistent with the recycling component of Policy 5.10.3-P3 but inconsistent with the other goals of the policy.

Policy 5.10.4-P4: Require an adequate water supply and water quality for all new development.

Consistency: Based on a Water Supply Assessment prepared by the City (see Section 4.12, *Utilities)*, the City has sufficient water supply to support the proposed project. Therefore, the project is consistent with Policy 5.10.4-P4.

Policy 5.10.4-P7: Require installation of native and low-water consumption plant species when landscaping new development and public spaces to reduce water usage.

Consistency: The proposed Master Plan does not include a list of plant species to be included in the overall landscape design. The City would, however, require all new landscaping to include native and/or low water consumption plants. The final landscape plan for each project location will be

verified through the City's Architectural Review process. Therefore, the project is consistent with Policy 5.10.4-P7.

Policy 5.10.4-P8: Require all new development within a reasonable distance of existing or proposed recycled water distribution systems to connect to the system for landscape irrigation.

Consistency: The project proposes to utilize recycled water for all landscape irrigation. Therefore, the proposed project is consistent with Policy 5.10.4-P8.

Policy 5.10.5-P6: Require that new development is designed to meet current safety standards and implement appropriate buildings codes to reduce risks associated with geologic conditions.

Consistency: All future buildings constructed under the Master Plan will be required to conform to the requirements of the California Building Code and the recommendations of a site specific geotechnical assessment. Therefore, the proposed project is consistent with Policy 5.10.5-P6.

Policy 5.10.5-P15: Require new development to minimize paved and impervious surfaces and promote on-site Best Management Practices for infiltration and retention, including grassy swales, pervious pavement, covered retention areas, bioswales, and cisterns, to reduce urban water run-off.

Consistency: The Master Plan will implement an operational stormwater management plan consistent with the requirements of RWQCB that will provide treatment and infiltration of stormwater prior to the water entering the storm drainage system, including the use of vegetated swales. Therefore, the proposed project is consistent with Policy 5.10.5-P15.

Policy 5.10.5-P16: Require new development to implement erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity and protect water quality.

Consistency: The project will comply with the Santa Clara Valley Nonpoint Source Pollution Control Program, Santa Clara Valley Urban Runoff Pollution Prevention Program and the Urban Runoff Management Plan as discussed in Section 4.9, *Hydrology and Water Quality*. Therefore, the proposed project is consistent with Policy5.10.5-P16.

Policy 5.10.5-P18: Implement the Santa Clara Valley Nonpoint Source Pollution Control Program, Santa Clara Valley Urban Runoff Pollution Prevention Program and the Urban Runoff Management Plan.

Consistency: The project will comply with the Santa Clara Valley Nonpoint Source Pollution Control Program, Santa Clara Valley Urban Runoff Pollution Prevention Program and the Urban Runoff Management Plan as discussed in Section 4.9, *Hydrology and Water Quality*. Therefore, the proposed project is consistent with Policy 5.10.5-P18.

Policy 5.10.5-P21: Require that storm drain infrastructure is adequate to serve all new development and is in place prior to occupancy.

Consistency: As discussed in Section 4.9, *Hydrology and Water Quality,* the proposed project will not exceed the capacity of the storm drainage lines that serve the project site. Therefore, the project is consistent with Policy 5.10.5-P21.

4.1 LAND USE

4.1.1 Existing Setting

The following discussion identifies the existing conditions on and adjacent to the proposed project site.

4.1.1.1 Overview of the Project Site

Santa Clara University, founded in 1851, is located in the City of Santa Clara on the site of the Mission Santa Clara de Asis and is California's oldest institution of higher learning. The University currently has 39 educational buildings, 10 student residences, and the Mission church within the boundaries of the main campus (see Figure 4.1-1). The educational building heights range from one to four stories. Student housing located near the southern end of campus varies from three to 11 stories in height.

The University was granted a Master Use Permit by the City in 2003 to construct several new structures, including a new business school (located near Franklin Street and Sherman Street) with underground parking, a new multi-use facility (south of Palm Drive), an expansion of Heafey Law Library and the Benson Center (located adjacent to The Alameda pedestrian mall), and a new library (located northeast of Market Street, within The Alameda pedestrian mall. To date, all the identified projects have been constructed except for the Heafey Library expansion.

Other building construction projects on the main campus that have occurred since the 2003 Master Use Permit approval include: expansion and remodel of the Mayer Theater (located on the south side of Franklin Street near Lafayette Street); the Kennedy Commons building (located within the Kennedy Mall); the Locatelli Student Activity Center building (located north of the Leavey Center adjacent to the El Camino Real); the Graham Residence Hall (located on the east side of the Alameda south of Market Street); and the Walsh-McLaughlin connector building (located on the north side of Market Street east of Lafayette Street.

Facilities approved for construction and completed outside the main campus since 2003 include the Jesuit Residential Community (located at the northwest corner of Franklin and Alviso streets); the Schott baseball stadium (located off-site at Campbell Avenue and the El Camino Real). The most recent project was in 2012 when the City approved construction of a new 44,111 square foot Art/Art History Building and four-level parking structure just north of the main campus, on the north side of Franklin Street, between Alviso Street and The Alameda.

The properties surrounding the campus include single-family residences and small neighborhood serving commercial businesses to the west, residences and commercial businesses to the north, the Santa Clara police station, transit center, and commercial businesses to the east, and multi-family residences and commercial development to the south.

CAMPUS MAP FIGURE 4.1-1

4.1.1.2 Existing Land Use

The proposed project is comprised of seven specific development sites within the main campus. The land uses of each of the sites and the existing uses within the surrounding area are noted below.

Project Site 1

Project site 1 is an existing surface parking lot located at the southeast corner of Franklin Street and Sherman Street. The lot has two entrances from Sherman Street, internal to the campus, and sidewalks along both street frontages. Bollards within the roadway preclude the use of Sherman Street as a cut through road between Franklin Street and Palm Drive.

To the east of the parking lot is the Third Mission conservation area, which is an open space area with the outline of the Mission church foundation demarcated with hardscape materials. South of the parking lot is a large lawn area and Palm Drive. West of the site is Sherman Street, a two-lane roadway, Lucas Hall, and the Arts and Sciences Building. North of the site is Franklin Street, a two-lane roadway that dead ends in a cul-de-sac near the campus' eastern boundary, adjacent to El Camino Real. Single-family residences and a small apartment complex are located north of Franklin Street.

Project Site 2

Project site 2 is comprised of six buildings on either side of the pedestrian mall (previously The Alameda) that runs north/south through campus. The site includes Buildings 402 (Murphy Hall), 403 (Bannan Engineering Labs), 404 (Bannan Engineering), 405 (Bannan Hall), 202 (Heafey Law Library), and 203 (Bergin Hall). The buildings range from one to three stories tall and are located in the center of campus. Combined, these buildings total 194,479 square feet.

Project Site 3

Project site 3 is comprised of two areas that are currently developed with a small, single-story building and surface parking lot that supports the Sobrato Hall student residences and the Facilities building. The building currently houses the art school, which will be relocating into a previously approved building on the north side of Franklin Street. Access to the parking lot is from two driveways on The Alameda. The art school is bordered by student residences to the north and east and The Alameda to the south and west. The parking lot is surrounded by the student residences to the north, the Facilities building to the east and south, and The Alameda to the west. Immediately west of The Alameda is a small shopping center.

Project Site 4

Project site 4 is currently developed with the Cowell Center, a 10,414 square foot, one-story building. To the north of the building is the Leavey Center, a large sports complex. Tennis courts are located immediately east of the site. South of the site is a small surface parking lot that is accessed by Accolti Way. West of the site are two L-shaped, three-story residence halls (Campisi and Sanfilippo).

Project Site 5

Project site 5 is comprised of three one-story buildings totaling 42,813 square feet. To the north of the site is the Alumni Science Building, a three-story structure that fronts onto Franklin Street. East of the site is a small surface parking lot, Lucas Hall (a three-story structure), and the Arts and Sciences Building (please refer to the description under project site 1). South of the site is the two-story De Saisset Museum. West of the site is Alviso Street, which has been converted to a linear parking lot internal to the campus with one-way directional traffic. On the west side of Alviso Street is O'Conner Hall which is a four-story (counting the partially below-grade basement level) building.

Project Site 6

Project site 6 is developed with the Benson Center, a one- to two-story, 100,716 square foot building located immediately north of Market Street. To the north of the site is Bergin Hall (please refer to the description under project site 2). East of the site is The Alameda pedestrian mall and, east of the mall, is Harrington Learning Commons. West of the site is Kennedy Mall, the one-story Kennedy Commons building, and four residence halls that range from three to 11 stories in height (Walsh, McLaughlin, Dunne, and Swig).

An aerial view of the project sites and the surrounding land uses is shown on Figure 4.1-2.

4.1.1.3 Existing Land Use Designation and Zoning

The City of Santa Clara General Plan is an adopted statement of goals and policies for the future character and quality of development of the community. The Zoning Ordinance establishes various districts within the City and specifies the lawful and unlawful uses within the districts to encourage the most appropriate use of land within the City.

The project site is designated *Public/Quasi-Public* and zoned *B – Public/Quasi-Public.* The *Public/Quasi-Public* General Plan designation is intended for a variety of public and quasi-public uses, including government offices, fire and police facilities, transit stations, commercial adult care and child care centers, religious institutions, schools, cemeteries, hospitals and convalescent care facilities, places of assembly and other facilities that have a unique public character as their primary use.

The B zoning district (Chapter 18.52 of the City Code) allows public parks, landscaped public utility facilities with minimal activity, City-owned pumping stations, public utility substations (City-owned or privately owned), and other similar land uses. Public or private general educational facilities such as elementary, intermediate or high schools, junior colleges, and universities are allowed as conditional uses.

4.1.2 Land Use Impacts

4.1.2.1 Thresholds of Significance

For the purposes of this EIR, a land use impact is considered significant if the project would:

AERIAL PHOTOGRAPH AND SURROUNDING LAND USES FIGURE 4.1-2

- Physically divide an established community;
- 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;
- Conflict with an applicable habitat conservation plan or natural community conservation plan;
- Convert prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use;
- Induce substantial population growth in an area, either directly or indirectly;
- 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.

4.1.2.2 Land Use Conflicts

Land use conflicts can arise from two basic causes: 1) a new development or land use may cause impacts to persons or the physical environment in the vicinity of the project site or elsewhere; or 2) conditions on or near the project site may have impacts on the persons or development introduced onto the site by the new project. Both of these circumstances are aspects of land use compatibility. Potential incompatibility may arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project's design or scope. Depending on the nature of the impact and its severity, land use compatibility conflicts can range from minor irritations and nuisances to potentially significant effects on human health and safety. The discussion below distinguishes between potential impacts *from* the proposed project *upon* persons and the physical environment, and potential impacts *from* the existing surroundings *upon* the project itself.

Consistency with the General Plan Land Use Designation and Zoning

As stated above, the project site is currently designated *Public/Quasi-Public* and zoned *B – Public/Quasi-Public*. The project, as proposed, is the redevelopment of portions of the existing University campus which operates under a Use Permit. Because the proposed buildings would be solely for campus operations, including student housing, classrooms, and offices, the new development is consistent with the existing development on-site and the Use Permit and, therefore, consistent with the current General Plan land use designation and zoning. **(Less Than Significant Impact)**

Land Use Impacts

The development surrounding the main campus is comprised of commercial, retail, and residential land uses. All but three of the proposed development sites (sites 2, 4, and 5) are internal to the main campus and would have no direct effect on off campus land uses. Of the four development sites (project site 3 has two lots) located along the boundaries of the main campus, two are currently

surface parking lots (sites 1 and 3), one is the old art building (project site 3), and the fourth is the Benson Center (project site 6).

Project site 1 is proposed to be developed with a 95,000 square foot, four-story law school building which would be visible from Franklin Street. The University currently owns and occupies several properties on the north of Franklin Street. Based on the pattern of development on the north end of campus, the existing residential land uses on the north side of Franklin Street have been shown to be compatible with the large classroom buildings on the south side of Franklin Street. No land use conflicts have arisen because the classroom buildings are not a source of excess noise, pollution, or other nuisance issues that could impact residential land uses. The proposed development on project site 1 would be taller and have greater massing than the individual houses, but the land use would be consistent with the other University buildings along Franklin Street.

Project site 3 proposes to 1) demolish the existing art building adjacent to Sobrato Hall and construct a four-story addition to the residence hall, and 2) remove the parking lot adjacent to Sobrato Hall and construct a new four-story residence hall. There are no private residences or other sensitive land uses near project site 3 that could be impacted by the physical change in site conditions. As a result, redevelopment of project site 3 would have no impact on nearby land uses.

Project site 6 includes a 49,000 square foot expansion to the north, east, and west sides of Benson Center. The additions on the east and west sides of the building would be visible from Market Street. The University currently owns and occupies several properties on the south side of Market Street near project site 6. There are no private residences or other sensitive land uses immediately adjacent to the project site, but there is a privately owned duplex across Market Street from the site. Benson Center was constructed in 1963 and no land use conflicts have arisen with the near private residence since its construction in 1978. In addition, the expansion of the Benson Center on project site 6 would occur within the interior of the campus, not along Market Street. As a result, expansion of the existing operations would not conflict with the nearby duplex. **(Less Than Significant Impact)**

The proposed project would not physically divide an established community as all development will be contained within the boundaries of the main campus. The project site is in a developed urban area and is not subject to any adopted Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). **(Less Than Significant Impact)**

4.1.2.3 Agricultural and Forestry Impacts

The proposed project site is a developed site in an urban area, is not designated as farmland or forestry land, and has not been used as farmland for more than 50 years. Because the project will not conflict with existing agricultural zoning or a Williamson Act contract, convert or facilitate the conversion of prime farmland to non-agricultural uses, or result in the loss of forest lands, implementation of the proposed project will have no impact on farmland or forest lands. **(No Impact)**

4.1.2.4 Population and Housing Impacts

As of October 2015, the City of Santa Clara had a total population of approximately 122,192 residents in 45,147 households.[2] Of the 122,192 residents, approximately 67 percent are employed residents. In 2040 it is estimated that the City will have approximately 156,500 residents, 58,930 households, 146,180 total jobs and 75,230 employed residents. [3]

The jobs/housing ratio quantifies the relationship between the number of housing units required as a result of local jobs and the number of residential units available in the City. When the ratio reaches 1.0, a balance is struck between the supply of local housing and jobs. The jobs/housing ratio is determined by dividing the number of local jobs by the number of employed residents that can be housed in local housing. This is an environmental issue because proximity between jobs and housing strongly influences driving patterns, air quality, and other environmental factors.

The City of Santa Clara had an estimated 2.8 jobs for every employed resident in 2010. The recently adopted 2010-2035 General Plan focuses on increased housing and the placement of housing near employment. As a result, the overall jobs/employed residents ratio is expected to decrease to 2.55 by 2040. Some employees who work within the City are, and still will be, required to seek housing outside the community with full implementation of the General Plan.

Implementation of the Master Plan will result in redevelopment of land within the boundary of the University's main campus. There is no permanent housing on the campus, other than the Franklin Jesuit Community Residence on the north side of Franklin Street, which is not part of the proposed project. The project would not result in the loss of existing housing or require replacement housing elsewhere. While full build out of the Master Plan would slightly increase the number of employees on-site, the increase would not result in substantial population growth within the City of Santa Clara. Therefore, implementation of the proposed project will have a less than significant impact on population and housing in Santa Clara. **(Less Than Significant Impact)**

4.1.3 Mitigation and Avoidance Measures for Land Use Impacts

No mitigation is required or proposed.

4.1.4 Conclusion

The proposed project will not physically divide an established community and would not conflict with any applicable habitat conservation plans. The proposed development project would comply with relevant land use policies and regulations and would be compatible with surrounding land uses. The proposed project would not impact any designated agricultural lands and would not result in the loss of housing. **(Less Than Significant Impact)**

[2] US Census Bureau. http://quickfacts.census.gov/qfd/states/06/0669084.html Accessed November 11, 2015.
[3] Association of Bay Area Governments. *Plan Bay Area: Projections 2013*. December 2013.

4.2 CULTURAL RESOURCES

The following discussion is based on a Historic Resources Evaluation prepared by *Carey & Company* in June 2015 and a Cultural Resources Treatment Plan prepared by *Albion Environmental* in July 2015. The historic report can be found in Appendix A of this report. The Cultural Resources Treatment Plan is on file at the Santa Clara Department of Planning and Inspection.

4.2.1 Existing Setting

4.2.1.1 Prehistoric Resources

Overview

Native Americans occupied Santa Clara Valley and the greater Bay Area for more than 1,000 years. The exact time period of the Ohlone (originally referred to as Costanoan) migration into the Bay Area is debated by scholars. Dates of the migration range between 3000 B.C. and 500 A.D. Regardless of the actual time frame of their initial occupation of the Bay Area and, in particular, Santa Clara Valley, it is known that the Ohlone had a well-established population of approximately 7,000 to 11,000 people with a territory that ranged from the San Francisco Peninsula and the East Bay south through the Santa Clara Valley and down to Monterey and San Juan Bautista.

The Ohlone lived in small villages referred to as tribelets. Each tribelet occupied a permanent primary habitation site and also had smaller resource procurement camps. The Ohlone, who were hunter/gatherers, traveled between their various village sites to take advantage of seasonal food resources (both plants and animals). During winter months, tribelets would merge to share food stores and engage in ceremonial activities. The project area is within the Ohlone's territory.

Alameda Native American Burial Site (CA-SCL-755)

The Alameda Native American burial site is a prehistoric internment site that was originally discovered in the 1920s. The site is beneath the Alameda Mall on the University campus and is near some of the proposed development sites. Discoveries on this site included 31 Native American burials and associated artifacts such as Olivella beads, Haliotis ornaments, a bone pendant, and crab claw beads. To date, the site's exact boundaries have not been definitively determined. Nevertheless, the site demonstrates that the main campus was occupied by Ohlone in the prehistoric period.

4.2.1.2 Historic Subsurface Resources

Mission Period

Spanish explorers began coming to Santa Clara Valley in 1769. From 1769 to 1776 several expeditions were made to the area during which time the explorers encountered the Native American tribes who had occupied the area since prehistoric times. Expeditions in the Bay Area and throughout California lead to the establishment of the California Missions. The founding of the Missions began the attempted assimilation of the area's indigenous inhabitants into the culture of the new European settlers.

The first Mission Santa Clara was founded in 1777 near what is today the Kifer Road/De La Cruz Boulevard intersection. The first Mission was destroyed by flooding of the Guadalupe River in 1779 and a temporary second Mission Santa Clara was constructed near the present day Martin Avenue/De La Cruz Boulevard intersection while a new permanent location for the Mission was sought.

The third Mission Santa Clara was constructed in 1781 on what is now the Santa Clara University campus. The third site proved to be a suitable location and the Mission remained at this site until it was damaged by an earthquake in 1818. A temporary church (the fourth Mission) was constructed near the present day Kenna Hall. In 1822, the fifth and final Mission church was constructed. With construction of the third Mission, the Mission settlement at the University continually expanded until 1834, when the new Mexican government began to secularize the mission lands.

Third Mission Santa Clara (CA-SCL-30/H)

The third Mission Church, located near the entrance of the University, and associated cemetery are considered an archaeological preserve. Burials, adobe foundations, beads, tiles, and other artifacts related to the Mission have been discovered. It is known that the Mission included the church, an orchard, irrigation canal, slaughter yard, tanning vats, the cemetery, and housing for both the settlers and neophyte residents. The full boundaries of the Mission site are, however, not yet known. It is reasonable to assume, based on previous archaeological studies and discoveries, that one or more of the proposed development sites are located within the outlying area of the Mission site.

Post-Mission and American Period

Mission Santa Clara was officially secularized in 1836, at which time the Native American population in the immediate area was just over 300 persons. At this time, the lands around the Mission began to be transformed into residential lands with some small farms. American settlers began arriving in Santa Clara as early as 1841 and the Native Americans were forced to adapt or relocate. By 1845, the former neophyte population of the area was only 130 persons. By 1850 (the year California officially achieved statehood), settlers dominated the project area and the remaining Native American population was, for the most part, living and working on nearby rancherias or at the Inigo reservation.

The Jesuit College of Santa Clara was established within the fifth Mission church and quadrangle in 1851 and the Town of Santa Clara was officially incorporated in 1852. The establishment of the college influenced the development of the surrounding area. Development on what is now the campus historically included adobe buildings, turn-of-the-century single-family residences, and various businesses including the Eberhard Tannery. From the initial founding of the University to the present day, the campus has expanded in every direction, becoming a unified campus with the rerouting of El Camino Real in 1989.

Recent Archaeological Research in Project Area

Recent archaeological investigations north of Franklin Street uncovered foundations of adobe structures, beads, shells, and other artifacts associated with occupation of the Mission. The artifacts found during this investigation are still under analysis.

Specific Project Sites

Project Site 1

Project site 1 has a long history of use, extending back to the period before Spanish occupation. The site is known to contain archaeological resources from the Mission, Mexican, and American Period, including a segment of the Mission wall. The site is in proximity to recorded sites CA-SCL-755 and CA-SCL-30/H.

The area immediately around the site contains a Late Mexican Period residential component. After secularization in 1836, some Mexican citizens and Native Americans remained as squatters on lands within and immediately surrounding Mission buildings. The known resource associated with the Mexican Period within the site area is a segment of an adobe house floor, which is located partially inside and partially outside the footprint of the proposed law school.

The American Period saw a rapid influx of settlers, resulting in the development of Santa Clara as a municipal and industrial center. It was during this time that a residential neighborhood and a number of industries and businesses were established. One important business, the Enterprise Laundry (Sainte Claire Laundry), was established within the project site area (1894–1970).

Archaeological Investigation of Project Site 1

If the proposed Master Plan is approved, the new Law School building on project site 1 would be the first project to be implemented. As such, exploratory excavations were completed (in accordance with the Master Cultural Resources Treatment Plan for the campus) to make a more specific determination of the potential artifacts on this site. The testing identified numerous resources including Mission period architectural features, Mission period refuse features, American period architectural/infrastructure features, and American period refuse features.

The Mission period architectural features included remnants of adobe structures (i.e., sandstone cobbles, roof tiles, and floor tiles) that were part of the Third Mission Quadrangle. Some of these features appear to have been previously impacted by American period land use and development. The Mission period refuse features were characterized by midden[4] soils and refuse pits containing ash, bone, ceramics. and glass. The American period architectural/infrastructure features included wire nails, concrete and brick, redwood planks, and glass. Some of these features have been linked to specific houses which once occupied the site. The American period refuse features were primarily domestic refuse associated with residential development.

Project Site 2

Based on available date, project site 2 is located within an area of high cultural resource sensitivity, particularly for precolonial Native American burials. The site is in proximity to recorded site CA-SCL-755. A portion of this site was likely open space for industrial purposes, such as tanning, throughout the lifetime of the Santa Clara Mission (from 1781–1836). This site is also within the

[4] A mound or deposit containing shells, animal bones, household waste, and other refuse that indicates the site of a human settlement.

historically known location of the fourth Mission Church (1818–1825). This temporary church was established after earthquakes destroyed the third Mission complex beyond repair. This church was in use while the fifth Mission complex was being constructed. After the fifth Mission complex was constructed, the fourth church was used as a residence hall for neophyte boys.

The reuse of the fourth Mission church continued after secularization, and into the late Mexican Period (1836–1848). The project site area also contained a Late Mexican Period residential component, characterized by Mexican citizens squatting on former Mission lands. The Mexican Period is represented by a small number of features located near the footprints of the proposed buildings, including one architectural feature and three refuse features.

In 1860, Santa Clara College purchased the property that contained the location of the fourth Mission church. The American Period uses of the land on which the fourth Mission church stood are related to the early development of the college as well as the Eberhard Tannery. Concrete footings from the tannery, a privy, and refuse pits may be located within the project site.

Project Site 3

Based on available data, the historical period of significance within the project site area is the Late American Period (1880–1930). During this period, this area of campus contained industrial warehouse companies, such as the Pacific Manufacturing Company, as well as the railroad along The Alameda. These businesses and transportation improvements are important to Santa Clara's history as they facilitated the employment of the growing immigrant community that built up around the Santa Clara Mission at the turn of the century.

Multiple Late American Period archaeological resources were identified during previous development in the project site area and include architectural or industrial refuse deposits. Earlier land uses within the project site area are not well documented. During the Mission Period, the land within the project site area may have been used for agricultural purposes.

Project Site 4

Based on available data, there are multiple potential historical periods of significance within the project site area. The southern-central region of campus contained two of the earliest and longest operating enterprises in the Santa Clara Valley, the tannery and the orchard. The tannery was in continuous use from the 1780s through the 20th century. The Mission orchard was established with the third Mission complex and continued to be in use through the American Period. During the American Period, the land was primarily owned and used by Santa Clara College. Two American Period features were previously recorded just north of the project site including redwood flooring possibly associated with the Eberhard Tannery and a partial pig skeleton, which has been associated with Santa Clara College animal husbandry during the early 20th century.

Project Site 5

Records indicate that two main historical periods of significance are represented within the project site area. Mission era resources were previously identified, including a cluster of *ladrillos* (the Spanish word for brick), refuse pits, and architectural features associated with the Indian *Rancheria*.

Remains associated with the fifth Mission have also been identified including two refuse deposits and one architectural feature.

The second historical period of significance within the project site area is the American Period with most identified features dating to the Late American Period (1880–1930). American Period features include a refuse deposit with materials dating from the period between 1890 and 1910, an older trash scatter with materials dating as early as 1848, and a brick and cement feature that dates anywhere from the mid-18th century to the present day. Lengths of redwood boards also associated with the American Period have been found in the project site area. While the existing buildings on project site 5 are proposed to be demolished, no new buildings or other development is proposed.

Project Site 6

The project site area contains moderate sensitivity for archaeological resources pertaining to Mission, Mexican, and American periods. There is also the low probability of encountering human remains. The historic record provides no specific evidence of land use within the project site area during the Mission Period, but the site is in proximity to the fourth and fifth Mission complexes. The project site area also contains a late Mexican Period residential component and related artifacts, including a refuse pit filled with domestic debris have been found nearby.

Four American Period features, including three residential refuse concentrations, have been identified in the project site vicinity. Two of which were found to be associated with specific households. The third known American Period feature in the project site area is flooring possibly associated with the Eberhard Tannery.

4.2.1.3 Historic Structures – Regulatory Framework

Below is an overview of criteria used to assess the historic significance and eligibility of a building, structure, object, site or district for listing in the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and the City of Santa Clara Historic Preservation and Resource Inventory.

National Criteria

The NRHP is the nation's most comprehensive list of historic resources and includes historic resources significant in American history, architecture, archeology, engineering and culture, at the local, State and National level. National Register Bulletin Number 15, How to Apply the National Register Criteria for Evaluation, describes the Criteria for Evaluation as being composed of two factors. First, the property must be "associated with an important historic context", and second the property must retain integrity of those features necessary to convey its significance.

The National Register identifies four possible context types or criteria, at least one of which must be applicable at the National, State, or local level. As listed under Section 8, "Statement of Significance," of the National Register of Historic Places Registration Form, these are:

A. Property is associated with events that have made a significant contribution to the broad patterns of our history.

B. Property is associated with the lives of persons significant in our past.
C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
D. Property has yielded, or is likely to yield, information important to prehistory or history.

State of California Criteria

The California Office of Historic Preservation's Technical Assistance Series #6, *California Register and National Register: a Comparison*, outlines the differences between the federal and state processes. The context types to be used when establishing the significance of a property for listing on the California Register of Historical Resources are very similar, with emphasis on local and State significance. They are:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or is likely to yield, information important to prehistory or history of the local area, California, or the nation.

City of Santa Clara Criteria for Local Significance

The Criteria for Local Significance were adopted on April 20, 2004, by the Santa Clara City Council. Any building, site, or property in the City that is 50 years old or older and meets certain criteria of architectural, cultural, historical, geographical or archeological significance is potentially eligible.

Criterion for Historical or Cultural Significance

To be historically or culturally significant, a property must meet at least one of the following criteria:
1. The site, building or property has character, interest, integrity and reflects the heritage and cultural development of the city, region, state, or nation.
2. The property is associated with a historical event.
3. The property is associated with an important individual or group who contributed in a significant way to the political, social and/or cultural life of the community.
4. The property is associated with a significant industrial, institutional, commercial, agricultural, or transportation activity.
5. A building's direct association with broad patterns of local area history, including development and settlement patterns, early or important transportation routes or social, political, or economic trends and activities. Included is the recognition of urban street pattern and infrastructure.
6. A notable historical relationship between a site, building, or property's site and its immediate environment, including original native trees, topographical features, outbuildings or agricultural setting.

Criterion for Architectural Significance

To be architecturally significant, a property must meet at least one of the following criteria:

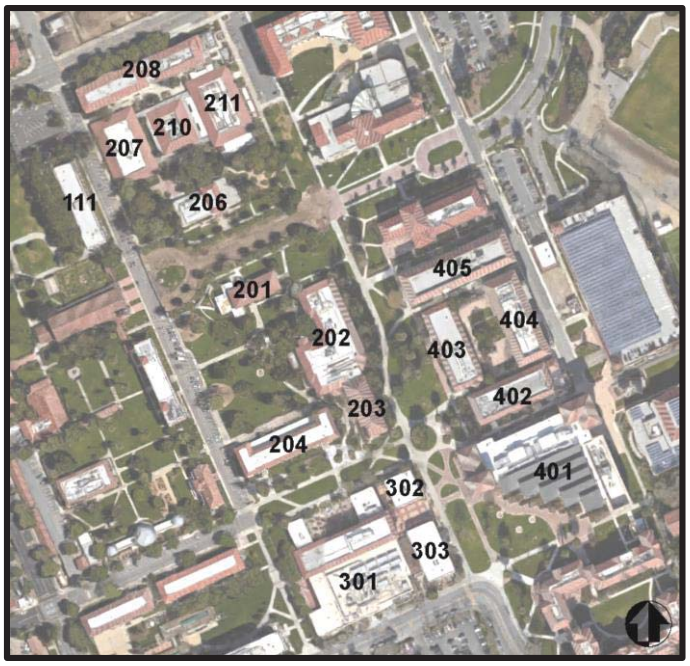
1. The property characterizes an architectural style associated with a particular era and/or ethnic group.
2. The property is identified with a particular architect, master builder or craftsman.
3. The property is architecturally unique or innovative.
4. The property has a strong or unique relationship to other areas potentially eligible for preservation because of architectural significance.
5. The property has a visual symbolic meaning or appeal for the community.
6. A building's unique or uncommon building materials, or its historically early or innovative method of construction or assembly.
7. A building's notable or special attributes of an aesthetic or functional nature. These may include massing, proportion, materials, details, fenestration, ornamentation, artwork or functional layout.

Criterion for Geographic Significance

To be geographically significant, a property must meet at least one of the following criteria:

1. A neighborhood, group or unique area directly associated with broad patterns of local area history.
2. A building's continuity and compatibility with adjacent buildings and/or visual contribution to a group of similar buildings.
3. An intact, historical landscape or landscape features associated with an existing building.
4. A notable use of landscaping design in conjunction with an existing building.

4.2.1.4 Structures on the Project Site



Sixteen structures on the main campus were evaluated for historic significance based on the National, State, and local criteria. Buildings were evaluated if they are proposed to be demolished or are in proximity to proposed development. Of the 16 buildings[5], five are less than 45 years old [MCC-Shapell Lounge (302), Campus Bookstore (303), Orradre Library/Learning Commons (401), Bannan Engineering Building (404), Bannan Hall (405)] and are not discussed further. The discussion below is a summary of the analysis findings for the 11 remaining buildings. The full analysis, including Department of Parks and Recreation forms (DPR 523) is provided in Appendix A.

[5] While individually noted in the total building count, the Daly Science Center was analyzed as a single development.

Building 111 – O'Connor Hall

O'Connor Hall is a three-story plus basement (which is two-thirds above ground), rectangular building that was constructed in 1912. The reinforced concrete building was constructed in the Mission Revival style with stucco cladding and a flat red tile roof with a shaped parapet. An arched arcade lines the ground level of the west elevation where there are two main entrances. Several classroom doors also open directly onto the arcade. A centrally located arched passageway connects the east and west sides of the building. The vaulted passageway has marble walls, a decorative coffered ceiling, and a patterned tile floor. Ornamental features such as a cornice, pilasters, and dentils are found at the eastern opening of the passageway.

The structure was originally used as a residence hall for senior students (referred to as Senior Hall) before becoming O'Connor Hall. The structure was designed by architect Will D. Shea who designed several buildings on campus. Modern classroom design was applied and the classrooms were mechanically ventilated and heated from a central plant in the basement. Originally, the building had eight classrooms on the ground floor, student housing on the second and third floors, and recreation and music rooms in the basement.

The structure is eligible for inclusion in the CRHR under Criterion 1. The structure is associated with the early development of the University campus as it was one of the first buildings, along with the Administration Hall, built in the campus' now iconic Mission Revival style.

While local architect William D. Shea is credited with the design of O'Connor Hall, the building is not considered the work of a master architect. The building is, however, eligible for inclusion in the CRHR under Criterion 3 because of its distinctive Mission Revival style and is associated with the establishment of the Mission Revival style on campus.

The structure is not eligible for inclusion in the CRHR under Criterion 2 or 4 as it is not significantly associated with persons important to our past and has little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the building was commissioned by then University President James P. Morrissey, the building's association with him is not significant.

The structure is currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the house should remain on the inventory for the following reasons:

Criterion for Historical or Cultural Significance

- The building is associated with SCU, a prominent institution within the City, as part of the initial development of the campus.
- The building has a notable historical relationship with its immediate environment.

Criterion for Architectural Significance

- The building is associated with the architectural style of the 1890s-1920s.
- The architectural style is not unique or innovative, but is one of the first Mission Revival structures on campus.
- The building has a strong relationship to other potentially historic structures on campus, including the Mission Church, Administrative Hall, Nobili Hall, and others.
- The building has notable features including decorative plaster door surround, Juliette balconies, and the groupings of windows and passageways.

Other Criterion

The building does not appear eligible for listing for geographic significance and was not evaluated for archaeological significance.

The building maintains integrity of location and setting as it has not been moved, and remains surrounded by institutional buildings and the Mission. O'Connor Hall retains integrity of design, materials and workmanship as only a few minor alterations to the building have occurred. Integrity of association and feeling remain as the building is still associated with Santa Clara University and remains a vital part of the campus.

Building 201 – Delia L. Walsh Administration Building

The Walsh Administration Building is a cross-shaped building that was constructed in 1949. The reinforced concrete building was constructed in the Mission Revival style with stucco cladding in two parts; a two-story, rectangular building with a low-pitched, red tile hipped roof and a T-shaped one-story wing with a flat roof. A recessed, segmental-arched entry is located on the north side of the building. The entry has glazed double wood doors, surrounded by a transom, sidelights, and pilasters. Less elaborate pilasters are found on the east and west sides of the building with matching arched doors. Two arched windows on the wing of the building are designed

in a similar manner. Notable architectural features include a slight eave overhang with exposed rafters and stucco decoration above some of the windows. Alterations to the building include replacement windows and the addition of an accessible ramp.

The building was designed by architectural firm Binder & Curtis and constructed by San Jose contractor Carl Swenson. The building was a gift from the widow of alum James Walsh.

The building is eligible for inclusion in the CRHR under Criterion 3 because of its distinctive Mission Revival style.

The structure is not eligible for inclusion in the CRHR under Criterion 1, 2 or 4 as it is not associated with an event that made a broad contribution to patterns of history, is not significantly associated with persons important to our past, and has little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the building is located in the original Quadrangle, it was not part of the initial design, but added as the needs of the campus changed decades later. In addition, the funds for the building were provided by a prominent family, but the association is not significant. Lastly, the building is considered a minor work in the portfolios of both Binder & Curtis and Carl Swenson.

The structure is not currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the house should be listed on the inventory for the following reasons:

Criterion for Historical or Cultural Significance

- The building is associated with SCU, a prominent institution within the City, as part of the continued development of the original Quadrangle on campus.
- The building has a notable historical relationship with its immediate environment.

Criterion for Architectural Significance

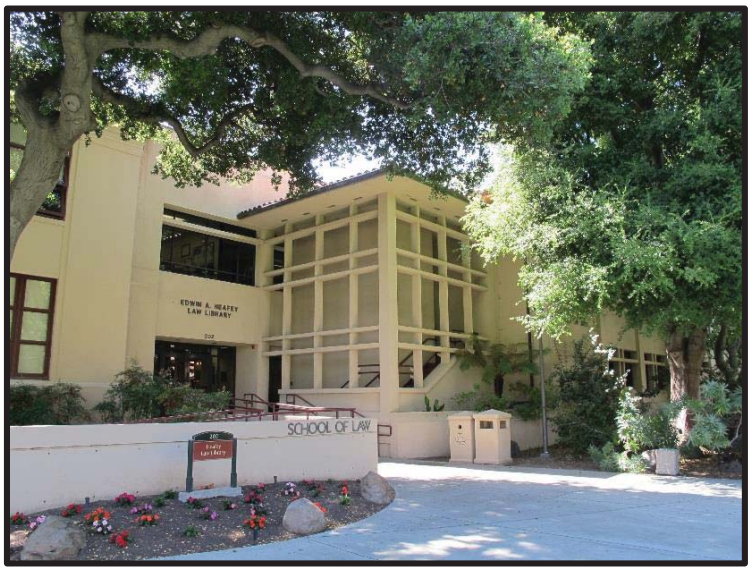
- The building is associated with the campus' architectural style.
- The building has a strong relationship to other potentially historic structures on campus.
- The building has notable features including decorative plaster details, the window pattern, and the monumental entryway.

Other Criterion

The building does not appear eligible for listing for geographic significance and was not evaluated for archaeological significance.

The building maintains integrity of location and setting as it has not been moved and remains surrounded by institutional buildings and the Mission. The Walsh Administration Building retains integrity of design, materials and workmanship as only a few minor alterations to the building have occurred. Integrity of association and feeling remain as the building is still associated with Santa Clara University and remains a vital part of the campus.

Building 202 – Edwin J. Heafey Law Library



The Heafey Law Library is a two-story, L-shaped building that was constructed in 1963 and is connected to Bergin Hall. The reinforced concrete building has Mission Revival characteristics including stucco cladding and a low-pitched, red tile hipped roof. Dark aluminum windows vary in shape and size. There are two main entrances, on the north and west sides of the building, with double doors surrounded by transoms and sidelights. The building was expanded around 1972 and again between 1987 and 1993. Notable features include a wide eave overhang, textured stucco, and the exposed concrete frame around the exterior stairs.

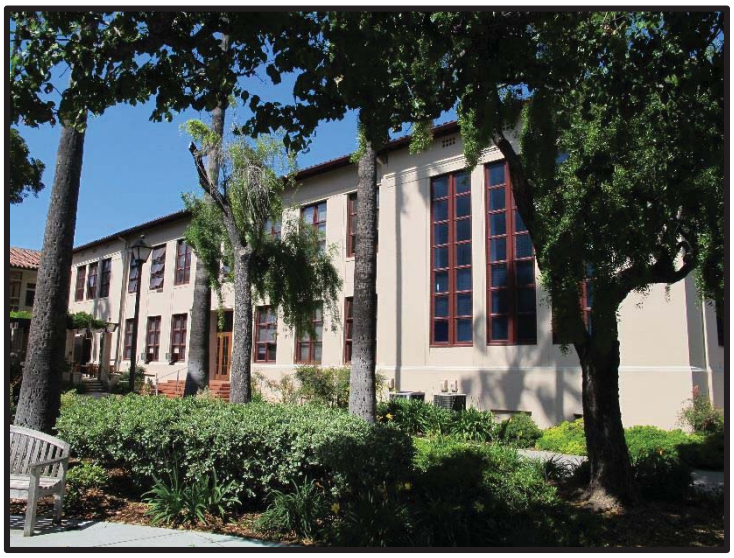
The original building and first addition were designed by Ruth & Going, Civil Engineers and constructed by E.A. Hathaway Co. Inc. Housing the law library, the building was named for an alum who became an attorney and a regent on the University's board.

The building is not eligible for inclusion in the CRHR under any criterion as it is not associated with an event that made a broad contribution to patterns of history, is not significantly associated with persons important to our past, is not a distinctive example of an architectural style, and has little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the building was constructed during a period of expansion for the University in the 1960s, its association with the expansion is marginal. In addition, the building has no true association with the alum it is named after because he did not do any important work in the building or have any other direct connection with the structure. Lastly, the building is considered a minor work in the portfolios of both Ruth & Going and E. A. Hathaway & Co.

The structure is not currently listed on the City's Historic Resources Inventory and was not found to be eligible for listing under any criteria.

The building maintains integrity of location and setting as it has not been moved and remains surrounded by institutional buildings and the Mission. Heafey Law Library, however, lacks integrity of design as major additions have taken place. Integrity of materials and workmanship is maintained as the original character and materials of building are found on the structure. Integrity of association and feeling remain as the building is still associated with Santa Clara University and remains a vital part of the campus.

Building 203 – Thomas I. Bergin Hall



Bergin Hall is a two-story, rectangular building that was constructed in 1938 and is connected to Heafey Law Library. The reinforced concrete building was constructed in the Mission Revival style and has stucco cladding, a low-pitched, red tile hipped roof, and multi-light windows. The main entrance, on the west side of the building, has double wood doors surrounded by transoms and sidelights with subtle pilasters and moldings. Notable features include a slight eave overhang with exposed rafters, decorative vents, stucco banding, and two-story high windows with opaque glass at the southern end of the building.

The building was designed by architectural firm Binder & Curtis and constructed by H.C. Miller. The hall originally included individual offices for faculty, a "luxuriously paneled suite" for the Dean, and classrooms, and housed the School of Law.

The building is eligible for inclusion in the CRHR under Criterion 3 because of its distinctive Mission Revival style.

The structure is not eligible for inclusion in the CRHR under Criterion 1, 2 or 4 as it is not associated with an event that made a broad contribution to patterns of history, is not significantly associated with persons important to our past, and has little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the building is located in the original Quadrangle, it was not part of the initial design, but added as the needs of the campus changed. The structure was named for the first graduate of Santa Clara College in 1857, but the association is not significant. Lastly, the building is considered a minor work in the portfolios of both Binder & Curtis and H. C. Miller.

The structure is not currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the building should be listed on the inventory for the following reasons:

Criterion for Historical or Cultural Significance

- The building is associated with SCU, a prominent institution within the City, as part of the continued development of the original Quadrangle on campus.
- The building has a notable historical relationship with its immediate environment.

Criterion for Architectural Significance

- The building is associated with the campus' architectural style.

- The building is attributed to a well-known architectural firm, but is not a signature project.
- The building has a strong relationship to other potentially historic structures on campus.
- The building has notable features including the two-story high, multi-light windows on the east end of the building.

Other Criterion

The building does not appear eligible for listing for geographic significance and was not evaluated for archaeological significance.

The building maintains integrity of location and setting as it has not been moved and remains surrounded by institutional buildings. Bergin Hall retains a majority of integrity of design, materials and workmanship with only the addition of the Heafey Law Library off the west. Integrity of association and feeling remain as the building is still associated with Santa Clara University and remains a vital part of the campus.

Building 204 – Kenna Hall

Kenna Hall is a three-story, U-shaped building that was constructed in 1924. The reinforced concrete building was constructed in the Mission Revival/Spanish Revival style and has stucco cladding and a low-pitched, red tile hipped roof. The windows are primarily dark aluminum-sash, double hung, with tinted/reflective glass. The main entrance is centered on the structure and projects slightly from the façade. The entrance has double doors with a transom and large double hung windows and pilasters on either side. The entrance is topped with a cornice with dentils, an inscribed medallion with spiral columns, and carved, low-relief ornaments. The building also has two side entrances which have been converted to windows with more modest inscribed medallions and low-relief ornaments. Alterations to the building include window replacements, secondary entry modifications, and interior remodels.

Kenna Hall was originally home to an associated Jesuit High School, and later became a residence hall. After renovations in 1967, it housed the Leavey School of Business. Currently, the building contains classrooms for the Departments of Religious Studies and Philosophy, as well as the Drahmann Center. The building was designed by architect John J. Donovan.

The building is eligible for inclusion in the CRHR under Criterion 1. The structure is associated with the early development of the University campus, initially constructed as a high school, and is located in the original Quadrangle.

While architect John J. Donovan is credited with the design of Kenna Hall, it is typical of his work and considered a minor project. The building is, however, eligible for inclusion in the CRHR under Criterion 3 because of its distinctive Mission Revival/Spanish Revival style.

The structure is not eligible for inclusion in the CRHR under Criterion 2 or 4 as it is not significantly associated with persons important to our past and has little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the building was named for a past University President, the association is not significant.

The structure is currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the building should continue to be listed on the inventory for the following reasons:

Criterion for Historical or Cultural Significance

- The building is associated with SCU, a prominent institution within the City, as part of the continued development of the original Quadrangle on campus.
- The building has a notable historical relationship with its immediate environment.

Criterion for Architectural Significance

- The building is associated with the campus' architectural style.
- The building is attributed to a well-known architect, but is not a signature project.
- The building has a strong relationship to other potentially historic structures on campus.
- The building has notable features, which include the highly ornamental entrances.

Other Criterion

The building does not appear eligible for listing for geographic significance and was not evaluated for archaeological significance.

The building maintains integrity of location and setting as it has not been moved and remains surrounded by institutional buildings. Kenna Hall retains integrity of design, materials and workmanship with only minor alterations to the exterior. Integrity of association and feeling remain as the building is still associated with Santa Clara University and remains a vital part of the campus.

Building 206 – de Saisset Museum

The irregularly shaped, Mission Revival structure varies from one to two stories and was constructed in 1955. The building is comprised of three sections, all of which are reinforced concrete with stucco cladding. The central block has a low-pitched, red tile hipped roof. The east and west wings have flat roofs with parapets. An elevated terrace leads to the main entrance, which has double glass doors and a multi-lite transom.

The building has always been a museum, housing the University's California Historic Collection which includes Native American, Mission, and early Santa Clara College period artifacts. Isabel de Saisset bequeathed land to the University that it could sell to raise the funds to build the museum.

The building was designed by the architectural firm Binder & Curtis and constructed by Carl N. Swenson, but it is not considered a significant work by either firm. The building is, however, eligible for inclusion in the CRHR under Criterion 3 because of its Mission Revival style.

The structure is not eligible for inclusion in the CRHR under Criterion 1, 2 or 4. While it is located in the original quadrangle, the building was not part of the original design. Furthermore, the building is not significantly associated with persons important to our past and has little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the de Saisset family provided funds for the construction, the buildings association with a single prominent family is not significant.

The structure is not currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the house should be listed on the inventory for the following reasons:

Criterion for Historical or Cultural Significance

- The building is associated with the cultural life of the SCU campus and the larger community.
- The building is associated with SCU, a prominent institution within the City, as part of the continued development of the original Quadrangle on campus.
- Designed in the typical architectural style of the campus, it has a strong relationship with the surrounding older buildings.

Criterion for Architectural Significance

- The building is associated with the campus' architectural style.
- The building is attributed to a well-known architect, but is not a signature project.
- The building has a strong relationship to other potentially historic structures on campus.
- The building has notable features are the decorative plaster details, window patterns, and monumental entryway.

Other Criterion

The building does not appear eligible for listing for geographic significance and was not evaluated for archaeological significance.

The building maintains integrity of location and setting as it has not been moved and remains surrounded by institutional buildings and the Mission. The de Saisset Museum retains integrity of design, materials and workmanship as only a few minor alterations to the building have occurred. Integrity of association and feeling remain as the building is still associated with Santa Clara University and remains a vital part of the campus.

Buildings 207/210/211 – Daly Science Center

The Edward J. Daly Science center is comprised of three buildings constructed in 1966. Building 207 is a one-story, rectangular, reinforced concrete building with stucco cladding and a low-pitched, red tile hipped roof. The walls are set back on all sides to create an arcade around the building. The building does not have a main entrance and only a few narrow vertical windows with tinted glass on the east and south facades. Notable features of the building include the wide eave overhang and exposed rafters.

Building 210 is a one-story, rectangular, reinforced concrete building with stucco cladding and a low-pitched, red tile hipped roof. The walls are set back on the east and west elevations to create arcades which have several dark aluminum doors. There is a set of six aluminum windows at the center of the west elevation. A small rectangular addition with a mix of stucco and wood panel walls is located on the south side of the building. A pergola shades the entrance of the addition. Notable features include the wide eave overhang and exposed rafter tails.

Building 211 is a one-story, square, reinforced concrete building with stucco cladding and a low-pitched, red tile hipped roof. The walls are set back on all sides to create an arcade around the building. The main entrance is located on the north side of the building, a dark aluminum storefront with tinted glass. The building has no windows. Notable features of the building include the wide eave overhang and exposed rafter tails.

The buildings were constructed for and are still occupied by laboratory and classroom facilities for chemistry, physics, and biology. The buildings were designed by the engineering firm Ruth & Going.

The structures are not eligible for inclusion in the CRHR under any Criterion. While the buildings are located in the original quadrangle, the buildings were not part of the original design. Furthermore, the buildings are not significantly associated with persons important to our past and

have little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the building complex is named after a member of the Board of Regents and a University benefactor, the association with a single prominent person is not significant. Furthermore, the buildings are not distinctive examples of an architectural style and not a significant work of Ruth & Going.

The structure is not currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the buildings would not be eligible for the local inventory under any criteria.

The complex maintains integrity of location and setting as it has not been moved and remains surrounded by institutional buildings and the Mission. The Daly Science Center retains integrity of design. Integrity of materials and workmanship is maintained as the original character and materials of the buildings are found on the structure. Integrity of association and feeling remain as the buildings are still associated with Santa Clara University and remain a vital part of the campus.

Building 208 – Alumni Science Hall

The Alumni Science Hall is a three-story Mission Revival/Spanish Revival building constructed in 1923. A large three-story addition was construed on the east side of the building in 1997.

The original section of the building is reinforced concrete with stucco cladding and a low-pitched, red tile hipped roof with brackets and exposed rafters. The building has arched windows on the first floor and a slightly projected main entrance on the south elevation with a double arched door, pilasters, stucco decorations, and a Juliet balcony. The 1997 addition was constructed to replicate the original design, but is too new to be considered historic and will not be discussed further. The Alumni Association raised funds to construct the original building in 1923. The architect, John J. Donovan, is credited with designing the building.

The building is eligible for inclusion in the CRHR under Criterion 1. The structure is associated with the early development of the University campus, initially constructed for the science department, and was part of the original design of the Quadrangle.

While architect John J. Donovan is credited with the design, it is typical of his work and considered a minor project. The building is, however, eligible for inclusion in the CRHR under Criterion 3 because of its distinctive Mission Revival/Spanish Revival style.

The structure is not eligible for inclusion in the CRHR under Criterion 2 or 4 as it is not significantly associated with persons important to our past and has little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation.

The structure is not currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the building should be listed on the inventory for the following reasons:

Criterion for Historical or Cultural Significance

- The building is associated with SCU, a prominent institution within the City, as part of the early development of the original Quadrangle on campus.
- Designed in the typical architectural style of the campus, it has a strong relationship with the surrounding older buildings.

Criterion for Architectural Significance

- The building is associated with the campus' architectural style.
- The building is attributed to a well-known architect, but is not a signature project.
- The building has a strong relationship to other potentially historic structures on campus.
- The buildings notable feature is he highly ornamented entrance.

Other Criterion

The building does not appear eligible for listing for geographic significance and was not evaluated for archaeological significance.

The building maintains integrity of location and setting as it has not been moved and remains surrounded by institutional buildings. Alumni Science Hall's integrity of design has been compromised by a large three-story addition off the east elevation. The original portion of the structure, however, maintains integrity of materials and workmanship with only minor alterations to the exterior. Integrity of association and feeling remain as the building is still associated with Santa Clara University and remains a vital part of the campus.

Building 301 – Benson Center

The Benson Center is a U-shaped building constructed in 1963. The building is comprised of a two-story central section with a low-pitched, red tile hipped roof. The central section is flanked by two one-story sections with flat roofs and simple parapets.

The entire building is reinforced concrete with stucco cladding. The windows are generally grouped into sets of four. There are several entrances to the building, all of

which are aluminum storefronts with single or double doors. A two-story high entry porch with concrete columns covers the entrances on the east and west sides of the building.

Benson Center was built during the University expansion in the early 1960s when women were admitted for the first time. Primarily a recreational building, it previously housed billiard tables, a locker room, bowling lanes, a lounge, and a hair salon. The building was renovated in 1983 and 1995 to accommodate the changing needs of the students on campus. The building was designed by the local architectural firm of Norton S. Curtis & Associates and constructed by O.E. Anderson Company.

The building is not eligible for inclusion in the CRHR under any Criterion. While the building was part of the University's expansion in the 1960s, the building's significance to the expansion is minimal. Furthermore, the buildings are not significantly associated with persons important to our past and have little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the building was designed by a notable architect, the style of the building is nondescript with little ornamentation and is not representative of a significant work.

The structure is not currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the buildings would not be eligible for the local inventory under any criteria.

The building maintains integrity of location and setting as it has not been moved and remains surrounded by institutional buildings. Benson Memorial Center retains the majority of integrity of design, materials and workmanship with only minor alterations to the exterior of the building. Integrity of association and feeling remain as the building is still associated with Santa Clara University and remains a vital part of the campus.

Building 402 – Murphy Hall

Murphy Hall is a two-story, rectangular shaped institutional building that was constructed in 1961. The reinforced concrete building has stucco cladding and a low-pitched, red tile hipped roof. Enclosed eaves highlight the roof overhang. Windows are aluminum frame and are grouped in four rows of four windows per structural bay. The first, second, and fourth rows of windows are clear or opaque and the third row are painted. There are three entrances into the building. The south entrance has double doors, the two north entrances also have double doors with transoms and decorative pilasters and pediments. Four structures have been added off the eastern end of the building for equipment and storage.

The building was named for an engineering alum from the 1890s and is an integral part of the School of Engineering. The San Jose firm of Norton S. Curtis & Associates is credited with the design of the building.

The building is not eligible for inclusion in the CRHR under any Criterion. While the building was part of the University's expansion in the 1960s, the building's significance to the expansion is minimal. Furthermore, the building is not significantly associated with persons important to our past and has little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the building was named for a notable alum, it has no direct association with its namesake. Lastly, while the building was designed by a notable architect, the style of the building is nondescript with little ornamentation and is not representative of a significant work. The structure is not currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the buildings would not be eligible for the local inventory under any criteria.

The building maintains integrity of location as it has not been moved. Murphy Hall lacks integrity of setting and design as one of the three buildings in the complex was demolished. Integrity of materials and workmanship are maintained as only minor alterations to the exterior of the building have occurred. Integrity of association and feeling remain as the building is still associated with Santa Clara University and remains a vital part of the campus.

Building 403 – Bannan Engineering Laboratories

The structure is a one-story, rectangular shaped institutional building that was constructed in 1960. The reinforced concrete building has stucco cladding and a low-pitched, red tile hipped roof. Enclosed eaves highlight the roof overhang. Windows are aluminum frame and are grouped in three rows of four windows per structural bay, with two rows of glazed windows above one row of painted windows. The east and west elevations have multiple entrances which are incorporated into the window system. There is also a single wood door entrance with a transom on the north and a double wood door entrance on the south. Both of these entrances have stucco pilasters.

The building, named after professor and alum Thomas J. Bannan, houses classrooms, research laboratories, and multipurpose space. The San Jose firm of Norton S. Curtis & Associates is credited with the design of the building.

The building is not eligible for inclusion in the CRHR under any Criterion. While the building was part of the University's expansion in the 1960s, the building's significance to the expansion is

minimal. Furthermore, the building is not significantly associated with persons important to our past and has little potential to yield information important to the prehistory or history of Santa Clara, the State, or the Nation. While the building was named for a notable professor and alum, it has no direct association with its namesake. Lastly, while the building was designed by a notable architect, the style of the building is nondescript with little ornamentation and is not representative of a significant work.

The structure is not currently listed on the City's Historic Resources Inventory. Analysis of the structure concluded that the building would not be eligible for the local inventory under any criteria.

4.2.2 Thresholds of Significance

For the purpose of this EIR, a cultural resources impact is considered significant if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

4.2.2.1 Prehistoric and Historic Subsurface Resources Impacts

Prehistoric and Historic Resources – Project Site 1

Based on a preliminary subsurface examination of project site 1, it is known that artifacts from multiple periods of significance are located within the footprint of the proposed law school building. Specifically, the site contains Mission period architectural features including remnants of adobe structures (i.e., sandstone cobbles, roof tiles, and floor tiles) that were part of the Third Mission Quadrangle. Some of these features appear to have been previously impacted by American period land use and development. Mission period refuse features were also found including midden soils and refuse pits containing ash, bone, ceramics, and glass. American period features included wire nails, concrete and brick, redwood planks, and glass, and domestic refuse associated with residential development were also found.

Due to the known resources on Site 1, the project proposes building design features to reduce impacts to subsurface resources. Sixty-four drilled piers are proposed as part of the foundation system for the southeast corner of the building. Support beams would span the piers. The remainder of the building would be on numerous foundation footings. While the piers would reduce the total area of impact for the structural Mission features compared to a standard foundation, multiple piers would be drilled directly into or adjacent to architectural features which would damage or destroy those features. Furthermore, depending on the final height of the support beams relative to the elevation of the architectural features, the support beams could also damage known resources.

The remainder of the building, with the foundation footings, would damage or destroy Mission refuse features and American period artifacts.

Impact CUL-1: Redevelopment of project site 1 would result in the exposure and possible destruction of third Mission and American Period resources. **(Significant Impact)**

Prehistoric and Historic Resources – Project Sites 2-7

The proposed development sites are known to contain subsurface historic and likely prehistoric artifacts associated with the Santa Clara Mission, post-Mission development, and prehistoric settlements in this area. Mission Period and Early American Period artifacts have been found near the proposed development sites. There is also the possibility that prehistoric site CA-SCL-755 and or historic site CA-SCL-30/H may extend onto one or more of the development sites. Prehistoric and historic resources directly associated with occupation of the project area and development on the project site could provide valuable information on critical time periods in Santa Clara's history.

Impact CUL-2: Future development under the proposed project could result in the exposure or destruction of as yet unrecorded subsurface prehistoric and historic archaeological artifacts and possibly human remains. This would be a significant impact. **(Significant Impact)**

Paleontological Resources

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. Geologic units of Holocene age are generally not considered sensitive for paleontological resources, because biological remains younger than 10,000 years are not usually considered fossils. These sediments have low potential to yield fossil resources or to contain significant nonrenewable paleontological resources. These recent sediments, however, may overlie older Pleistocene sediments with high potential to contain paleontological resources. These older sediments, often found at depths of greater than 10 feet below the ground surface, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates. It is very unlikely that paleontological resources will be discovered on-site due to the distance of the site from the Bay and because no paleontological resources have been discovered in this area of Santa Clara. **(No Impact)**

4.2.2.2 Historic Building Impacts

Under CEQA, a structure need not be listed on a National, State, or local register to quality as a significant resource. A structure is considered a significant resource under CEQA if it is listed in or found to be *eligible* for inclusion on a National, State, or local register. Furthermore, as outlined in the criteria of significance above, a prized architectural style or appealing aesthetic is not the sole determining factor in the historical significance of a structure. Public opinions on what is visually appealing or architecturally important change over time, so a structure's aesthetic may not be appreciated by modern standards. That does not, however, preclude it from being eligible for listing as a historic resource. Table 4.2-1 below outlines the significance of the buildings surveyed and whether or not they are proposed for demolition.

TABLE 4.2-1 Summary of Historic Structures Within Area of Impact				
Bldg. No.	**Bldg. Name**	**Eligible for CRHR**	**Eligible for Local Register[6]**	**Proposed for Demolition**
111	O'Connor Hall	Yes	Yes	No
201	Walsh Administration Building	Yes	Yes	No
202	Heafey Law Library	No	No	Yes
203	**Bergin Hall**	**Yes**	**Yes**	**Yes**
204	Kenna Hall	Yes	Yes	No
206	de Saisset Museum	Yes	Yes	No
207 210 211	Daly Science Center	No	No	Yes
208	Alumni Science Building	Yes	Yes	No
301	Benson Memorial Center	No	No	No
402	Murphy Hall	No	No	Yes
403	Bannan Engineering Laboratories	No	No	Yes

As shown in Table 4.2-1, one of the buildings proposed to be demolished is eligible for inclusion in the CRHR or the City's Historic Resources Inventory. The other buildings slated for demolition have been too heavily modified or otherwise do not possess a distinctive architectural style or significant historic connection that would make them eligible for listing on any historic register. Therefore, these buildings are not considered significant resources. The non-historic buildings proposed to be demolished are, however, located adjacent to buildings that are considered significant historic structures under CEQA.

Heafey Law Library and Bergin Hall are adjacent to Kenna Hall and the Walsh Administration Building. Kenna Hall and the Walsh Administration Building are eligible for inclusion in the CRHR. The Walsh building is also eligible for listing on the City's Historic Resources Inventory (Kenna Hall is already listed). Demolition of Heafey Law Library and Bergin Hall and construction of the new STEM complex could result in damage to Kenna Hall and the Walsh Administration Building.

The Daly Science Center is adjacent to the Alumni Science Building, O'Connor Hall, and the de Saisset Museum, all three of which are eligible for inclusion in the CRHR and the City's Historic Resources Inventory. Demolition of the Daly Science Center could result in damage to one or more of these buildings.

Impact CUL-3: Implementation of the proposed Master Plan would result in the demolition of one building and could result in physical damage to five buildings which are listed or eligible for listing on the CRHR and the City's Historic Resources Inventory. Demolition and/or damage to one of more historic structures would constitute a significant impact. **(Significant Impact)**

[6] O'Conner Hall and Kenna Hall are already listed on the City's Historic Resources Inventory.

4.2.3 Mitigation and Avoidance Measures for Cultural Resources

4.2.3.1 Subsurface Resources

City Requirements

City policy requires that within areas of the City deemed to have the potential to contain subsurface archaeological resources, the City may require that an applicant retain the services of a qualified archaeologist to monitor earth-moving activities. Since the project site is in an archaeologically sensitive area, the proposed project will be subject to the requirements of this policy, as described below.

Monitoring shall consist of coordinating subsurface work to allow for the careful examination of vertical and horizontal soil relationships for the purpose of seeking positive archaeological finds (prehistoric and/or historic). The monitor must maintain a field log of their presence and observations, carefully noting soil conditions. The archaeological monitor must be pre-approved by the Director of Planning and Inspection. After written approval, the Planning Division must be notified at least 48 hours prior to any grading or other subsurface work on the site and the applicant must provide a written protocol which stipulates the manner in which the applicant shall comply with the monitoring requirements. In the event that cultural resources are encountered, all work within proximity of the find shall temporarily halt so that the archaeologist can examine the find and document its provenience and nature (drawings, photographs, written description). The archaeological monitor will then direct the work to either proceed if the find is deemed to be insignificant, or instruct the work to continue elsewhere or cease until adequate mitigation measures are adopted.

For areas where it is reasonably certain that artifacts will be discovered, the City requires that a Treatment Plan be prepared and implemented. The key elements of the Treatment Plan must include the following:

- Identify scope of work and range of subsurface effects (including location map and development plan).
- Describe the environmental setting (past and present) and the historic/prehistoric background of the parcel (potential range of what might be found).
- Develop research questions and goals to be addressed by the investigation (what is significant vs. what is redundant information).
- Detail field strategy used to record, recover, or avoid the finds and address research goals.
- Analytical methods.
- Report structure and outline of document contents.
- Disposition of the artifacts.
- Appendices: all site records, correspondence, consultation with Native Americans, etc.

In addition to the City's monitoring requirements, the Treatment Plan proposed as part of the project (see discussed below) includes all the City's requirements for preparation of a Treatment Plan and has been tiered off of the approved Master Cultural Resources Treatment Plan for the Santa Clara University campus.

Project Site 1 Specific Treatment Plan

The following site-specific mitigation measures will be implemented to reduce impacts to subsurface cultural resources on project site 1:

MM CUL-1.1: The final site plan for project site 1, including building foundations and utility trenches, will be designed to avoid disturbance of identified significant architectural resources associated with the third Mission to allow for preservation in place. All non-architectural Mission Period and all American Period features shall be avoided to the extent possible. Final design to avoid significant subsurface features will be based on diagrams of the identified features prepared by the project archaeologist. Design features could include:

- Shallow foundation footings and/or rerouting of utility lines to avoid significant archaeological features.
- Incorporation of greenspace preserves to protect significant archaeological features from development.
- Covering archaeological features with a layer of chemically stable soil before building hardscape over identified features.

The final site plan must be approved by the Planning Department prior to issuance of grading permits.

MM CUL-1.2: For resources where preservation in place is not feasible, data recovery will occur consistent with the requirements of the *Master Cultural Resources Treatment Plan for the Santa Clara University 2020 Plan* (July 2015).

MM CUL-1-3: Upon completion of all field work, but before completion of the Findings Report, a preliminary report outlining the data recovery work on the site shall be submitted to the Director of Planning and Inspection for review and approval prior to issuance of building permits.

Cultural Resources Treatment Plan

MM CUL-2.1: After completion of final building design for each of the proposed development sites, a site-specific cultural resources treatment plan shall be prepared and approved by the Director of Planning and Inspection prior to issuance of any of demolition permits. The treatment plans will tier off the *Master Cultural Resources Treatment Plan for the Santa Clara University 2020 Plan* (July 2015) and will conform to all requirements outlined in the *Master Cultural Resources Treatment Plan.* Specific elements of the treatment plans are outlined below.

Investigation – Resource Identification

A combined program of archaeological investigation (testing and data recovery) will focus on the proposed area of disturbance on the project sites. Because construction of the project is currently expected to occur over five

years, the archaeological investigations will be phased to fit the project schedule. Specific activities include:

- Identification of archaeological resources though mechanical area exposure. A trained archaeological monitor will direct mechanical excavation of select regions within the project site area. Depending on the sensitivity of each site, some projects will require excavation of the entire site and some will require excavation of only certain areas. This step will occur after demolition, but before construction grading.

- Upon identification of a feature, removal of overburden using hand excavation techniques.

- Archaeological investigation of areas exposed.

- Identification of resources for data recovery.

Archaeological investigation will include the following guidelines and actions:

- Archaeologists will direct the stripping away of asphalt, base rock, fill, disturbed soils, and modern intrusions to expose historic ground surfaces in areas that will be disturbed during project construction. This will help determine the kinds and number of archaeological resources present.

- Archaeologists will investigate features to determine their potential significance. In consultation with the SCU Assistant Campus Archaeologist and Operations staff, decisions will be made about which features will be subject to archaeological data recovery.

- Determination of significance of historic archaeological property types is tied directly to their historical context and relevance to research themes further discussed below. Usefulness of a property type (feature) with regard to relevant research themes determines the legal importance of that resource. Also germane to the importance of property types are assessments of integrity, land use history, and comparison with other known similar property types. Especially relevant here are issues that cannot be addressed using data from other sources. The purpose of identifying relevant research themes is to help predict areas of special concern, given expected property types. Determination of relevance to research themes is critical to the identification of significant features in the field.

- If data recovery is determined to be appropriate, excavation will target recovery of an appropriate amount of information from archaeological deposits to determine potential of the resource to

address specific research questions. If it occurs, data recovery will emphasize understanding of the archaeological deposit's structure, including features and stratification, horizontal and vertical extent, and content including the nature and quantity of artifacts.

Reporting

The findings reports will follow the outline below and will focus on particular finds encountered during the excavation. All reports will at a minimum meet the *Secretary of the Interior's Standards for Archaeological Documentation*. The report will be submitted to the applicant and all reviewing agencies, and will ultimately be filed with the Northwest Information Center at Sonoma State University.

The technical report on project results may address the following elements:

- executive summary;
- statement of scope, including project location and setting;
- background contexts or summaries;
- summary of previous research, historical and archaeological;
- research goals and themes;
- field and laboratory methodologies;
- descriptions of recovered materials;
- findings and interpretations, referencing research goals;
- conclusions;
- references cited; and
- appendices such as artifact catalogs, special studies, and other information relevant to the project and findings.

Discovery of Human Remains

Procedures for the treatment of human remains are well defined in various California laws and codes. The Heritage Commission acts as a central point of contact for notification of Native Americans, and arbitration between the Native American representative and the property owner (who is also the owner of the remains) and any associated archaeological materials. These procedures are set forth in the California Public Resources Code 5097.9, specifically 5097.98 *Notification of discovery of Native American human*

remains, descendants, disposition of human remains and associated grave goods. NAHC guidelines have changed over time and SCU will follow NAHC recommendations and Public Resource Codes current at the time of the discovery.

Discovery. When human remains are discovered (in either an archaeological or construction context), SCU will notify the Santa Clara County Coroner who will determine if the remains are or are suspected to be of Native American origin (cf. Section 7050.5c of the Health and Safety Code). This is often done in consultation with the archaeological investigator or on occasion in consultation with a forensic or physical anthropologist. If this determination is made, the Coroner will notify the Heritage Commission.

Notification of Most Likely Descendent (MLD). The Heritage Commission will notify those persons it believes are most likely descended from the deceased Native American. This is usually a single individual although for a number of reasons, the Heritage Commission may assign more than one MLD. The MLD will likely be on the original consultation list; however, this is not always the case, as some individuals have removed themselves from the general consultation list due to the number of requests for comments.

Inspection and Recommendations. The MLD will have 48 hours to inspect the finds and make recommendations to the University regarding the disposition of the remains. If the MLD fails to make a recommendation or the MLD and the University fail to come to an agreement (with mediation provided by the NAHC) the University will respectfully reinter the remains and associated artifacts in a safe place on University property.

MM CUL-2.2: Upon completion of all field work for each individual treatment plan, but before completion of the Findings Report (outlined in MM CUL-2.1), a preliminary report outlining the data recovery work on the site(s) shall be submitted to the Director of Planning and Inspection for review and approval prior to issuance of building permits for each of the proposed development sites.

4.2.3.2 Historic Structures

MM CUL-3.1: As mitigation for the demolition of one historic structure on the project site and possible physical damage to five buildings, the project proposes to document these six structures in accordance with Historic American Building Survey (HABS) guidelines.

Documentation: The historic structures will be documented in accordance with the guidelines established for the HABS and shall consist of the following components:

1. Drawings – Prepare sketch floor plans.

2. Photographs – Digital photographic documentation of the interior, exterior, and setting of the buildings in compliance with the National Register Photo Policy Fact Sheet. Photos must have a permanency rating of approximately 75 years.
3. Written Data – HABS written documentation in short form. [Please note that the historic evaluation completed for the proposed project can be used for this task. No additional written documentation is necessary to meet this mitigation requirement.]

MM CUL-3.2: Salvage: Bergin Hall will be made available to salvage companies facilitating the reuse of historic building materials.

MM CUL-3.3: As a condition of approval, the City will require the following measures:

Documentation: A Secretary of the Interior qualified historian will prepare an oral history of the project area. The oral history will take the form of a written report with transcribed interviews of former residents and photographs, to the extent that they are available. The final report will be provided to the City and will also be distributed to Santa Clara libraries and historical organizations in Santa Clara.

Salvage: The time frame available for salvage will be established by the City. The applicant must provide evidence to City staff that this condition has been met prior to the issuance of demolition permits.

MM CUL-3.4: A historical architect with a minimum of five years of experience in the rehabilitation and restoration of historic buildings, as well as meeting the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualifications Standards Qualifications Standards shall be engaged to prepare protection plans for the historic resources adjacent to proposed demolition and new construction activities.

1. Prior to the start of the project, the historical architect shall undertake an existing condition study of the affected historic resources. The purpose of the study would be to establish the baseline condition of the buildings prior to construction, including the location and extent of any visible cracks or spalls. The documentation shall take the form of written descriptions and photographs, and shall include those physical characteristics of the resources that convey their historic significance and that justify their inclusion on, or eligibility for inclusion on, the California Register of Historical Resources and local register. The documentation shall be reviewed and approved by the staff to the City of Santa Clara's Historical and Landmarks Commission, or equivalent.

2. The historical architect shall prepare designs and specifications for protective barriers required to protect the historic resources from

potential damage caused by demolition and new construction activities. All documents prepared in accordance with MM CUL-2.2 shall be reviewed and approved by the staff to the City of Santa Clara's Historical and Landmarks Commission, or equivalent.

3. The historical architect shall establish a training program for construction workers involved in the projects that emphasizes the importance of protecting historic resources. This program shall include information on recognizing historic fabric and materials, and directions on how to exercise care when working around and operating equipment near the historic structures, including storage of materials away from historic buildings. It shall also include a reporting program for any potential problems that could affect the historic resources in the area. A provision for establishing this training program shall be incorporated into the contract, and the contract provisions shall be reviewed and approved by the staff to the City of Santa Clara's Historical and Landmarks Commission, or equivalent.

4. The historical architect shall periodically monitor the historic resources during construction. Any changes to existing conditions will be reported, including, but not limited to, expansion of existing cracks, new spalls, or other exterior deterioration. Monitoring reports shall be submitted to the Director of Planning and Inspection, or equivalent on a periodic basis. If in the opinion of the historical architect, substantial adverse impacts to historic resources related to construction activities are found during construction, the historical architect shall so inform the project sponsor, or sponsor's designated representative responsible for construction activities, as well as the Director of Planning and Inspection, or equivalent. The project sponsor shall adhere to the monitoring team's reasonable recommendations for corrective measures. The Director of Planning and Inspection, or equivalent, shall establish the frequency of monitoring and reporting.

4.2.4 Conclusion

With implementation of an approved Cultural Resources Treatment Plan prior to construction on each of the identified development sites, implementation of the proposed Master Plan will have a less than significant impact on known and unknown American Period subsurface resources. **(Less Than Significant Impact With Mitigation)**

With implementation of an approved Cultural Resources Treatment Plan prior to construction on project site 1, implementation of the law school project will have a less than significant impact on known and unknown non-architectural Mission Period subsurface resources. **(Less Than Significant Impact With Mitigation)**

If final site design of the proposed law school building on project site 1 does not avoid all identified architectural artifacts associated with the third Mission, implementation of the proposed Master Plan will have a significant and unavoidable impact on known and unknown Mission Period architectural subsurface resources. **(Significant Unavoidable Impact)**

With implementation of the identified mitigation measures to protect historic structures during demolition and construction activities, development of the project site under the proposed Master Plan will have a less than significant impact on historic structures. **(Less Than Significant Impact With Mitigation)**

Even with implementation of the identified mitigation measures, demolition of Bergin Hall would result in a significant and unavoidable impact. **(Significant Unavoidable Impact)**

4.3 TRANSPORTATION

The following discussion is based on a transportation analysis prepared by *Hexagon Transportation Consultants, Inc.* in February 2016. The report can be found in Appendix B of this EIR.

4.3.1 Setting

4.3.1.1 Existing Roadway Network

Regional Access

Regional access to the project site is provided via Highway 101 (US 101) and Interstate 880 (I-880), as described below.

US 101 is a north-south roadway that extends north to San Francisco and south to Gilroy. Within the study area, the highway has three mixed-flow lanes and one high occupancy vehicle (HOV) lane in each direction. Regional access from US 101 is provided via its interchange with Trimble Road.

I-880 is a north-south roadway that extends from Interstate 280 near downtown San Jose to Interstate 80 in Oakland. Within the study area, the highway has six mixed-flow lanes. Regional access from I-880 is provided via its interchange with The Alameda.

Local Access

Local access to the project site is provided via The Alameda, El Camino Real, San Tomas Expressway, Benton Street, Homestead Road, Market Street, Bellomy Street, Lafayette Street, Scott Boulevard, and Monroe Street, as described below.

The Alameda is a four-lane, north-south roadway that runs along the southern boundary of the University. The road begins at Park Avenue and intersects with the southern terminus of El Camino Real, continuing south into downtown San Jose. The Alameda provides direct access to the University.

El Camino Real (State Route 82) is a six-lane, east-west roadway that extends from The Alameda in San Jose west towards Mountain View. El Camino Real provides direct access to the University.

San Tomas Expressway is a north-south roadway with six mixed-flow lanes and two HOV lanes. The road begins at US 101 and extends south into Campbell where it becomes Camden Avenue at State Route 17. San Tomas Expressway provides access via El Camino Real, Benton Street, Homestead Road, and Saratoga Avenue.

Benton Street is a two- to four-lane, east-west roadway that runs along the northern boundary of the University. Benton Street extends between the Santa Clara Caltrain Station, near El Camino Real, and Lawrence Expressway. Benton Street provides direct access to and from Santa Clara University via several north/south roadways including Lafayette Street.

Homestead Road is an east-west roadway that extends from Foothill Expressway in Los Altos to Lafayette Street in Santa Clara. In the vicinity of the project, Homestead Road is a two-lane roadway with bike lanes on both sides of the street west of San Tomas Expressway.

Market Street is a two-lane east-west residential street that extends from its intersection with The Alameda near Santa Clara University to Fallon Avenue near Saratoga Avenue. East of Fallon Avenue, Market Street transitions to Saratoga Avenue with connection to San Tomas Expressway. Between Bellomy Street and Saratoga Avenue, Market Street operates as a two-lane one-way street with a bike lane in the westbound direction.

Bellomy Street is a two-lane east-west residential street that extends from its intersection with Market Street to Saratoga Avenue. Between Market Street and Saratoga Avenue, Bellomy Street operates as a two-lane one-way street with a bike lane in the eastbound direction.

Lafayette Street is a four-lane, north-south roadway that extends from State Route 237 southward through the City of Santa Clara to Market Street where it becomes Washington Street. In the vicinity of the University, between Homestead Road and Lewis Street, Lafayette Street consists of a three-lane roadway with a two-way left-turn lane. During the morning and evening commute periods the center two-way left-turn lane is utilized as a reversible travel lane with operations in the northbound direction between 6:00-9:30 AM and southbound between 2:20-7:00 PM.

Scott Boulevard is a four-lane, north-south roadway that extends from Bowers Avenue to Saratoga Avenue. Scott Boulevard transitions to Arques Avenue, east of Bowers Avenue, and Newhall Street south of Saratoga Avenue. Scott Boulevard provides access to and from Santa Clara University via El Camino Real, Benton Street, Homestead Road, and Market Street.

Monroe Street is a two-lane, north-south roadway that extends from Forest Avenue north to Lawrence Expressway where it becomes Reed Avenue and extends into the City of Sunnyvale. Bike lanes are provided on Monroe Street north of Newhall Street.

4.3.1.2 Existing Pedestrian and Bicycle Facilities

Pedestrian Facilities

Pedestrian facilities in the vicinity of the project site consist of sidewalks along one or both sides of all streets. Pedestrian crosswalks and signal heads are present at all signalized intersections. High visibility crosswalks are located at multiple unsignalized intersections around the University, including Benton Street, Market Street, Lafayette Street, and The Alameda.

Bicycle Facilities

Bicycle facilities are comprised of paths (Class I), lanes (Class II), and routes (Class III). Bicycle paths are paved trails that are separate from roadways. Bicycle lanes are lanes on roadways designed for bicycle use by striping, pavement legends, and signs. Bicycle routes are roadways designated for bicycle use by signs only.

Currently, Class II facilities in the project area include bike lanes on Homestead Road, Market Street (between Fallon Avenue and Bellomy Street), Bellomy Street (between Saratoga Avenue and Market Street), and Monroe Street (between Newhall Street and San Tomas Expressway). In addition, the San Tomas Aquino Creek Trail extends from the Sunnyvale Baylands Park to El Camino Real (approximately two miles from the University). Existing bicycle facilities are shown on Figure 4.3-1.

4.3.1.3 Existing Transit Service

Existing transit service in the project area is provided by the Santa Clara Valley Transportation Authority (VTA), Caltrain, the Altamont Commuter Express (ACE), and the Amtrak Capitol Corridor Inner-City Rail. The nearest Caltrain/ACE station is the Santa Clara Transit Station located just east of the University across El Camino Real. The Amtrak train shares the San Jose Diridon and Santa Clara Caltrain Stations.

VTA bus services are described in Table 4.3-1 below. All transit services are shown on Figure 4.3-2.

TABLE 4.3-1
VTA Bus Service in the Project Area

Route	Route Description	Headway (min)
22	Palo Alto Transit Center to Eastridge Transit Center	12
32	San Antonio Shopping Center to Santa Clara Transit Center	30
60	Winchester Transit Center to Great America	15
81	San Jose State University to Vallco Shopping Center	30
Limited 330	Almaden Expressway/Camden Avenue to Alder Drive/Tasman Drive	30
Rapid 522	Palo Alto Transit Center to Eastridge Center	15

4.3.1.4 Existing Intersection Operations

Methodology

The impacts of the proposed development were evaluated following the methodologies established by the City of Santa Clara and the Santa Clara County Congestion Management Program (CMP). Intersections were selected for study if project traffic would add at least 10 trips per lane per hour during one or more peak hours, consistent with adopted CMP methodology.

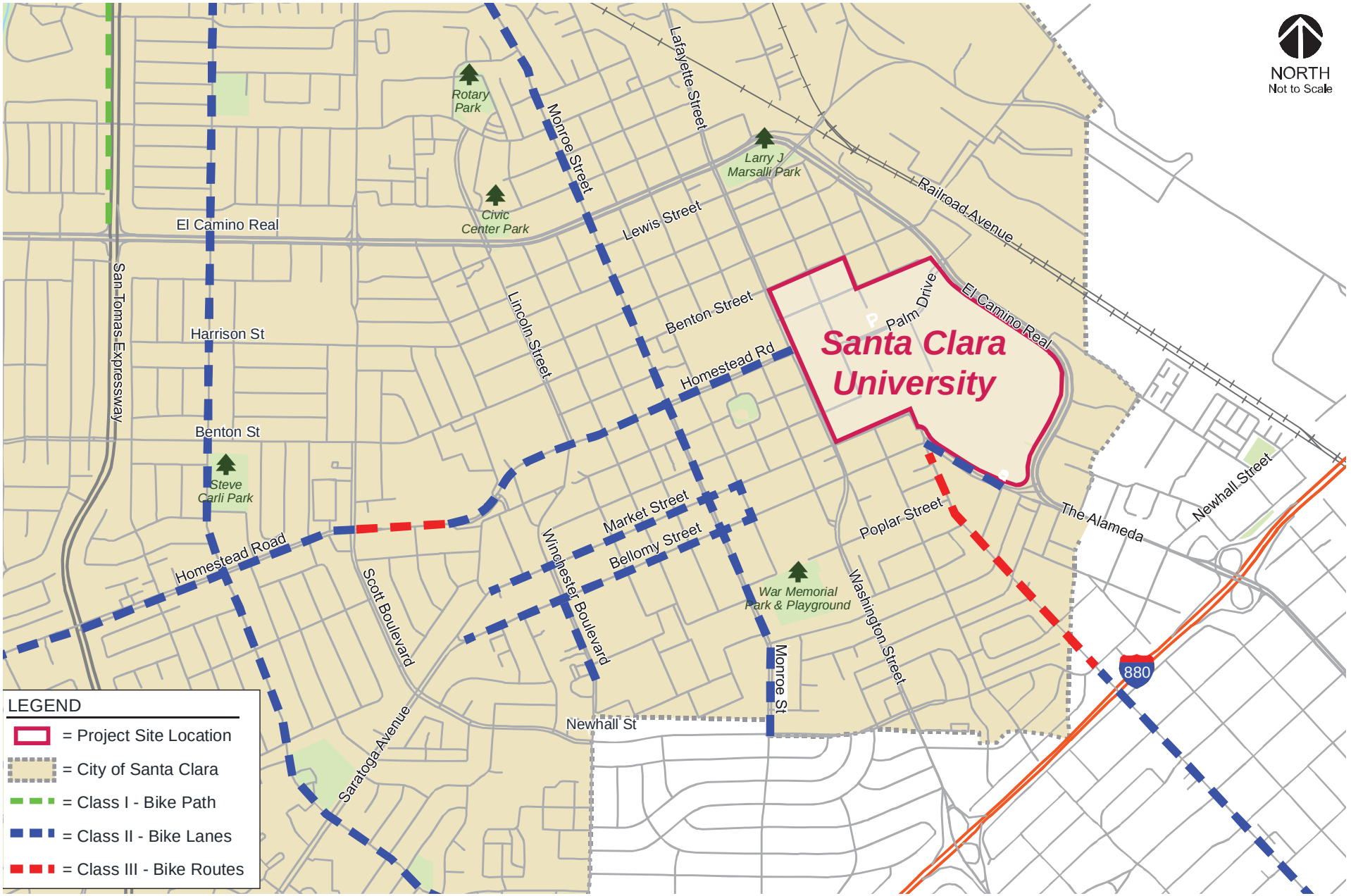
Traffic conditions were evaluated for the following scenarios to determine if the level of service (LOS) of the local intersections in the project area would be adversely affected by the project generated traffic:

Scenario 1: Existing – Existing traffic conditions.

Scenario 2: Background – Scenario 1 plus approved but not yet constructed development.

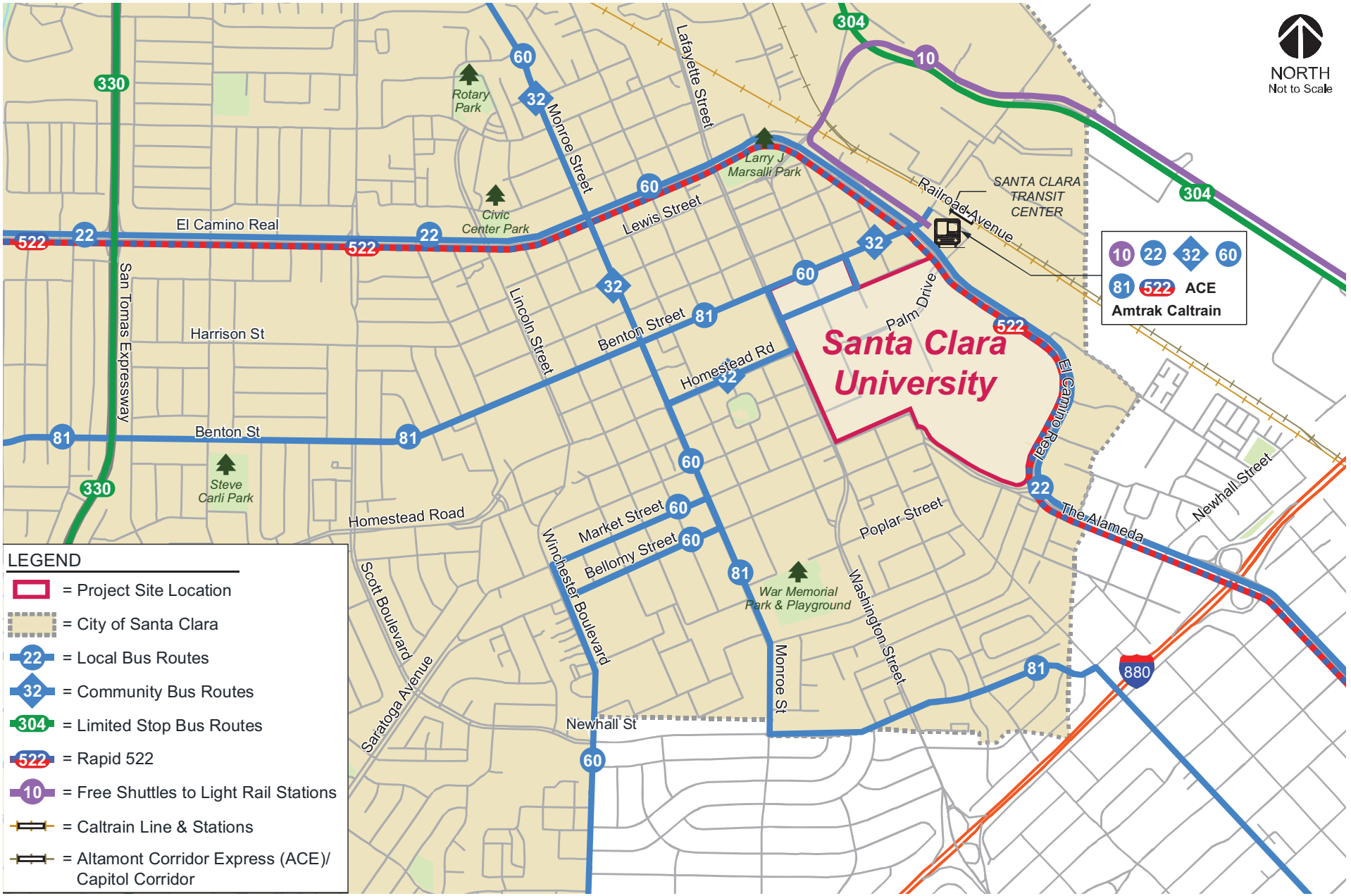
Scenario 3: Existing Plus Project – Scenario 1 plus traffic generated by the project.

Scenario 4: Background Plus Project – Scenario 2 plus traffic generated by the project.



BICYCLE FACILITIES

FIGURE 4.3-1



TRANSIT FACILITIES FIGURE 4.3-2

LOS is a qualitative description of operating conditions ranging from LOS A, or free-flowing conditions with little or no delay, to LOS F, or congested conditions with excessive delays. The correlation between average delay and LOS for signalized intersections is shown in Table 4.16-2.

TABLE 4.3-2
Intersection Level of Service Definitions Based on Delay

Level of Service	Description	Average Control Delay per Vehicle[7]
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	10.0 or less
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C[8] ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.0 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	Greater than 80.0

Existing LOS of Study Intersections

The traffic study analyzed AM and PM Peak Hour traffic conditions for 27 signalized intersections in the vicinity of the project site. All study intersections are listed in Table 4.3-3 below and shown on Figure 4.3-3. The study intersections are located within Santa Clara and San Jose.

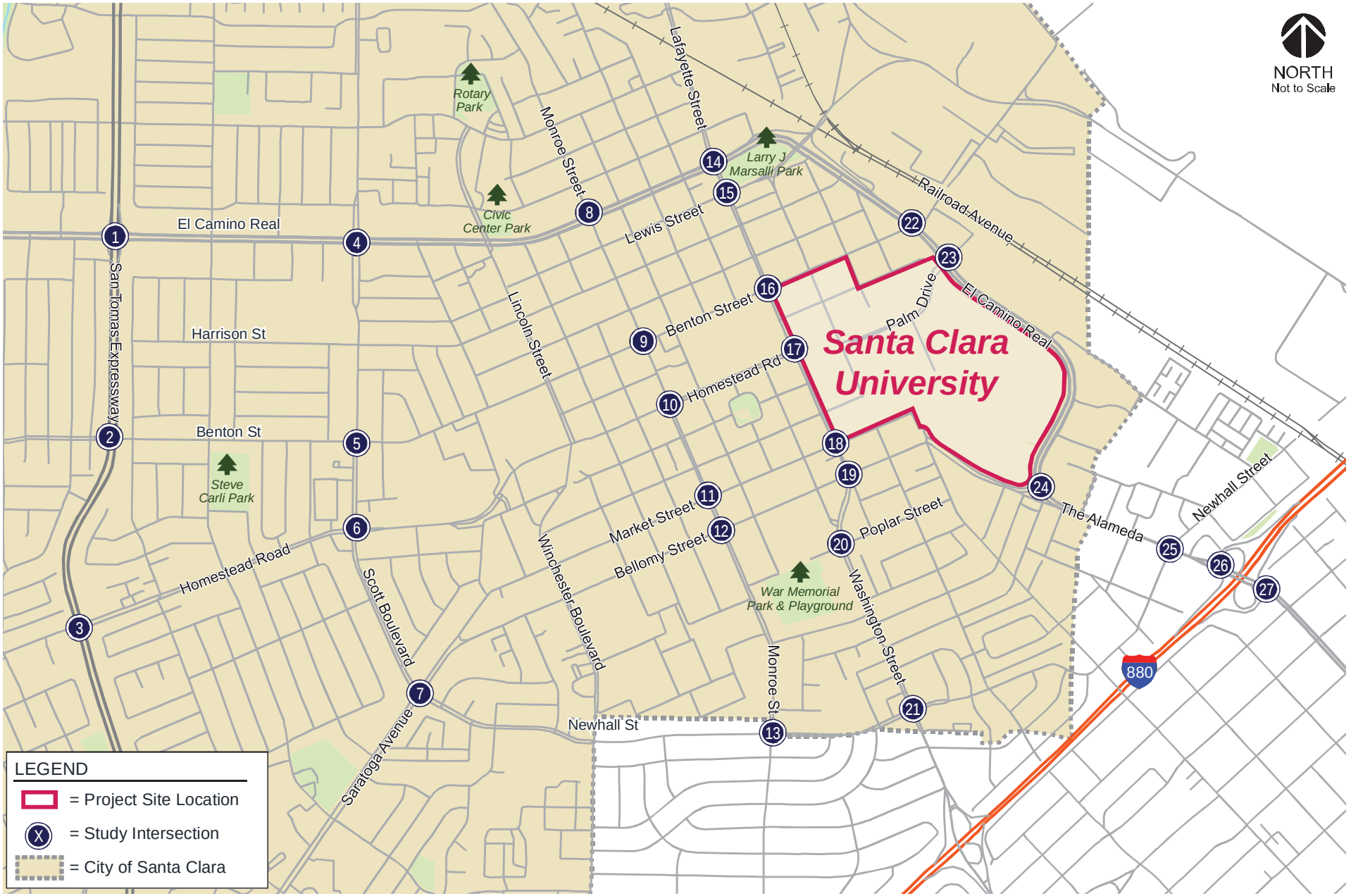
Based on the City of Santa Clara's policies, an acceptable operating level of service is defined as LOS D or better at all intersections. For County of Santa Clara and CMP intersections, an acceptable level of service is LOS E. In San Jose, an acceptable operating level of service is LOS D.

Analysis of the existing intersection operations found that two of the study intersections currently operate at an unacceptable LOS. The two intersections are listed below and shown in bold in the table.

- No. 1 – San Tomas Expressway and El Camino Real – AM Peak Hour
- No. 2 – San Tomas Expressway and Benton Street – AM Peak Hour

The results of the existing conditions analysis are summarized in Table 4.3-3.

[7] Measured in seconds.
[8] Volume to capacity ratio.



STUDY INTERSECTIONS

FIGURE 4.3-3

TABLE 4.3-3
Study Intersections Level of Service – Existing Conditions

No.	Intersection	Peak Hour	Delay	LOS
1	San Tomas Expressway and El Camino Real (SC, CMP)	AM	**107.8**	**F**
		PM	79.7	E
2	San Tomas Expressway and Benton Street (SC)	AM	**89.6**	**F**
		PM	69.5	E
3	San Tomas Expressway and Homestead Road (SC, CMP)	AM	70.9	E
		PM	61.7	E
4	Scott Boulevard and El Camino Real (SC, CMP)	AM	33.8	C
		PM	37.7	D
5	Scott Boulevard and Benton Street (SC)	AM	19.3	B
		PM	16.2	B
6	Scott Boulevard and Homestead Road (SC)	AM	22.4	C
		PM	24.2	C
7	Saratoga Avenue and Scott Boulevard (SC)	AM	26.8	C
		PM	23.4	C
8	Monroe Street and El Camino Real (SC, CMP)	AM	35.5	D
		PM	32.9	C
9	Monroe Street and Benton Street (SC)	AM	10.5	B
		PM	10.6	B
10	Monroe Street and Homestead Road (SC)	AM	9.8	A
		PM	10.5	B
11	Monroe Street and Market Street (SC)	AM	13.0	B
		PM	8.8	A
12	Monroe Street and Bellomy Street (SC)	AM	23.2	C
		PM	15.6	B
13	Monroe Street and Newhall Street (SC)	AM	27.0	C
		PM	28.7	C
14	Lafayette Street and El Camino Real (SC, CMP)	AM	39.2	D
		PM	41.3	D
15	Lafayette Street and Lewis Street (SC)	AM	10.7	B
		PM	31.9	C
16	Lafayette Street and Benton Street (SC)	AM	17.1	B
		PM	15.7	B
17	Lafayette Street and Homestead Road (SC)	AM	19.1	B
		PM	9.7	A
18	Lafayette Street and Market Street (SC)	AM	16.6	B
		PM	24.6	C
19	Lafayette Street and Bellomy Street (SC)	AM	4.5	A
		PM	5.6	A
20	Washington Street and Poplar Street (SC)	AM	13.9	B
		PM	10.2	B
21	Washington Street and Newhall Street (SC)	AM	19.5	B
		PM	42.4	D
22	El Camino Real and Benton Street (SC)	AM	12.8	B
		PM	15.4	B
23	El Camino Real and Palm Drive/Railroad Avenue (SC)	AM	10.5	B
		PM	12.4	B

TABLE 4.3-3 Study Intersections Level of Service – Existing Conditions				
No.	**Intersection**	**Peak Hour**	**Delay**	**LOS**
24	El Camino Real and The Alameda (SC, CMP)	AM PM	13.0 17.2	B B
25	The Alameda and Newhall Street (SJ)	AM PM	12.5 12.6	B B
26	The Alameda and I-880 North (SJ, CMP)	AM PM	19.2 14.6	B B
27	The Alameda and I-880 South (SJ, CMP)	AM PM	23.3 21.2	C C
Notes: (CMP) VTA Congestion Management Program, (SC) City of Santa Clara, (SJ) City of San José **Bold** represents intersection operating under unacceptable conditions.				

4.3.1.5 Background Intersection Operations

Background traffic conditions represent conditions anticipated to exist after completion of the environmental review process but prior to completion of the proposed development. It takes into account planned transportation system improvements that will occur prior to implementation of the modified project and background traffic volumes. Background peak-hour traffic volumes are calculated by adding estimated traffic from approved but not yet constructed development to the existing conditions. This traffic scenario represents a more congested traffic condition than the existing conditions scenario since it includes traffic from approved projects.

This analysis assumes that the transportation network under background conditions would be the same as the existing transportation network.

Background Intersection Level of Service

Analysis of the background intersection operations found that five intersections will operate at an unacceptable LOS under background conditions. These intersections are listed below.

- No. 1 – San Tomas Expressway and El Camino Real – AM and PM Peak Hour
- No. 2 – San Tomas Expressway and Benton Street – AM and PM Peak Hour
- No. 3 – San Tomas Expressway and Homestead Road – AM and PM Peak Hour
- No. 15 – Lafayette Street and Lewis Street – PM Peak Hour

This change in LOS from existing to background traffic volumes reflects that the environment in which the project will eventually occur is dynamic and affected by new development independent of the project. All other study intersections would operate at an acceptable LOS under background conditions in both the AM and PM Peak Hours. The results of the analysis under background conditions are summarized in Table 4.3-4 below.

TABLE 4.3-4
Study Intersections Level of Service – Background Conditions

No.	Intersection	Peak Hour	Existing		Background	
			Delay	LOS	Delay	LOS
1	San Tomas Expressway and El Camino Real (SC, CMP)	AM	**107.8**	**F**	**186.2**	**F**
		PM	79.7	E	**142.3**	**F**
2	San Tomas Expressway and Benton Street (SC)	AM	**89.6**	**F**	**176.1**	**F**
		PM	69.5	E	**139.9**	**F**
3	San Tomas Expressway and Homestead Road (SC, CMP)	AM	70.9	E	**136.7**	**F**
		PM	61.7	E	**130.3**	**F**
4	Scott Boulevard and El Camino Real (SC, CMP)	AM	33.8	C	34.0	C
		PM	37.7	D	38.7	D
5	Scott Boulevard and Benton Street (SC)	AM	19.3	B	20.2	C
		PM	16.2	B	19.1	B
6	Scott Boulevard and Homestead Road (SC)	AM	22.4	C	22.7	C
		PM	24.2	C	25.4	C
7	Saratoga Avenue and Scott Boulevard (SC)	AM	26.8	C	28.4	C
		PM	23.4	C	24.1	C
8	Monroe Street and El Camino Real (SC, CMP)	AM	35.5	D	35.7	D
		PM	32.9	C	33.6	C
9	Monroe Street and Benton Street (SC)	AM	10.5	B	11.1	B
		PM	10.6	B	12.2	B
10	Monroe Street and Homestead Road (SC)	AM	9.8	A	10.4	B
		PM	10.5	B	10.9	B
11	Monroe Street and Market Street (SC)	AM	13.0	B	12.7	B
		PM	8.8	A	8.4	A
12	Monroe Street and Bellomy Street (SC)	AM	23.2	C	23.4	C
		PM	15.6	B	15.9	B
13	Monroe Street and Newhall Street (SC)	AM	27.0	C	27.2	C
		PM	28.7	C	29.2	C
14	Lafayette Street and El Camino Real (SC, CMP)	AM	39.2	D	42.7	D
		PM	41.3	D	44.7	D
15	Lafayette Street and Lewis Street (SC)	AM	10.7	B	9.9	A
		PM	31.9	C	**57.0**	**E**
16	Lafayette Street and Benton Street (SC)	AM	17.1	B	17.9	B
		PM	15.7	B	18.1	B
17	Lafayette Street and Homestead Road (SC)	AM	19.1	B	28.5	C
		PM	9.7	A	9.2	A
18	Lafayette Street and Market Street (SC)	AM	16.6	B	17.4	B
		PM	24.6	C	27.4	C
19	Lafayette Street and Bellomy Street (SC)	AM	4.5	A	4.2	A
		PM	5.6	A	4.9	A
20	Washington Street and Poplar Street (SC)	AM	13.9	B	13.4	B
		PM	10.2	B	9.8	A
21	Washington Street and Newhall Street (SC)	AM	19.5	B	20.1	C
		PM	42.4	D	44.4	D
22	El Camino Real and Benton Street (SC)	AM	12.8	B	12.6	B
		PM	15.4	B	15.8	B
23	El Camino Real and Palm Drive/Railroad Avenue (SC)	AM	10.5	B	10.5	B
		PM	12.4	B	12.2	B

TABLE 4.3-4 Study Intersections Level of Service – Background Conditions						
No.	**Intersection**	**Peak Hour**	**Existing**		**Background**	
			Delay	LOS	Delay	LOS
24	El Camino Real and The Alameda (SC, CMP)	AM PM	13.0 17.2	B B	13.2 17.1	B B
25	The Alameda and Newhall Street (SJ)	AM PM	12.5 12.6	B B	12.4 12.7	B B
26	The Alameda and I-880 North (SJ, CMP)	AM PM	19.2 14.6	B B	18.4 14.0	B B
27	The Alameda and I-880 South (SJ, CMP)	AM PM	23.3 21.2	C C	23.1 20.6	C C
Notes: (CMP) VTA Congestion Management Program, (SC) City of Santa Clara, (SJ) City of San José **Bold** represents intersection operating under unacceptable conditions.						

4.3.2 Thresholds of Significance

For the purpose of this EIR, a traffic impact is considered significant if the project would:

- Cause the level of service at any local intersection to degrade from an acceptable LOS D or better under existing or background conditions to an unacceptable LOS E or F under existing plus project or background plus project conditions; or
- At any local intersection that is already an unacceptable LOS E or F under existing or background conditions, cause the critical-movement delay at the intersection to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more; or
- Cause the level of service at a CMP or County intersection to degrade from an acceptable LOS E or better under existing or background conditions to an unacceptable LOS F under existing plus project or background plus project conditions; or
- At any CMP or County intersection that is already an unacceptable LOS F under existing or background conditions, cause the critical-movement delay at the intersection to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more; or
- Cause the level of service on any freeway segment to degrade from an acceptable LOS E or better under existing or background conditions to an unacceptable LOS F under project conditions; or
- Add more than one percent of the existing freeway capacity to any freeway segment operating at LOS F under existing conditions; or
- Create an operational safety hazard; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

4.3.2.1 Impact Criteria

City of Santa Clara – Local Signalized Intersections

Based on City of Santa Clara criteria, a project would cause a significant impact at a signalized intersection if the additional project traffic caused one of the following:

- cause the level of service at any local intersection to degrade from an acceptable LOS D or better under exiting or background conditions to an unacceptable LOS E or F under existing plus project or background plus project conditions; or
- at any local intersection that is already an unacceptable LOS E or F under existing or background conditions, cause the critical-movement delay at the intersection to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more.

City of San Jose – Local Signalized Intersections

City of San Jose's impact criteria is equivalent to City of Santa Clara criteria.

CMP and Santa Clara County Expressway Intersections

Based on CMP criteria, a project would cause a significant impact at a CMP or County Expressway intersection if the additional project traffic caused one of the following:

- cause the level of service at any CMP/County intersection to degrade from an acceptable LOS E or better under exiting or background conditions to an unacceptable LOS F under existing plus project or background plus project conditions; or
- at any CMP/County intersection that is already an unacceptable LOS F under existing or background conditions, cause the critical-movement delay at the intersection to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more.

4.3.2.2 Trip Generation Estimates

To determine the effect of 600 additional students on the local roadway network, a estimation of the traffic trips generated by the project was required. Traffic trips generated by a project are typically estimated using the Institute of Transportation Engineers (ITE) *Trip Generation, 9th Edition.* Data for universities is, however, limited and may not be representative of the unique circumstances relative to Santa Clara University. As a result, in addition to the ITE rate estimate, a trip generation estimate was completed using data from a recent parking survey[9] for the entire campus. For comparison purposes, both estimates are provided in Table 4.3-5, below. The project analysis is based on the campus specific generation rates.

TABLE 4.3-5
Project Trip Generation Estimates

Land Use	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
ITE – University/College	1,026	80	22	102	33	69	102
Santa Clara University	1,211	94	26	120	38	82	120

4.3.2.3 Existing Plus Project Intersection Operations

The LOS of the study intersections was calculated under project conditions by adding the project trips from the proposed development to the existing conditions. Analysis of the existing plus project

[9] Prepared by Hexagon Transportation Consultants and included in Appendix B.

intersection operations concluded that the following intersections will operate at an unacceptable LOS during the Peak Hours:

- No. 1 – San Tomas Expressway and El Camino Real – AM Peak Hour
- No. 2 – San Tomas Expressway and Benton Street – AM Peak Hour

All other study intersections would operate at an acceptable LOS. The results of the existing plus project conditions analysis are summarized in Table 4.3-6 below.

TABLE 4.3-6
Study Intersections Level of Service – Existing Plus Project Conditions

No.	Intersection	Peak Hour	Existing		Existing Plus Project	
			Delay	LOS	Delay	LOS
1	San Tomas Expressway and El Camino Real (SC, CMP)	AM	**107.8**	**F**	**107.8**	**F**
		PM	79.7	E	79.7	E
2	San Tomas Expressway and Benton Street (SC)	AM	**89.6**	**F**	**89.6**	**F**
		PM	69.5	E	69.5	E
3	San Tomas Expressway and Homestead Road (SC, CMP)	AM	70.9	E	71.2	E
		PM	61.7	E	61.9	E
4	Scott Boulevard and El Camino Real (SC, CMP)	AM	33.8	C	33.8	C
		PM	37.7	D	37.7	D
5	Scott Boulevard and Benton Street (SC)	AM	19.3	B	19.7	B
		PM	16.2	B	16.5	B
6	Scott Boulevard and Homestead Road (SC)	AM	22.4	C	22.4	C
		PM	24.2	C	24.4	C
7	Saratoga Avenue and Scott Boulevard (SC)	AM	26.8	C	26.8	C
		PM	23.4	C	23.5	C
8	Monroe Street and El Camino Real (SC, CMP)	AM	35.5	D	35.6	D
		PM	32.9	C	32.9	C
9	Monroe Street and Benton Street (SC)	AM	10.5	B	10.8	B
		PM	10.6	B	10.9	B
10	Monroe Street and Homestead Road (SC)	AM	9.8	A	9.9	A
		PM	10.5	B	10.5	B
11	Monroe Street and Market Street (SC)	AM	13.0	B	13.0	B
		PM	8.8	A	8.8	A
12	Monroe Street and Bellomy Street (SC)	AM	23.2	C	23.3	C
		PM	15.6	B	15.6	B
13	Monroe Street and Newhall Street (SC)	AM	27.0	C	27.0	C
		PM	28.7	C	28.7	C
14	Lafayette Street and El Camino Real (SC, CMP)	AM	39.2	D	39.0	D
		PM	41.3	D	41.5	D
15	Lafayette Street and Lewis Street (SC)	AM	10.7	B	10.9	B
		PM	31.9	C	32.1	C
16	Lafayette Street and Benton Street (SC)	AM	17.1	B	18.0	B
		PM	15.7	B	16.3	B
17	Lafayette Street and Homestead Road (SC)	AM	19.1	B	19.6	B
		PM	9.7	A	9.7	A

TABLE 4.3-6 Study Intersections Level of Service – Existing Plus Project Conditions						
No.	**Intersection**	**Peak Hour**	**Existing**		**Existing Plus Project**	
			Delay	**LOS**	**Delay**	**LOS**
18	Lafayette Street and Market Street (SC)	AM PM	16.6 24.6	B C	16.6 24.7	B C
19	Lafayette Street and Bellomy Street (SC)	AM PM	4.5 5.6	A A	4.5 5.6	A A
20	Washington Street and Poplar Street (SC)	AM PM	13.9 10.2	B B	13.9 10.2	B B
21	Washington Street and Newhall Street (SC)	AM PM	19.5 42.4	B D	19.5 42.4	B D
22	El Camino Real and Benton Street (SC)	AM PM	12.8 15.4	B B	12.9 15.5	B B
23	El Camino Real and Palm Drive/Railroad Avenue (SC)	AM PM	10.5 12.4	B B	10.7 12.8	B B
24	El Camino Real and The Alameda (SC, CMP)	AM PM	13.0 17.2	B B	13.0 17.2	B B
25	The Alameda and Newhall Street (SJ)	AM PM	12.5 12.6	B B	12.5 12.6	B B
26	The Alameda and I-880 North (SJ, CMP)	AM PM	19.2 14.6	B B	19.6 14.7	B B
27	The Alameda and I-880 South (SJ, CMP)	AM PM	23.3 21.2	C C	23.3 21.1	C C
Notes: (CMP) VTA Congestion Management Program, (SC) City of Santa Clara, (SJ) City of San José **Bold** represents intersection operating under unacceptable conditions.						

While two intersections will continue to operate at an unacceptable LOS under existing plus project conditions, the project will not cause the level of service at any local intersection to degrade to an unacceptable LOS or cause the critical-movement delay at the intersection to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more. As a result, implementation of the proposed project would have a less than significant LOS impact. **(Less Than Significant Impact)**

4.3.2.4 Background Plus Project Intersection Operations

The LOS of the study intersections was calculated under background plus project conditions by adding the new project trips from the proposed development to the background conditions. Analysis of the background plus project intersection operations concluded that five signalized intersections would operate at an unacceptable LOS in one or both Peak Hours. These five intersections are listed below.

- No. 1 – San Tomas Expressway and El Camino Real – AM and PM Peak Hour
- No. 2 – San Tomas Expressway and Benton Street – AM and PM Peak Hour
- No. 3 – San Tomas Expressway and Homestead Road – AM and PM Peak Hour
- No. 15 – Lafayette Street and Lewis Street – PM Peak Hour

All other study intersections would operate at an acceptable LOS. The results of the background plus project conditions analysis are summarized in Table 4.3-7 below.

TABLE 4.3-7
Study Intersections Level of Service – Background Plus Project Conditions

No.	Intersection	Peak Hour	Background		Background Plus Project			
			Delay	LOS	Delay	LOS	Increase Critical Delay	Increase V/C
1	San Tomas Expressway and El Camino Real (SC, CMP)	AM	**186.2**	**F**	**186.2**	**F**	**0.0**	**0.002**
		PM	**142.3**	**F**	**142.3**	**F**	**0.0**	**0.001**
2	San Tomas Expressway and Benton Street (SC)	AM	**176.1**	**F**	**175.9**	**F**	**-0.1**	**0.001**
		PM	**139.9**	**F**	**139.8**	**F**	**-0.1**	**0.001**
3	San Tomas Expressway and Homestead Road (SC, CMP)	AM	**136.7**	**F**	**137.0**	**F**	**0.5**	**0.002**
		PM	**130.3**	**F**	**130.5**	**F**	**0.4**	**0.001**
4	Scott Boulevard and El Camino Real (SC, CMP)	AM	34.0	C	34.0	C	0.0	0.001
		PM	38.7	D	38.7	D	0.0	0.001
5	Scott Boulevard and Benton Street (SC)	AM	20.2	C	20.5	C	0.4	0.009
		PM	19.1	B	19.5	B	0.7	0.009
6	Scott Boulevard and Homestead Road (SC)	AM	22.7	C	22.8	C	0.1	0.001
		PM	25.4	C	25.6	C	0.1	0.002
7	Saratoga Avenue and Scott Boulevard (SC)	AM	28.4	C	28.4	C	0.0	0.000
		PM	24.1	C	24.1	C	0.0	0.001
8	Monroe Street and El Camino Real (SC, CMP)	AM	35.7	D	35.8	D	0.1	0.002
		PM	33.6	C	33.6	C	0.0	0.001
9	Monroe Street and Benton Street (SC)	AM	11.1	B	11.4	B	0.4	0.015
		PM	12.2	B	12.4	B	0.2	0.004
10	Monroe Street and Homestead Road (SC)	AM	10.4	B	10.6	B	0.2	0.007
		PM	10.9	B	11.0	B	0.1	0.006
11	Monroe Street and Market Street (SC)	AM	12.7	B	12.7	B	0.0	0.003
		PM	8.4	A	8.5	A	0.1	0.002
12	Monroe Street and Bellomy Street (SC)	AM	23.4	C	23.5	C	0.1	0.004
		PM	15.9	B	15.9	B	0.1	0.003
13	Monroe Street and Newhall Street (SC)	AM	27.2	C	27.2	C	0.1	0.002
		PM	29.2	C	29.2	C	0.0	0.001
14	Lafayette Street and El Camino Real (SC, CMP)	AM	42.7	D	42.5	D	-0.1	0.001
		PM	44.7	D	44.9	D	0.5	0.005
15	Lafayette Street and Lewis Street (SC)	AM	9.9	A	10.1	B	0.0	0.001
		PM	**57.0**	**E**	**57.6**	**E**	**0.9**	**0.003**
16	Lafayette Street and Benton Street (SC)	AM	17.9	B	18.8	B	1.0	0.017
		PM	18.1	B	18.8	B	0.5	0.007
17	Lafayette Street and Homestead Road (SC)	AM	28.5	C	29.6	C	1.5	0.006
		PM	9.2	A	9.2	A	0.0	0.002
18	Lafayette Street and Market Street (SC)	AM	17.4	B	17.5	B	0.1	0.004
		PM	27.4	C	27.5	C	0.1	0.002
19	Lafayette Street and Bellomy Street (SC)	AM	4.2	A	4.2	A	0.0	0.001
		PM	4.9	A	4.9	A	0.0	0.001

TABLE 4.3-7 Study Intersections Level of Service – Background Plus Project Conditions								
No.	**Intersection**	**Peak Hour**	**Background**		**Background Plus Project**			
			Delay	**LOS**	**Delay**	**LOS**	**Increase Critical Delay**	**Increase V/C**
20	Washington Street and Poplar Street (SC)	AM PM	13.4 9.8	B A	13.4 9.8	B A	0.0 0.0	0.001 0.001
21	Washington Street and Newhall Street (SC)	AM PM	20.1 44.4	C D	20.2 44.4	C D	0.0 0.0	0.002 0.001
22	El Camino Real and Benton Street (SC)	AM PM	12.6 15.8	B B	12.7 15.9	B B	0.1 0.1	0.004 0.005
23	El Camino Real and Palm Drive/Railroad Avenue (SC)	AM PM	10.5 12.2	B B	10.8 12.6	B B	0.0 0.6	0.000 0.024
24	El Camino Real and The Alameda (SC, CMP)	AM PM	13.2 17.1	B B	13.2 17.1	B B	0.2 0.1	0.010 0.009
25	The Alameda and Newhall Street (SJ)	AM PM	12.4 12.7	B B	12.4 12.8	B B	0.1 0.1	0.010 0.009
26	The Alameda and I-880 North (SJ, CMP)	AM PM	18.4 14.0	B B	18.8 14.1	B B	0.6 0.3	0.013 0.011
27	The Alameda and I-880 South (SJ, CMP)	AM PM	23.1 20.6	C C	23.1 20.6	C C	0.0 0.0	0.003 0.003
Notes: (CMP) VTA Congestion Management Program, (SC) City of Santa Clara, (SJ) City of San José **Bold** represents intersection operating under unacceptable conditions.								

While four intersections will continue to operate at an unacceptable LOS under background plus project conditions, the project will not cause the level of service at any local intersection to degrade to an unacceptable LOS or cause the critical-movement delay at the intersection to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more. As a result, implementation of the proposed project would have a less than significant LOS impact. **(Less Than Significant Impact)**

4.3.2.5 Pedestrian/Bicycle Facilities and Transit Operations

Pedestrian and Bicycle Facilities

The proposed project will generate new demand for pedestrian and bicycle facilities in the immediate project area. There are sidewalks and signalized crosswalks throughout the project area that provide access to nearby transit. The existing pedestrian and bicycle facilities are adequate to serve the proposed increase in students.

VTA bicycle supply recommendations for colleges/universities consist of two parts: 1) bicycle supply for resident students, and 2) bicycle supply for academic buildings and other university facilities. VTA recommends that dormitories provide Class I parking for all residents. For academic buildings and other facilities, VTA recommends one Class I bicycle parking space per 30 employees plus one bicycle parking space per nine student seats (broken down into 25 percent Class I and 75

percent Class II bicycle parking).[10] VTA also recommends that racks should be provided at the main entrance to all classrooms, lecture halls, libraries, and cafeterias.
As a condition of project approval, the University will be required to provide bicycle parking for all new buildings consistent with VTA recommendations.

The proposed development would occur within the boundary of the main campus and would have no physical effects on the local roadway system. As a result, implementation of the proposed Master Plan would not impact existing or planned pedestrian and bicycle facilities. **(Less Than Significant Impact)**

Transit Operations

The project site is currently served by VTA, Caltrain, and ACE. Based on a conservative estimate that 10 percent of 600 new students would utilize existing public transit, approximately 12 riders would be generated in the AM and PM peak hours. Caltrain, VTA and ACE can accommodate the increase in ridership demand resulting from the proposed project. The proposed project will not alter existing transit facilities or conflict with the operation of existing or planned facilities. Therefore, the project will have a less than significant impact on transit operations. **(Less Than Significant Impact)**

An increase in students on campus could result in an increase in transit usage, including local buses and regional transit at the nearby transit center. Any increase in transit ridership is not anticipated to exceed the capacity of the local transit systems. As a result, implementation of the proposed Master Plan will not impact local transit operations. **(Less Than Significant Impact)**

4.3.2.6 Other Transportation Issues

Airport Operations

The proposed project is located approximately one-half mile west of the Norman Y. Mineta San José International Airport. While new buildings are proposed, no buildings would exceed the height of the existing buildings on campus. As a result, the proposed project will not result in a change in air traffic patterns or obstruct airport operations. **(No Impact)**

Emergency Access

Based upon a review of the conceptual site plan, the proposed project would not increase on-site hazards due to the design of the buildings, parking, or site improvements, and would not result in inadequate emergency access. **(No Impact)**

[10] Class I bicycle parking include bicycle lockers, rooms with key access for regular bicycle commuters, guarded parking areas, and valet or check-in parking. Class II bicycle parking refers to a bicycle rack to which the frame and at least one wheel of the bicycle can be secured with a user-provided lock and cable.

Parking

Implementation of the Master Plan will ultimately result in an additional 600 new undergraduate students on campus. Freshman and sophomores are required to live in campus housing while juniors and seniors may live on or off campus.

The campus currently has 3,175 parking spaces which have been approved through previous environmental review. A parking survey was completed[11] to quantify how much of the existing parking is utilized at peak times. All campus parking facilities were counted once per hour from 8:00 AM to 8:00 PM for a full week (Monday – Friday) in October of 2014. The survey determined that the peak usage day was Thursday and the peak time was 2:00 PM. At the peak time, 2,050 cars were parked in campus parking which represents 65 percent of the existing capacity. Therefore, 9,015 existing students plus faculty and staff are currently utilizing 65 percent of available parking during the peak usage periods.

The proposed Master Plan would add approximately 600 new students to campus over time, an approximate seven percent increase. The amount of parking currently available for University use is more than sufficient to support the increase in student population.

4.3.3 Mitigation and Avoidance Measures for Transportation Impacts

No mitigation is required or proposed.

4.3.4 Conclusion

The project would not result in significant level of service impacts for any local intersections in the project area. **(Less Than Significant Impact)**

The proposed project would have a less than significant impact on existing and planned pedestrian, bicycle, and transit facilities. **(Less Than Significant Impact)**

The project would not impact local airport operations or create hazards based on site design. **(No Impact)**

[11] Prepared by Hexagon Transportation Consultants and included in Appendix B.

4.4 AIR QUALITY

The following discussion is based on an air quality assessment prepared by *Illingworth & Rodkin* in July 2015. The report can be found in Appendix C of this report.

4.4.1 Setting

Air quality is determined by the concentration of various pollutants in the atmosphere. Units of concentration are expressed in parts per million (ppm) or micrograms per kilograms (μg/kg).

The amount of a given pollutant in the atmosphere is determined by the amount of pollutants released within an area, transport of pollutants to and from surrounding areas, local and regional meteorological conditions, and the surrounding topography of the air basin. The major determinants of transport and dilution are wind, atmospheric stability, terrain and, for photochemical pollutants, sun light.

Santa Clara is located in the southern portion of the San Francisco Bay Area Air Basin. The proximity of this location to both the Pacific Ocean and San Francisco Bay has a moderating influence on the climate. Northwest and northerly winds are most common in the project area, reflecting the orientation of the Bay and the San Francisco Peninsula. Winds from these directions carry pollutants released by autos and factories from upwind areas of the Peninsula toward San Jose, particularly during the summer months. Winds are lightest on average in fall and winter. Every year in fall and winter there are periods of several days when winds are very light and local pollutants can build up.

Air quality standards for ozone (O_3) are typically exceeded when relatively stagnant conditions occur for periods of several days during the warmer months of the year. Weak wind flow patterns combined with strong inversions substantially reduce normal atmospheric mixing. Key components of ground-level O_3 formation are sunlight and heat. Significant O_3 formation, therefore, only occurs during the months from late spring through early fall. Prevailing winds during the summer and fall can transport and trap O_3 precursors from the more urbanized portions of the Bay Area. Meteorological factors make air pollution potential in the Santa Clara Valley quite high.

Pollutants can be diluted by mixing in the atmosphere both vertically and horizontally. Vertical mixing and dilution of pollutants are often suppressed by inversion conditions, when a warm layer of air traps cooler air close to the surface. During the summer, inversions are generally elevated above ground level, but are present over 90 percent of the time in both the morning and afternoon. In winter, surface-based inversions dominate in the morning hours, but frequently dissipate by afternoon.

Topography can restrict horizontal dilution and mixing of pollutants by creating a barrier to air movement. The South Bay has significant terrain features that affect air quality. The Santa Cruz Mountains and Diablo Range on either side of the South Bay restrict horizontal dilution, and this alignment of the terrain also channels winds from the north to south, carrying pollution from the northern Peninsula toward Santa Clara.

The combined effects of moderate ventilation, frequent inversions that restrict vertical dilution and terrain that restrict horizontal dilution give Santa Clara a relatively high atmospheric potential for pollution compared to other parts of the San Francisco Bay Air Basin and provide a high potential for transport of pollutants to the east and south.

4.4.1.1 Overall Regulatory Setting

The significance of a pollutant concentration is determined by comparing the pollutant levels to an appropriate ambient air quality standard. The standards set the level of pollutant concentrations allowable while protecting general public health and welfare.

The Federal Clean Air Act (Federal CAA) establishes pollutant thresholds for air quality in the United States. In addition to being subject to Federal requirements, California has its own more stringent regulations under the California Clean Air Act (California CAA). At the Federal level, the U.S. Environmental Protection Agency (EPA) administers the CAA. The California CAA is administered by the California Air Resources Board (CARB) at the State level and by the Air Quality Management District's at the regional and local levels. The Bay Area Air Quality Management District (BAAQMD) regulates air quality in the nine-county Bay Area.

The U.S. EPA is responsible for establishing the National Ambient Air Quality Standards (NAAQS) which are required under the Federal CAA. The U.S. EPA regulates emission sources that are under the exclusive authority of the Federal government, such as aircraft, ships, and certain types of locomotives. The agency also established various emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by CARB.

California Air Resources Board

As stated above, CARB (which is part of the California EPA) is responsible for meeting the State requirements of the Federal CAA, administering the California CAA, and establishing the California Ambient Air Quality Standards (CAAQS). The California CAA requires all air districts in the State to achieve and maintain CAAQS. CARB regulates mobile air pollution sources such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB has established passenger vehicle fuel specifications and oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level. CARB also conducts or supports research into the effects of air pollution on the public and develops approaches to reduce air pollutant emissions.

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is primarily responsible for ensuring that the national and State ambient air quality standards are attained and maintained in the Bay Area. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are

described in criteria documents. Table 4.4-1 identifies the major criteria pollutants, characteristics, health effects, and typical sources for the Bay Area.

TABLE 4.4-1
Major Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Ozone	A highly reactive photochemical pollutant created by the action of sun light on ozone precursors. Often called photochemical smog.	- Eye Irritation - Respiratory function impairment	The major sources of ozone precursors are combustion sources such as factories and automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels.	- Impairment of oxygen transport in the bloodstream - Aggravation of cardiovascular disease - Fatigue, headache, confusion, dizziness - Can be fatal in the case of very high concentrations	Automobile exhaust, combustion of fuels, combustion of wood in wood stoves and fireplaces.
Nitrogen Dioxide	Reddish-brown gas that discolors the air, formed during combustion.	- Increased risk of acute and chronic respiratory disease	Automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants.
Sulfur Dioxide	Sulfur dioxide is a colorless gas with a pungent, irritating odor.	- Aggravation of chronic obstruction lung disease - Increased risk of acute and chronic respiratory disease	Diesel vehicle exhaust, oil-powered power plants, and industrial processes.
Particulate Matter	Solid and liquid particles of dust, soot, aerosols and other matter that are small enough to remain suspended in the air for a long period of time.	- Aggravation of chronic disease and heart/lung disease symptoms	Combustion, automobiles, field burning, factories and unpaved roads. Also a result of photochemical processes.

BAAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, and many other associated activities. BAAQMD has jurisdiction over much of the nine-county Bay Area, including Santa Clara.

National and State Ambient Air Quality Standards

The ambient air quality in a given area depends on the quantities of pollutants emitted within the area, transport of pollutants to and from the surrounding areas, local and regional meteorological

conditions, and the surrounding topography of the air basin. Air quality is described by the concentration of various pollutants in the atmosphere. The significance of the pollutant concentration is determined by comparing the concentration to an appropriate ambient air quality standard. The standards represent the allowable pollutant concentrations designed to ensure that the public health and welfare are protected, while including a reasonable margin of safety to protect the more sensitive individuals in the population.

As required by the Federal CAA, the NAAQS have been established for six major air pollutants; carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), sulfur oxides (SO_x), and lead (Pb). Pursuant to the California CAA, the State of California has also established ambient air quality standards. The CAAQS are generally more stringent than the corresponding Federal standards and incorporate additional standards for pollutants such as sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. Both State and Federal standards are summarized in Table 4.4-2. The "primary" standards have been established to protect the public health. The "secondary" standards are intended to protect the nation's welfare and account for adverse air pollutant effects on soil, water, visibility, materials, vegetation and other aspects of the general welfare. Because CAAQS are more stringent than NAAQS, CAAQS are used as the applicable standard in this analysis.

TABLE 4.4-2
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
			Primary	Secondary
Ozone	1-hour	0.09 ppm	---	Same as primary
	8-hour	0.07 ppm	0.075 ppm	---
Carbon monoxide	1-hour	20 ppm	35 ppm	---
	8-hour	9.0 ppm	9.0 ppm	---
Nitrogen dioxide	1-hour	0.18 ppm	0.10 ppm	---
	Annual	0.03 ppm	0.053 ppm	Same as primary
Sulfur dioxide	1-hour	0.25 ppm	0.075 ppm	---
	3-hour	---	---	0.5 ppm
	24-hour	0.04 ppm	---	---
PM_{10}	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$	Same as primary
	Annual	20 $\mu g/m^3$	---	---
$PM_{2.5}$	24-hour	---	35 $\mu g/m^3$	Same as primary
	Annual	12 $\mu g/m^3$	15 $\mu g/m^3$	Same as primary
Lead	Calendar Quarter	---	1.5 $\mu g/m^3$	Same as primary
	30-day average	1.5 $\mu g/m^3$	---	---

Source: California Air Resources Board, September 2010.

Regional Clean Air Plans

The BAAQMD and other agencies prepare clean air plans in response to the State and Federal CAA. The City of Santa Clara also has General Plan policies that encourage development that reduces air quality impacts. In addition, BAAQMD has developed CEQA Guidelines to assist local agencies in evaluating and mitigating air quality impacts in CEQA documents. The regional clean air plan is the

2010 Bay Area Clean Air Plan (CAP). A description of this plan and the City of Santa Clara's relevant General Plan policies is provided in Section 3.0, *Consistency with Plans and Policies.*

4.4.1.2 Existing Air Quality Conditions

Air quality studies generally focus on five criteria pollutants that are most commonly measured and regulated: CO, O_3, NO_2, PM_{10}, and $PM_{2.5}$. In Santa Clara County, O_3, PM10, and $PM_{2.5}$ are the pollutants of greatest concern since measured air pollutant levels exceed the State and Federal air quality standards concentrations at times.

Carbon Monoxide

Carbon monoxide, a colorless and odorless gas, interferes with the transfer of oxygen to the brain. It can cause dizziness and fatigue, and can impair central nervous system functions. Highest CO concentrations measured in the South Bay Area have been well below the national and State ambient standards. Since the primary sources of CO are cars and trucks, highest concentrations would be found near congested roadways that carry large volumes of traffic. Carbon monoxide emitted from a vehicle is highest near the origin of a trip and considerably lower once the automobile is warmed up (usually five to ten minutes into a trip). This is different, however, for vehicles of different ages, where older cars require a longer warm up period.

Ozone

While O_3 serves a beneficial purpose in the upper atmosphere (stratosphere) by reducing ultraviolet radiation, when it reaches elevated concentrations in the lower atmosphere it can be harmful to the human respiratory system and to sensitive species of plants. Ozone concentrations build to peak levels during periods of light winds, bright sunshine, and high temperatures. Short-term O_3 exposure can reduce lung function in children, make persons susceptible to respiratory infection, and produce symptoms that cause people to seek medical treatment for respiratory distress. Long-term exposure can impair lung defense mechanisms and lead to emphysema and chronic bronchitis. Sensitivity to O_3 varies among individuals, but about 20 percent of the population is sensitive to O_3, with exercising children being particularly vulnerable. Ozone is formed in the atmosphere by a complex series of photochemical reactions that involve "ozone precursors" that are two families of pollutants: oxides of nitrogen (NOx) and reactive organic gases (ROG). Nitrogen oxides and ROG are emitted from a variety of stationary and mobile sources. While NO_2, an oxide of nitrogen, is another criteria pollutant itself, ROGs are not in that category, but are included in this discussion as O_3 precursors. The U.S. EPA recently established a new more stringent standard for O_3 of 0.75 ppm for 8-hour exposures, based on a review of the latest new scientific evidence.

Nitrogen Dioxide

Nitrogen dioxide, a reddish-brown gas, irritates the lungs. Exposure to NO_2 can cause breathing difficulties at high concentrations. Clinical studies suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children. Similar to O_3, NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. Nitric oxide and NO_2 are collectively referred to as NO_x and are major contributors to O_3 formation. Nitrogen oxides are emitted from combustion of fuels, with higher

rates at higher combustion temperatures. Nitrogen dioxide also contributes to the formation of PM_{10} (see discussion of PM_{10} below). Monitored levels in the Bay Area are well below ambient air quality standards.

PM_{10} and $PM_{2.5}$

Respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) consist of particulate matter that is ten microns or less in diameter and 2.5 microns or less in diameter, respectively, and represent fractions of particulate matter that can be inhaled and cause adverse health effects. Both PM_{10} and $PM_{2.5}$ are health concerns, particularly at levels above the Federal and State ambient air quality standards. Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, and acute and chronic respiratory symptoms such as shortness of breath and labored breathing. Children are more susceptible to the health risks of $PM_{2.5}$ because their immune and respiratory systems are still developing.

Both PM_{10} and $PM_{2.5}$ pose a greater health risk than larger particles because these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract, increasing the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Whereas larger particles tend to collect in the upper portion of the respiratory system, $PM_{2.5}$ is miniscule and can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility. Most stations in the Bay Area reported exceedances of the State standard on the same fall/winter days as reported in the South Bay. This indicates a regional air quality problem.

The primary sources of these pollutants are wood smoke and local traffic. Meteorological conditions that are common during fall/winter days produce calm winds and strong surface-based inversions that trap pollutants near the surface. The high levels of PM_{10} result in not only health effects, but also reduced visibility.

Air Monitoring Data

Air quality in the region is controlled by the rate of pollutant emissions and meteorological conditions. Meteorological conditions, such as wind speed, atmospheric stability, and mixing height may all affect the atmosphere's ability to mix and disperse pollutants. Long-term variations in air quality typically result from changes in air pollutant emissions, while frequent, short-term variations result from changes in atmospheric conditions. The San Francisco Bay Area is considered to be one of the cleanest metropolitan areas in the country with respect to air quality. BAAQMD monitors air quality conditions at over 30 locations throughout the Bay Area. There are several BAAMQD monitoring stations near Santa Clara.

As shown in Table 4.4-3, violations of State and Federal standards at the downtown San José monitoring station (the nearest monitoring station to the project site) during the 2013-2015 period (the most recent years for which data is available) include high levels of O_3, PM_{10}, and $PM_{2.5}$.[12] Violations of the CO standard have not been recorded since 1992.

[12] PM refers to Particulate Matter. Particulate matter is referred to by size (i.e., 10 or 2.5) because the size of particles is directly linked to their potential for causing health problems.

TABLE 4.4-3 Number of Ambient Air Quality Standards Violations and Highest Concentrations (2013-2015)				
Pollutant	**Standard**	**Days Exceeding Standard**		
		2013	**2014**	**2015**
SAN JOSÉ CENTRAL STATION				
Ozone	State 1-hour	1	0	0
	Federal 8-hour	1	0	2
Carbon Monoxide	Federal 8-hour	0	0	0
	State 8-hour	0	0	0
Nitrogen Dioxide	State 1-hour	0	0	0
PM_{10}	Federal 24-hour	0	0	0
	State 24-hour	5	1	1
$PM_{2.5}$	Federal 24-hour	6	2	2

Source: Bay Area Management District, Bay Area Air Pollution Summary[13]

Attainment Status

The Federal CAA and the California CAA of 1988 require that CARB, based on air quality monitoring data, designate portions of the State where Federal or State ambient air quality standards are not met as "nonattainment areas". Because of the differences between the Federal and State standards, the designation of "nonattainment area" is different under the Federal and State legislation. Under the California CAA, Santa Clara County is a nonattainment area for O_3 and PM_{10}. The County is either in attainment or unclassified for other pollutants. Under the Federal CAA, the entire Bay Area region is classified as nonattainment for the 24-hour $PM_{2.5}$ standard. The U.S. EPA grades the region as in attainment or unclassified for all other air pollutants, including PM_{10}.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified children under 14, the elderly over 65, and people with cardiovascular and chronic respiratory diseases as people most likely to be affected by air pollution. These groups are classified as sensitive receptors. Locations that may contain a high concentration of sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. There are residences in proximity (i.e., separated by a roadway) to the north, south, and west boundaries of the campus. There is also an infant daycare center (Kids on Campus) located at 2705 The Alameda, just across from campus. Within the main campus, there are student residences near the southern end of campus along/near Market Street.

For the purposes of this EIR, an air quality impact is considered significant if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

[13] http://www.baaqmd.gov/about-air-quality/air-quality-summaries Accessed April 29, 2016

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

BAAQMD CEQA Guidelines[14] provide the following definitions of a significant air quality impact:

- A cumulatively considerable net increase of any criteria pollutant or a precursor to that pollutant for which the project region is non-attainment under an applicable national or State ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for O_3 precursors). This is judged by comparing direct and indirect project emissions to the BAAQMD significance thresholds of 54 pounds per day for ROG, NOx, or $PM_{2.5}$, and 82 pounds per day for PM_{10}. Annual significance thresholds are 10 tons per year for ROG, NOx, or $PM_{2.5}$, and 15 tons per year for PM_{10}.

- A substantial contribution to an existing or projected violation of an ambient air quality standard would result if the project would cause an exceedance of an ambient air quality standard.

- Expose sensitive receptors or the general public to substantial pollutant concentrations. This is evaluated by assessing the health risk in terms of cancer risk or hazards posed by the placement of new sources of air pollutant emissions near existing sensitive receptors or placement of new sensitive receptors near existing sources.

- Create or expose a substantial number of people to objectionable odors. This is evaluated based on the potential for the project to generate odors that could affect nearby sensitive receptors in a manner that would cause frequent complaints.

- Conflict with or obstruct implementation of the applicable air quality plan. This is evaluated by comparing the project effects on projections used in the latest Bay Area CAP and evaluating the plan features that would implement CAP Transportation Control Measures.

In 2009, BAAQMD published Proposed Thresholds of Significance. The CEQA Guidelines prepared by BAAQMD in 2011 used these significance criteria to evaluate the impacts caused by projects. BAAQMD's adoption of the 2011 thresholds was called into question by a trial court order issued March 5, 2012, in California Building Industry Association v. BAAQMD (Alameda Superior Court Case No. RGI0548693) that determined the adoption of the thresholds was a project under CEQA but did not address the substantive validity, merits or scientific basis of the thresholds. The California Court of Appeal for the Fifth District reversed the trial court decision and the Court of Appeal's decision was appealed to the California Supreme Court, which granted limited review and before whom the matter is pending. BAAQMD is not recommending the use of the 2011 thresholds pending a final judgment.

[14] Bay Area Air Quality Management District. California Environmental Quality Act, Air Quality Guidelines. 2011. http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx

The issues in the California Building Industry Association v. BAAQMD lawsuit are not relevant to the scientific basis of BAAQMD's analysis of what levels of pollutants should be deemed significant. The City has determined that the scientific information in BAAQMD's proposed thresholds of significance analysis provides substantial evidence to support the 2011 thresholds and, therefore, has determined the thresholds and methodologies from BAAQMD's May 2011 CEQA Air Quality Guidelines are appropriate for use in this analysis to determine whether there would be any project operational impacts in terms of criteria pollutants, toxic air contaminants (TACs) and odors. These CEQA Air Quality thresholds have been used consistently in the City's environmental documents, and were used to evaluate air quality impacts from the project.

4.4.3 Air Quality Impacts

4.4.3.1 Bay Area 2010 Clean Air Plan

The most recent clean air plan is the *Bay Area 2010 Clean Air Plan* that was adopted by BAAQMD in September 2010. This plan addresses air quality impacts with respect to obtaining ambient air quality standards for non-attainment pollutants (i.e., O_3, PM_{10} and $PM_{2.5}$), reducing exposure of sensitive receptors to TACs, and reducing greenhouse gas (GHG) emissions such that the region can meet AB 32 goals of reducing emissions to 1990 levels by 2020. The proposed Master Plan would not conflict with the CAP because project emissions would be below BAAQMD thresholds (see Section 4.4.3.2), the campus provides housing and services which reduces off-site trips, and the campus is near existing transit with regional connections. The Master Plan by itself would not, therefore, result in a significant impact related to consistency with the Bay Area 2010 Clean Air Plan. **(Less Than Significant Impact)**

4.4.3.2 Impacts to Regional and Local Air Quality

Operational Criteria Pollutant Emissions

The 2011 BAAQMD screening tables for universities[15] are based on an increase in the student population (1,760 students). The project proposes 276,194 square feet of new classroom/office space and 600 student beds. Implementation of the proposed project would result in a maximum increase of 600 students. The operational criteria pollutant screening threshold for universities will not be exceeded and, as a result, the proposed project would have a less than significant operational air quality impact. **(Less Than Significant Impact)**

Carbon monoxide emissions from traffic generated by the project would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of CO. BAAQMD screening thresholds indicate that a project would have a less than significant impact to CO levels if project traffic would not increase traffic levels at any affected intersection to more than 44,000 vehicles per hour. Intersections in the immediate project area have hourly traffic volumes far below 44,000 traffic trips. Furthermore, air pollutant monitoring data indicate that CO levels have been at healthy levels (i.e., below State and federal standards) in the Bay Area since the early 1990s. The highest measured level over any eight-hour

[15] Bay Area Air Quality Management District Website. www.baaqmd.gov/~/media/files/planning-and-research/ceqa/draft_baaqmd_ceqa_guidelines_may_2010_final.pdf Accessed March 15, 2016.

averaging period in the Bay Area during the last three years is less than 3.0 parts per million (ppm), compared to the ambient air quality standard of 9.0 ppm. Therefore, implementation of the proposed project will not violate any air quality standards pertaining to CO emissions. **(Less Than Significant Impact)**

Operational TAC Impacts

Operation of future development on the project site would be a source of TACs or $PM_{2.5}$ emissions because a new stationary source of emissions (i.e., an emergency back-up diesel generator at the STEM building) is proposed. Based on information provided by the project applicant, this analysis assumes that the proposed back-up generator would be comparable in size to the existing generator already located on campus (BAAQMD Plant No. 15397). The nearest sensitive receptors are located approximately 800 feet south/southwest of the proposed generator location. Based on the BAAQMD guidelines, a project would result in a significant TAC or $PM_{2.5}$ impact if:

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

The estimated emissions of the proposed generator at that location are shown in Table 4.4-4 as measured from the nearest off-site residential receptors and the daycare facility.

TABLE 4.4-4
Stationary Source Emissions Impacts

Facility	Cancer Risk	$PM_{2.5}$	Hazard Index
On-Site Generator – Daycare Facility	0.02	0.00027	<0.01
Residences	0.01	0.00021	<0.01
BAAQMD Threshold	***10.0***	***0.3***	***1.0***

As shown in Table 4.4-4, emissions levels from the proposed generator would be well below BAAQMD thresholds at the nearest sensitive receptors and would have a less than significant impact. **(Less Than Significant Impact)**

4.4.3.3 Construction Impacts

Emissions from construction-related automobiles, trucks, and heavy equipment are a primary concern due to release of diesel particulate matter (a toxic air contaminant[16] due to its potential to cause cancer), organic TACs from all vehicles, and $PM_{2.5}$, which is a regulated air pollutant. BAAQMD developed screening criteria to provide a conservative indication of whether a project could result in potentially significant construction air quality impacts. The screening size for commercial or institutional buildings is 277,000 square feet. Projects that are smaller than the screening size would have a less than significant construction related air quality impact. As proposed, each of the buildings are individually below the screening criteria. The total proposed development on campus

[16] A toxic air contaminant is a pollutant that is known or suspected to cause cancer or other serious health effects.

would, however, exceed the BAAQMD construction screening criteria; therefore, a detailed air quality assessment was completed to address construction air quality impacts from the proposed project. While the order in which the projects would be constructed is known, the actual timing and potential overlap of projects is not. As a result, individual yearly emissions cannot be accurately calculated. Furthermore, even if specific construction timing was known, any changes in the phasing of the project would negate the analysis of construction emissions.

What is certain is that the projects would be completed within a five-year time frame. Consistent with guidance provided by BAAQMD regarding analysis of phased projects, the analysis of construction emissions assumes all projects under construction at one time averaged over a five-year period.

Table 4.4-5 shows an estimate of daily air emissions from construction of the proposed project based upon a detailed air analysis using CalEEMod. The modeling scenario assumed that the currently proposed projects would be built over a five-year period from 2016 to 2021.

TABLE 4.4-5
Average Daily Construction Emissions from the Project

Description	ROG	NOx	PM_{10}	$PM_{2.5}$
Total Emissions (tons)	6.48 tons	22.48 tons	1.08 tons	1.01 tons
Average Daily Emissions (pounds per day – based on 1,300 work days)	10.0 lbs	34.6 lbs	1.7 lbs	1.6 lbs
BAAQMD Thresholds (pounds per day)	***54***	***54***	***82***	***54***

Construction of the project would involve demolition of the existing buildings and hardscape, site grading, trenching, paving, building construction, and architectural coating. As shown in Table 4.4-5, the emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust associated with construction of the project would not exceed the BAAQMD significance thresholds and, therefore, would not result in a significant impact from construction emissions.

Construction activities on-site would generate dust and other particulate matter that could temporarily impact nearby sensitive receptors. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed at any given time, the amount of activity, soil conditions, and meteorological conditions. Sensitive receptors in the project vicinity could be adversely affected by dust generated during construction activities, particularly $PM_{2.5}$ which is a known TAC. The project will be required to implement BAAQMD dust control measures as a condition of project approval, as outlined below.

All future development under the proposed project shall implement the following Best Management Practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. Vehicle speeds on unpaved roads shall be limited to 15 mph.

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible and feasible. Building pads shall be laid as soon as possible and feasible, as well, after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

As a result, project construction activities would not emit significant levels of criteria air pollutants or dust that would affect local and regional air quality or nearby off-site sensitive receptors. **(Less Than Significant Impact)**

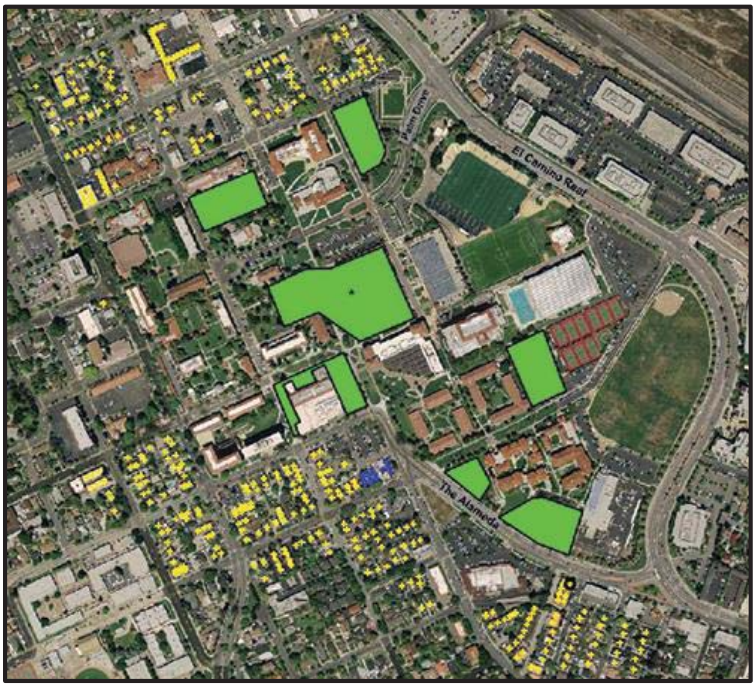
Although unlikely, it is possible that multiple projects could be constructed within the same one-year time period. If multiple project were under construction and totaled more than 277,000 square feet, it could result in a significant impact. This is a conservative assessment that is based on screening guidance.

Impact AIR -1: Construction of multiple projects simultaneously that equate to more than 277,000 square feet could exceed construction emission thresholds. **(Significant Impact)**

Community Risk Impacts – Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust which is also a known TAC. The nearest sensitive receptors to the identified construction sites are the residences surrounding the project site and the nearby daycare center. The figure below shows the proposed construction locations in green, nearby residences in yellow, and the daycare center in blue.

A health risk assessment of all construction activities was completed to evaluate emissions of diesel particulate matter (DPM) and associated health risks to nearby sensitive receptors. To quantify the effects of DPM on the nearby sensitive receptors, construction period exhaust emissions were computed using the CalEEMod model. The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM at existing residences in the vicinity of the project site. The cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the DPM exposures. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. The number and types of construction equipment and diesel vehicles, along



with the anticipated length of their use for different phases of construction were based on site-specific construction activity schedules provided by the project applicant. As noted above, construction of the project is expected to occur over a five-year period from 2016 through 2021.

Neither BAAQMD nor the City of Santa Clara have significance criteria for construction TAC impacts. As a result, the BAAQMD criteria for operational TAC impacts in the 2011 CEQA Air Quality Guidelines are used by the City of Santa Clara. Based on these guidelines, a project would result in a significant construction TAC or $PM_{2.5}$ impact if:

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

The maximum incremental residential child cancer risk for construction was calculated to be 10.2 cancer cases per million and the adult cancer risk was calculated to be 0.8 cancer cases per million. While the adult cancer risk is well below the BAAQMD threshold of 10 cancer cases per million, the residential child exposure is not. For the daycare center, the incremental child cancer risk was calculated to be 8.4 cancer cases per million, which is below the threshold.

Because the residential child cancer risk exceeds 10 cases per million, the proposed project could have a significant community risk impact on nearby sensitive receptors during construction activities. The maximum annual $PM_{2.5}$ concentration for both residential and daycare receptors was 0.1 micrograms per cubic meter ($\mu g/m^3$). This $PM_{2.5}$ concentration is below than the BAAQMD significance threshold of 0.3 $\mu g/m^3$.

Impact AIR -2: Construction of the proposed project would result in a temporary[17] community risk (TAC) impact. **(Significant Impact)**

4.4.3.4 Odors

The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. The odor of these emissions may be noticeable from time to time by

[17] While the project would be constructed over five years, the construction period is a temporary condition as opposed to the permanent operational conditions of the project.

adjacent receptors. Odors would, however, be localized and are not likely to affect people off-site. While odors may be noticeable by residents on-site, they are not considered sensitive receptors under CEQA as they are part of the project. The project site is not affected by existing odor sources that would cause odor complaints. **(Less Than Significant Impact)**

4.4.4 Mitigation and Avoidance Measures for Air Quality Impacts

In addition to the best management practices listed above, the project applicant shall be required to implement the following mitigation measure prior to all project construction to reduce construction related community risk TAC impacts:

MM AIR 1-1: If the University files for building permits where total construction projects occurring simultaneously would be equal to or greater than 277,000 square feet, the total combined emissions of the projects shall be calculated by a qualified air quality consultant to identify mitigation measures that may be necessary to ensure average daily emissions do not exceed significance thresholds. The findings of the analysis shall be provided to the Director of Planning and Inspection prior to the issuance of building permits. If the combined emissions are below established thresholds, no additional actions are required.

If the combined emissions exceed established thresholds, emission control measures must be identified to reduce emissions below the thresholds. The University must show qualitative proof of the effectiveness of the control measures prior to issuance of building permits or reduce the amount of development proposed. Measures that may be required to ensure emissions do not exceed significance thresholds include the following:

- Use of construction equipment that meets U.S. EPA Tier 3 emissions standards and where necessary, U.S. EPA Tier 4 emission standards, if commercially available;
- Use of alternative fuels that have lower emissions or electric-powered equipment in lieu of diesel powered equipment; and
- Scheduling of activities to reduce emissions, such as extending the construction period to avoid intensive periods that produce high emissions;

MM AIR 2-1: All diesel-powered off-road equipment larger than 50 horsepower and operating at the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 2 engines or equivalent;

Implementation of these mitigation measures and the aforementioned dust control measures will reduce on-site diesel exhaust emissions by approximately 50 percent. With these measures in place, the maximum excess residential child cancer risk would be reduced to 5.6 per million. As a result, the required mitigation will reduce the temporary construction emissions impact to a less than significant level.

4.4.5 Conclusion

With implementation of the identified mitigation measures and dust control measures, construction of the proposed project would have a less than significant air quality impact. **(Less Than Significant Impact With Mitigation)**

The proposed project would not conflict with or obstruct implementation of the 2010 CAP or exceed adopted thresholds for criteria pollutant emissions. **(Less Than Significant Impact)**

4.5 GREENOUSE GAS EMISSIONS

4.5.1 Background Information

This section provides a general discussion of global climate change and focuses on emissions from human activities that alter the chemical composition of the atmosphere. The discussion on global climate change and GHG emissions is based upon the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), the 2006 and 2009 Climate Action Team (CAT) reports to former Governor Schwarzenegger and the Legislature, and research, information, and analysis completed by the International Panel on Climate Change (IPPC), the United States Environmental Protection Agency (U.S. EPA), and the California Air Resources Board (CARB).

Global climate change refers to changes in weather including temperature, precipitation, and wind patterns. Global temperatures are modulated by naturally occurring and anthropogenic (generated by mankind) atmospheric gases such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O).[18] These gases allow sunlight into the Earth's atmosphere but prevent heat from radiating back out into outer space and escaping from the earth's atmosphere, thus altering the Earth's energy balance. This phenomenon is known as the greenhouse effect.

California produced 474 million gross metric tons (MMT) of CO_2 equivalent (CO_2e) averaged over the period from 2002-2004. CO_2e is a measurement used to account for the fact that different GHGs have different potentials to retain infrared radiation in the atmosphere and contribute to the GHG effect. This potential, known as the global warming potential (GWP) of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the GHG effect as approximately 23 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2. Expressing emissions in CO_2e takes the contributions of all GHG emissions to the GHG effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.[19]

Naturally occurring GHGs include but are not limited to: CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.[20] Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but are for the most part a product of industrial activities.

Impacts to California from climate change include shifting precipitation patterns, increasing temperatures, increasing severity and duration of wildfires, earlier melting of snow pack, and effects on habitats and biodiversity. Sea levels along the California coast have risen up to seven inches over the last century, and average annual temperatures have been increasing. These and other effects will

[18] IPCC, 2007, *Summary for Policymakers*, In "Climate Change 2007: The Physical Science Bases. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change" [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Available at: http://ipcc.ch/

[19] BAAQMD. Updated *CEQA Guidelines*. May 2012. < http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx>

[20] Greenhouse gases as defined by the adopted 2010 CEQA Guidelines.

likely intensify in the coming decades and significantly impact the State's public health, natural and manmade infrastructure, and ecosystems.[21]

Agencies at the international, national, State, and local levels are considering strategies to control emissions of gases that contribute to global warming. There is no comprehensive strategy that is being implemented on a global scale that addresses climate change; however, in California a multi-agency "Climate Action Team," has identified a range of strategies and the Air Resources Board, under AB 32, has approved the *Climate Change Scoping Plan* (Scoping Plan). AB 32 requires achievement by 2020 of a statewide GHG emissions limit equivalent to 1990 emission levels, and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. The CARB and other State agencies are currently working on regulations and other initiatives to implement the Scoping Plan. By 2050, the State plans to reduce emissions to 80 percent below 1990 levels.

4.5.1.1 2010 Bay Area Clean Air Plan

The Bay Area 2010 Clean Air Plan (CAP) is a multi-pollutant plan that addresses GHG emissions along with other air emissions in the San Francisco Bay Area Air Basin. One of the key objectives in the CAP is climate protection. The 2010 CAP includes emission control measures in five categories: Stationary Source Measures, Mobile Source Measures, Transportation Control Measures, Land Use and Local Impact Measures, and Energy and Climate Measures. Consistency of a project with current control measures is determined by its consistency with the CAP. The current CAP also includes performance objectives, consistent with the State's climate protection goals under AB 32 and SB 375, designed to reduce emissions of GHGs to 1990 levels by 2020 and 40 percent below 1990 levels by 2035.

4.5.1.2 City of Santa Clara General Plan

The Santa Clara 2010-2035 General Plan includes policies that address the reduction of GHG emissions during the planning horizon of the General Plan. Goals and policies that address sustainability (see Appendix 8.13: Sustainability Goals and Policies Matrix in the General Plan) are aimed at reducing the City's contribution to GHG emissions. As described below, the development of a comprehensive GHG emissions reduction strategy for the City is also included in the General Plan.

Climate Action Plan

In December 2013, the City of Santa Clara adopted a comprehensive GHG emissions reduction strategy (Climate Action Plan or "CAP') to achieve its fair share of Statewide emissions reductions by the year 2020 consistent with AB 32, the Global Warming Solutions Act. The City of Santa Clara CAP specifies the strategies and measures to be taken for a number of focus areas (coal-free and large renewables, energy efficiency, water conservation, transportation and land use, waste reduction, etc.) citywide to achieve the overall emission reduction target, and includes an adaptive management process that can incorporate new technology and respond when goals are not being met.

[21] State of California Energy Commission. *2009 California Climate Adaptation Strategy Discussion Draft. Frequently Asked Questions.* August 3, 2009. <www.climatechange.ca.gov/adaptation/documents/2009-07-31_Discussion_Draft-Adaptation_FAQs.pdf>

A key reduction measure that is being undertaken by the City of Santa Clara under the CAP is in the Coal-Free and Large Renewables focus area. The City of Santa Clara operates Silicon Valley Power (SVP), a publicly owned utility that provides electricity for the community of Santa Clara, including the project site. Since nearly half (48 percent) of Santa Clara's GHG emissions result from electricity use, removing GHG-intensive sources of electricity generation (such as coal) is a major focus area in the CAP for achieving the City's GHG reduction goals. This measure is being undertaken by SVP.

CEQA clearance for all discretionary development proposals are required to address the consistency of individual projects with reduction measures in the CAP and goals and policies in the General Plan designed to reduce GHG emissions. Compliance with appropriate measures in the CAP would ensure an individual project's consistency with the adopted GHG reduction plan. Projects that are consistent with the CAP would have a less than significant impact related to GHG emissions.

4.5.1.3 Existing Conditions

The project site is currently occupied by Santa Clara University. The daily traffic trips to and from site and operation of the campus buildings generate GHG emissions through the burning of fossil fuels and use of electricity and water.

4.5.2 Thresholds of Significance

For the purposes of this EIR, a greenhouse gas emissions impact is considered significant if the project would:

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

BAAQMD Air Quality CEQA Thresholds of Significance

The recommended BAAQMD Air Quality CEQA Thresholds of Significance for operational-related greenhouse gas emissions is 1,100 metric tons (MT) of CO_2e per year (CO_2e/year), or 4.6 MT CO_2e/year per service population[22]. BAAQMD does not have a threshold of significance for construction-related GHG emissions.

4.4.3 Greenhouse Gas Emissions Impacts

Greenhouse gas emissions from the proposed project would include emissions from construction and operation of the project. The GHG emissions from the project include:

- Construction emissions;
- Emissions from the manufacture and transport of building materials;

[22] Service population is the sum of projected new residents and/or full time workers at a project site.

- Mobile emissions (e.g., emissions from combustion of fossil fuels for vehicle trips to and from the site); or
- Emissions from the generation of electricity to operate lighting, appliances, and HVAC on the site, and to convey water to the site.

4.5.4 Operational Greenhouse Gas Emissions (Long Term Emissions)

4.5.4.1 Climate Action Plan

As noted in *Section 4.5.1.2*, development of the project would be subject to applicable measures in the City's Climate Action Plan, including those listed below.

Water Conservation Measures

Measure 3.1 Water Conservation calls for a reduction in per capita water use to meet Urban Water Management targets by 2020. Development standards for water conservation will be applied to increase efficiency in indoor and outdoor water use areas. Water conservation measures include the use of:

- recycled water for landscape irrigation; and
- water efficient landscaping with low water usage plant material to minimize irrigation requirements.

Waste Reduction Measures

Measure 4.2 Increase Waste Diversion calls for expansion of recycling efforts, curbside food waste pickup, and construction and demolition waste programs to increase solid waste diversion from 58 to 80 percent citywide. The project will comply with the City's requirements for waste diversion.

Transportation and Land Use Measures

Measure 6.1 Transportation Demand Management Program requires new residential development with more than 25 units or non-residential developments more than 10,000 square feet in Transportation Districts to implement a TDM program.

The project would allow for a net increase of 276,194 square feet of school facilities and 600 student beds on the main University campus. The main campus is not located in a Transportation District and has no specific vehicle miles traveled (VMT) reduction requirements per the City's Climate Action Plan.[23] The project would increase traffic trips but would also increase available student housing, reducing the number of students that would need to commute to campus.

Because the project will be required to comply with the Climate Action Plan, the project would have a less than significant impact related to GHG emissions. **(Less Than Significant Impact)**

[23] City of Santa Clara Climate Action Plan. Page 51. http://www.santaclaraca.gov/home/showdocument?id=10170 Accessed November 3, 2015

4.5.5 Construction Greenhouse Gas Emissions (Short Term Emissions)

GHG emissions would occur during grading of the development sites and construction of the proposed structures from operation of equipment and vehicles used to construct the project, as well as emissions associated with manufacturing the materials used to construct the project.

The project would salvage or recycle discarded building materials (i.e. remnant materials from construction) to reduce the amount of demolition and construction waste going to the landfill. The project site is an infill site located in an urbanized area within close distance of construction supplies and equipment. These project features would help to minimize GHG emissions generated from transport of construction materials and waste associated with the project. There is no reliable method to quantify construction-related emissions associated with the manufacturing of project materials.

Neither the City of Santa Clara nor BAAQMD have quantified thresholds for construction activities. Given that the emissions would be temporary and that the project is in an urban setting close to construction supplies, equipment and workers, that discarded materials would be salvaged or recycled, and that the project would implement the best management practices outlined in *Section 4.4, Air Quality*, the manufacture and construction of the project would not contribute substantially to GHG emissions. **(Less than Significant Impact)**

4.5.6 Mitigation and Avoidance Measures for Greenhouse Gas Emissions Impacts

No mitigation measures are required or proposed.

4.5.7 Conclusion

Because the project is consistent with the City's CAP, the project would have a less than significant operational GHG emissions impact. **(Less Than Significant Impact)**

Construction activities will have a less than significant short-term GHG emissions impact. **(Less Than Significant Impact)**

4.6 ENERGY

This section was prepared pursuant to CEQA Guidelines Section 15126(c) and Appendix F (Energy Conservation), which require 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. Environmental impacts associated with energy consumption include the depletion of nonrenewable resources (oil, natural gas, coal, etc.) and emissions of pollutants during both the production and consumption phases.

For this analysis, energy consumption of the existing and proposed land uses was calculated using the energy use factors from the California Emissions Estimator Model (CalEEMod) Version 2013.2.2. These factors can be found in Table 8.1 in Appendix D to the CalEEMod User's Guide.[24]

4.6.1 Introduction

There are a variety of units that can be used to quantify energy use, many of which depend on the form of energy used (e.g. electricity or heat). In many cases, energy is quantified using British Thermal Units (Btu).[25] As points of reference, the approximate amount of energy contained in one gallon of gasoline, one cubic foot of natural gas, and one kilowatt-hour of electricity are 123,000 Btu, 1,000 Btu, and 3,400 Btu, respectively. Utility providers in the United States generally measure gas usage in therms. One therm is equal to approximately 100,000 Btu.

Electrical energy is expressed in units of kilowatts (kW) and kilowatt-hours (kWh). One kilowatt, a measurement of power (energy used over time), equals one thousand joules[26] per second. A kilowatt-hour is a measurement of energy. If run for one hour, a 1,000 watt (1 kW) hair dryer would use one kilowatt-hour of electrical energy. Other measurements of electrical energy include the megawatt-hour (1,000 kWh) and the gigawatt-hour (1,000,000 kWh).

4.6.1.1 Regulatory Setting

There are many federal, state, and local statutes and policies that address energy conservation. At the Federal level, energy standards set by the U.S. Environmental Protection Agency (EPA) apply to numerous products (e.g., the EnergyStar™ program). The EPA also sets fuel efficiency standards for automobiles and other modes of transportation. At the State level, Title 24 of the California Building Standards Code sets forth energy efficiency standards for buildings. The State also provides rebates and tax credits for installation of renewable energy systems, and the *Flex Your Power* program promotes conservation in multiple areas. The Title 24 standards were recently revised and became effective January 1, 2014; the Building Energy Efficiency Standards within Title 24 became effective July 1, 2014.[27]

---

[24] California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model User's Guide, Version 2013.2*. July 2013. Available at: http://www.caleemod.com/

[25] The British Thermal Unit (Btu) is the amount of energy that is required to raise the temperature of one pound of water by one degree Fahrenheit.

[26] As defined by the International Bureau of Weights and Measures, the joule is a unit of energy or work. One joule equals the work done when one unit of force (a Newton) moves through a distance of one meter in the direction of the force.

[27] California Energy Commission. *Building Energy Efficiency Program*. 2013. Accessed August 10, 2015. Available at: http://www.energy.ca.gov/title24/

4.6.1.2 Existing Setting

The following discussion will focus on the three most relevant sources of energy demand for this project: electricity and natural gas for building operations (lighting, heating, cooling, etc.). The proposed project would demolish approximately 247,706 square feet of existing buildings and 104,500 square feet of existing parking over a five year period. Existing energy use is estimated only for those buildings that would be demolished by the proposed project.[28]

4.6.1.3 Electricity and Natural Gas

Electricity and natural gas are provided in Santa Clara by Silicon Valley Power (SVP) and Pacific Gas and Electric (PG&E), respectively. The State of California currently requires that energy saving measures be applied to new construction through Title 24 of the California Building Standards Code.

Electricity

Electricity supply in California involves a complex grid of power plants and transmission lines located in the Western United States, Canada, and Mexico. In 2014 California's electricity was produced from natural gas (45 percent), coal (6.4 percent), hydroelectric (5.6 percent), nuclear (8.6 percent), renewable energy such as solar and wind (20.4 percent), and other unspecified sources (14 percent).[29]

Electricity consumption in California increased by approximately 23 percent between 1990 and 2012. During that time, consumption increased from approximately 227,576 GWh in 1990 to approximately 280,561 GWh in 2012.[30] By 2020, peak demand is expected to reach between 305,932 GWh to 321,268 GWh.[31]

Energy use rates from the CalEEMod User's Guide (Appendix D) indicate that surface parking lots use approximately 0.876 kWh per square foot (sf), primarily for lighting at night. University/College buildings are estimated to use 9.34 kWh/sf.[32] The surface parking lot is approximately 104,500 sf and the buildings to be demolished are approximately 247,706 square feet. Together, they are estimated to use 2,461,922 kWh of electricity per year, or 2,462 MWh per year.

---

[28] There is no direct use of gasoline on the project site. Indirectly, gasoline is consumed by uses at the project site through vehicle trips generated by students, employees, and other people coming to the University. The proposed project would not increase vehicle trips, and by extension gasoline use, beyond what has already been approved for the University.

[29] California Energy Commission. *Energy Almanac, Total Electricity System Power.* Available at: http://www.energyalmanac.ca.gov/electricity/total_system_power.html Accessed August 7, 2015.

[30] California Energy Commission. *2013 Integrated Energy Policy Report* (CEC-100-2013-001-CMF). 2013. Table 6. http://www.energy.ca.gov/energypolicy/ Accessed August 7, 2015.

[31] Ibid.

[32] California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model User's Guide, Version 2013.2. Appendix D.* Table 8.1. July 2013. Available at: http://www.caleemod.com/

Natural Gas

In 2013, California imported approximately 90 percent of its natural gas supplies from other states and from Canada.[33] Overall, 2013 consumption of natural gas in California is estimated to be 6,061 million cubic feet (MMcf) per day. This equates to approximately 6,061 billion Btu of natural gas every day.

Natural gas demand varies substantially for different land uses depending on the type of uses in a building, type of construction materials used in a building, and the efficiency of all gas-consuming devices within it. While the parking lot to be demolished does not use any natural gas, the buildings to be demolished use natural gas for heating, ventilation, and air conditioning (HVAC) processes.

Based on a rate of 27.14 kBtu per square foot per year from CalEEMod, the buildings planned for demolition use an estimated 6.9 billion Btu per year, or 18.9 million Btu per day.[34]

4.6.2 Thresholds of Significance

For the purposes of this EIR, an energy impact is considered significant if the project would result in:

- the wasteful use of fuel or energy;
- a substantial increase in demand upon energy resources in relation to projected supplies; or
- longer overall distances between jobs and housing.

Appendix F of the State CEQA Guidelines and Public Resources Code Section 21100(b)(3) states that a project would be considered to have a significant effect if it would result in wasteful, inefficient, or unnecessary energy use. Neither of those provisions offers a precise threshold of significance for determining whether a project would result in "wasteful, inefficient, or unnecessary energy use." This lack of a threshold of significance has made it difficult for lead agencies to conduct the analysis contemplated in Appendix F and Section 21100(b)(3). A recent court decision, *CCEC v. City of Woodland (2014), 225 Cal. App. 4th 173*, held that an EIR had not discussed energy use in sufficient detail. However, that case also did not establish a threshold for determining what constitutes "a wasteful, inefficient or unnecessary energy." Considering the implications of the *Woodland* decision, this EIR applies a "common sense" threshold, whereby a project's energy usage would be considered "wasteful, inefficient, and unnecessary" if the project were to violate Title 24 of the California Code of Regulations, would be inconsistent with the energy-related measures in the City of Santa Clara's Climate Action Plan, or would otherwise consume a substantially greater amount of energy, in either the construction or operational phase, than similar projects of a similar size that did not incorporate the project's design features and efficiency measures. This analysis will employ such metrics to judge significance.

[33] California Energy Commission. *Energy Almanac. Natural Gas Supply By Region.* 2015. Available at: http://energyalmanac.ca.gov/naturalgas/production_by_source.html Accessed August 7, 2015.
[34] California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model User's Guide, Version 2013.2. Appendix D.* Table 8.1. July 2013. Available at: http://www.caleemod.com/

4.6.3 Energy Impacts

4.6.3.1 Estimated Energy Use of the Proposed Project

Implementation of the proposed project would result in a net increase of approximately 276,194 square feet of new academic building space and 600 student beds. A new underground parking garage would also be constructed under the proposed residence hall. For the purposes of estimating energy use, this analysis assumes an average of two beds per dormitory room, though it is likely that many rooms would have three beds and many would have one. This analysis also assumes that the proposed one-level underground parking garage would be approximately the same size as the existing surface parking lot it would replace. The estimated increase in energy use that would result from the proposed project is shown in Table 4.6-1 below.

TABLE 4.6-1
Yearly Energy Use by the Proposed Project

Land Use	Size	Annual Use Rate	Total Increase in Energy Use
Electricity			
Academic Buildings	276,194 sf	9.34 kWh/sf	2,728,326 kWh
Dormitory Rooms[1]	600 beds/~300 rooms	3,582.14 kWh/du	1,074,642 kWh
Underground Parking	104,500 sf	6.74 kWh/sf	704,330 kWh
		Total	**4,507,298 kWh**
Natural Gas			
Academic Buildings	276,194 sf	27.14 kBtu/sf	7,927,920 kBtu
Dormitory Rooms[1]	600 beds/~300 rooms	8,608.7061 kBtu/du	2,582,612 kBtu
Underground Parking	104,500 sf	-	0 kBtu
		Total	**10,510,532 kBtu**

Source: California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model User's Guide, Version 2013.2. Appendix D.* Table 8.1. July 2013. Available at: http://www.caleemod.com/

[1] Annual use rates for 'Apartments Mid Rise' were used for the proposed four-story dormitory buildings. Estimate is based on an assumption of approximately two beds per dorm room.

As shown in Table 4.6-1 above, the proposed project would increase annual electricity use by approximately 4,507,298 kWh, or 4,508 MWh. Annual natural gas demand would increase by an estimated 10,510,532 kBtu, or 10.5 billion Btu, per year. This equates to approximately 28.8 million Btu per day. The estimated increase in natural gas demand is likely overstated, however, because the annual use rate of 8,608.7061 kBtu per dwelling unit is the rate used for apartments, which have gas-using devices such as stoves and ovens that dormitory rooms typically do not.

Gasoline demand of the project is not calculated here because the vehicle trips, and by extension the gasoline use, associated with the proposed project have already been calculated and evaluated under previous environmental review for the University. The proposed project would not increase vehicle trips or gasoline demand beyond what has been approved for the site.

4.6.3.2 Operational Impacts of the Proposed Project

As shown in Table 4.6-1 above, the project would increase electricity and natural gas demand by approximately 4,508 MWh per year and 28.8 million Btu per day, respectively. These increases are very small compared to California's overall demand for electricity and natural gas. For example, 4,508 MWh is 0.0016% of California's 2012 electricity demand (280,561 GWh). In relation to the project supplies and availability of electricity and natural gas, the proposed increase in demand would not be substantial. **(Less Than Significant Impact)**

The City of Santa Clara encourages the use of buildings materials that include recycled materials and makes information available on those building materials to developers. The proposed new structures would be built to current building codes and would replace buildings that range in age from 50 to 90 years old. In this way, the proposed project would actually improve the energy efficiency of the Santa Clara University campus over the existing condition. The project includes water conservation measures such as the use of recycled water for landscape irrigation and water-efficient landscaping to minimize irrigation needs.

As detailed in *Section 4.5, Greenhouse Gas Emissions*, the project would meet the waste diversion requirements of the City's Climate Action Plan. The project would salvage or recycle discarded building materials (i.e. remnant materials from construction) to reduce the amount of demolition and construction waste going to the landfill. Diverting waste provides secondary energy savings by reusing the discarded materials (which required energy to produce and transport) rather than disposing of them in landfills.

The project also includes measures to reduce energy use during construction. Measures such as the inclusion of air quality BMPs to minimize vehicle idling during construction (see *Section 4.3, Air Quality*) would minimize the wasteful use of fuel. Mitigation measures included in the project to reduce air pollution would require the use of higher tier, more efficient diesel engines.

Implementation of the above-described measures would ensure that energy is not used wastefully or inefficiently by the proposed project, both during construction and during operation. The proposed project would be more efficient than a comparable project built without these measures, and would use energy more efficiently than the current campus does. Therefore, the project would not use energy in a wasteful or inefficient manner. **(Less Than Significant Impact)**

The project is infill development (as opposed to a green-field site) and redevelopment of the site would not result in a need for expanded infrastructure. Implementation of the proposed project would not increase the distance between jobs and housing because the project would construct uses within the existing limits of the University. By adding additional student housing on the campus, the project will avoid increasing the distance that students need to travel to get to and from classes.

The proposed project would not result in the wasteful use of energy and would not increase the distance between jobs and housing. **(Less Than Significant Impact)**

4.6.4 Mitigation and Avoidance Measures for Energy Impacts

No mitigation is required or proposed.

4.6.5 Conclusion

The project would not result in a substantial increase in demand upon energy resources in relation to projected supplies. The project would not result in significant impacts to energy resources. **(Less Than Significant Impact)**

4.7 NOISE

The following discussion is based on a noise assessment prepared by *Illingworth & Rodkin* in July 2015. The noise report can be found in Appendix D of this EIR.

4.7.1 Existing Setting

4.7.1.1 Background Information – Noise

Noise is typically defined as unwanted sound and is subjective due to varying tolerances. Acceptable levels of noise also vary from land use to land use. In any one location, the noise level will vary over time, from the lowest background or ambient noise level to temporary increases caused by traffic or other sources. State and Federal standards have been established as guidelines for determining the compatibility of a particular land use with its noise environment.

Sound levels are usually measured in decibels (dB) with dB corresponding roughly to the threshold of hearing. Most of the sounds which we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting that reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency mid-range. This is called "A" weighting, and the dB level so measured is call the *A-weighted sound level* (dBA).

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources which create a relatively steady background noise in which no particular source is identifiable. To describe the time-varying character of environmental noise, the statistical noise descriptors, L_{01}, L_{10}, L_{50}, and L_{90}, are commonly used. They are the A-weighted noise levels equaled or exceeded during 1, 10, 50, and 90 percent of a stated time period.

Since the sensitivity to noise increases during the evening hours, 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Day/Night Average Sound Level, Ldn*, is the average A-weighted noise level during a 24-hour day, obtained after the addition of 10 dB to noise levels measured in the nighttime between 10:00 PM and 7:00 AM.

The most widespread and continual source of noise in Santa Clara is transportation and transportation-related facilities. Freeways, local arterials, the Norman Y. Mineta San José

International Airport, railroads, and Light Rail Transit are all major contributors to noise in Santa Clara.

Construction Noise

Construction is a temporary source of noise impacting residences and businesses located near construction sites. Construction noise can be significant for short periods of time at any particular location and generates the highest noise levels during grading and excavation, with lower noise levels occurring during building construction. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 85 to 90 dBA at a distance of 50 feet. Typically, hourly average construction-generated noise levels are approximately 80 to 85 dBA measured at a distance of 50 feet from the site during busy construction periods. Some construction techniques, such as impact pile driving, can generate very high levels of noise (105 dBA L_{max} at 50 feet) that are difficult to control. Construction activities can elevate noise levels at adjacent businesses and residences by 15 to 20 dBA or more during construction hours. Construction noise decreases by six dBA for every doubling of distance from the noise source.

4.7.1.2 Background Information – Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV) and another is the Root Mean Square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration. In this section, a PPV descriptor with units of inches per second (in/sec) is used to evaluate construction generated vibration for building damage and human complaints. Table 4.7-1 shows the general reactions of people and the effects on building that continuous vibration levels produce. As with noise, the effects of vibration on individuals is subjective due to varying tolerances.

TABLE 4.7-1
Effects of Vibration

PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Virtually no risk of damage to normal buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe – vibration considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

Source: Transportation and Construction-Induced Vibration Guidance Manual, California Department of Transportation, June 2004.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, etc. The rattling sound can give rise to exaggerated vibration complaints, even though there is little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of the physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate higher vibration levels.

Structural damage can be classified as cosmetic, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structure damage to a building. Construction-induced vibration that can be detrimental to a building is very rare and has only been observed in instances where the structure in a high state of disrepair and the construction activities occur immediately adjacent to the structure.

4.7.1.2 Regulatory Background

The State of California and the City of Santa Clara have established guidelines, regulations, and policies designed to limit noise exposure at noise sensitive land uses. Appendix E of the State CEQA Guidelines, the State of California Building Code, and the City of Santa Clara's General Plan present the following applicable criteria:

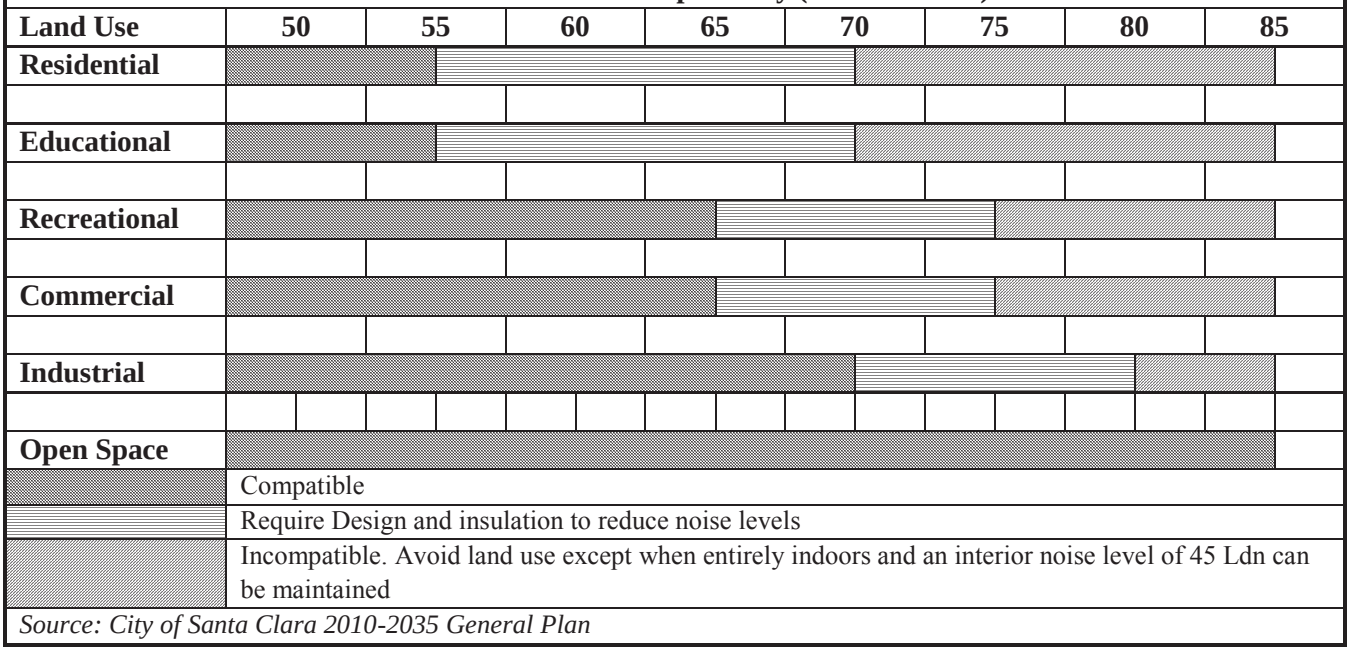
State CEQA Guidelines. The California Environmental Quality Act (CEQA) contains guidelines to evaluate the significance of effects resulting from a proposed project. These guidelines have been used in this EIR as thresholds for establishing potentially significant noise impacts and are listed under *Thresholds of Significance.*

CEQA does not define what noise level increase would be considered substantial. Typically, project-generated permanent noise level increases of 3 Ldn or greater would be considered significant where exterior noise levels would exceed the normally acceptable noise level standard (60 Ldn). Where noise levels would remain below the normally acceptable noise level standard with the project, permanent noise level increases of 5 Ldn or greater would be considered significant.

City of Santa Clara General Plan. Based on the City's General Plan, Table 4.7-2 shows the noise levels considered compatible with specific land uses. Educational land uses are considered

compatible with Ldn noise levels of up to 55 dBA and acceptable with design and insulation techniques in areas with Ldn noise levels up to 70 dBA.

TABLE 4.7-2
Noise and Land Use Compatibility (Ldn & CNEL)



Source: City of Santa Clara 2010-2035 General Plan

Santa Clara City Code. In section 9.10.040 of the Santa Clara City Code, Schedule A shows the noise levels considered consistent with specific zoning designations. For educational land uses, outdoor noise levels of up to 55 decibels are considered acceptable during the daytime, and up to 50 decibels from 10:00 PM to 7:00 AM.

According to section 9.10.230 of the City Code, construction activities are not permitted within 300 feet of residentially zoned property except within the hours of 7:00 a.m. and 6:00 p.m. on weekdays and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction is permitted on Sundays or holidays.

4.7.1.3 Existing Noise Environment

The main campus is located on the south side of Franklin Street between Lafayette Street and El Camino Real/The Alameda, near the Santa Clara Transit Station. Noise in the project area is generated primarily from vehicular traffic along the adjacent roadways.

The City of Santa Clara General Plan shows that the existing noise levels on the project site vary depending on proximity to the surrounding roadways. The proposed development locations are all within the area designated as less than or equal to 60 dBA except the new student housing (adjacent to The Alameda), which is located in an area designated as above 60 dBA, and less than or equal to 65 dBA.

To quantify the existing noise environment and determine the regarding the noise impacts resulting from the project, a noise monitoring survey was completed at the site in July 2015. The survey consisted of four short-term measurements (ST-1, ST-2, ST-3, and ST-4), the locations of which are

shown on the figure below. Table 4.7-3 gives a summary of the acoustical locations and measurements.

TABLE 4.7-3 Existing Short-Term Noise Measurements		
Measurement	**Location**	**Noise Level (in dBA)**
ST-1	In front of 575 Franklin Street, opposite the new law school site, approximately 20 feet from the centerline of Franklin Street	56
ST-2	In front of 860 Market Street	64
ST-3	Kennedy Commons, approximately 65 feet west of the walking path connecting Santa Clara Street and Market Street	53
ST-4	Side yard of 702 Varsi Place, adjacent to Park Avenue, approximately 30 feet from the centerline of Park Avenue	58

Noise measurement ST-2 was influenced by heavy trucks traveling on Market Street and Lafayette Street, as well as construction activity at the entrance of the residential tower on the north side of Market Street. Construction equipment used during the noise measurement included a jack hammer. Measurement ST-4 was influenced by interior renovations (with the windows and doors open) to the house at 702 Varsi Place. As a result, measurements ST-2 and ST-4 may be higher than typical ambient noise levels in those areas.

Sensitive Receptors

Noise sensitive land uses adjacent or within proximity to the main campus include the existing residential neighborhoods to the north and west, and the duplex to the south. In addition, the main campus has student residences.

4.7.2 Noise Impacts

4.7.2.1 *Thresholds of Significance*

For the purposes of this EIR, a noise or vibration impact is considered significant if the project would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to, or generate excessive groundborne vibration or groundborne noise levels;
- Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- 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; or
- 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 CEQA Guidelines state that a project will normally be considered to have a significant impact if noise levels conflict with adopted environmental standards or plans, of if noise levels generated by the project will substantially increase existing noise levels at noise-sensitive receivers on a permanent or temporary basis. CEQA does not define what noise level increase would be substantial. A three dBA noise level increase is considered the minimum increase that is perceptible to the human ear. Typically, project generated noise level increases of three dBA DNL or greater are considered significant where resulting exterior noise levels will exceed the normally acceptable noise level standard. Where noise levels will remain at or below the normally acceptable noise level standard with the project, a noise level increase of five dBA DNL or greater is considered significant.

Where noise from construction activities exceeds 55 dBA L_{eq} and exceeds the ambient noise environment by at least 5 dBA L_{eq} at noise-sensitive uses in the project vicinity for a period exceeding one year, the impact would be considered significant.

4.7.2.2 Noise Impacts to the Project Site

Based on available data, it is estimated that students, faculty, and staff utilizing the new educational and student service buildings will be exposed to exterior noise levels of less than 60 dBA. The City's "normally acceptable" noise level standard for educational land uses is 55 dBA. Exterior noise levels up to 70 dBA require design measures and insulation to reduce noise levels

While some of the proposed buildings nearest the adjacent roadways may experience exterior noise levels above 55 dBA (but below 60 dBA), the ambient noise levels would not preclude the successful use of these buildings as is evident by the operation of the existing campus. Using standard construction techniques, a typical building shell provides 15 dBA of attenuation with windows open and 20 to 25 dBA of attenuation with windows closed. A minimum of 15 dBA of noise attenuation would achieve an acceptable interior noise level of less than 45 dBA. No outdoor facilities are proposed. Because the interior noise levels of all proposed educational and student services buildings would be below 45 dBA, implementation of the Master Plan would not have an operational impact on students, faculty, and staff. **(Less Than Significant Impact)**

The proposed student housing would be exposed to exterior noise levels of 60 to 65 dBA. The City's "normally acceptable" noise level standard for residential land uses is 55 dBA. Exterior noise levels up to 70 dBA require design measures and insulation to reduce noise levels. Exterior noise levels

above 70 dBA are not acceptable. As noted above, a typical building shell provides 15 dBA of attenuation with windows open and 20 to 25 dBA of attenuation with windows closed using standard construction techniques. The 2013 California Building Code and the City of Santa Clara require that interior noise levels within new residential units not exceed 45 dBA L_{dn}. With an exterior noise level of 60 to 65 dBA, student housing units facing The Alameda would have interior noise levels of approximately 45 to 50 dBA. Units not facing the roadway would be exposed to lower noise levels. No outdoor facilities are proposed.

Impact NOI-1: Construction of the proposed student housing could expose future residents in units facing The Alameda to interior noise levels in excess of acceptable City and State standards for residential development. **(Significant Impact)**

4.7.2.3 Project-Generated Traffic Noise Impacts

Traffic trips to and from campus will increase as a result of the proposed project, and traffic noise levels could increase as a result of the project and other assumed growth in the project area. A noise increase is considered substantial if it increases the ambient noise level by three decibels or more in sensitive noise areas. A three decibel increase is equivalent to a doubling of traffic on local roadways.

Project traffic would result in traffic noise increases but would not double the amount of traffic on Lafayette Street, Market Street, or any of the residential streets north of the main campus. As a result, the project will not noticeably increase the ambient noise level of the project area. The existing noise-sensitive land uses in the project area would not experience a noticeable increase in ambient noise levels. Future project traffic will, therefore, result in a less than significant noise impact. **(Less Than Significant Impact)**

4.7.2.4 Construction Impacts

TABLE 4.7-4
Typical Range of Construction Noise Levels at 50 Feet from Center of Construction Site (dBA)

Construction Activity	Average Noise Levels
Ground Clearing	83 to 84
Excavation	88 to 89
Foundations	77 to 88
Building Construction	79 to 87
Finishing Work	84 to 89

Source: United States Environmental Protection Agency

Construction activities associated with implementation of the Master Plan would temporarily increase noise levels in the various project areas. Construction activities generate considerable amounts of noise, especially during demolition and the construction of project infrastructure when heavy equipment is used. Typical average construction generated noise levels are about 81 – 89 dB measured at a distance of 50 feet from the center of the site during busy construction periods (e.g., earth moving equipment, impact tools, etc.) Construction generated noise levels drop off at a rate of about six dB per doubling of distance between the source and receptor. Construction-related noise levels are normally less during building framing, finishing, and landscaping phases. There would be variations in construction noise levels on a day-to-day basis depending on the activities occurring on the site. Table 4.7-4 lists the typical range of construction noise at a distance of 50 feet from the center of a construction site.

Law School

Construction of the proposed law school would include demolition of an existing surface parking lot and construction of the building. The nearest noise sensitive receptors are the residences on the north side of Franklin Street, approximately 80 feet from the project site. During construction, these residences would be exposed to exterior hourly average noise levels of 71 to 85 dBA.

Benson Center

The proposed expansion of Benson Center would include removal of existing hardscape and building walls, and construction of the new additions. The nearest noise sensitive receptors are the residences on the south side of Market Street, approximately 85 feet or more from these project sites, and the student housing approximately 80 feet from the site. During worst-case conditions (i.e., residences with direct line of sight to the construction areas), these residences would be exposed to exterior hourly average noise levels of 70 to 84 dBA.

Student Housing

The proposed student housing along The Alameda would include demolition of existing hardscape and the art building, and construction of the new residences, including excavation for underground parking. Most of the nearby land uses are commercial and not considered sensitive receptors. There are, however, private residences within 165 to 300 feet of the project sites and adjacent student housing. At 165 to 300 feet, the exterior hourly average noise levels would be 65 to 79 dBA. At the adjacent student residences, the exterior hourly average noise levels would exceed 80 dBA.

All other development proposed under the Master Plan is not in proximity to sensitive receptors.

The City Code states that the 55 dBA daytime threshold at single- and multi-residences is not applicable to construction activities during allowable hours. Although construction-generated noise levels would exceed ambient noise levels at receptors surrounding the project sites by more than five dBA, construction activities would occur in short-term durations during daytime hours only.

As a condition of project approval, all projects under the proposed Master Plan, will be required to comply with applicable code requirements and best management practices as outlined below.

- Ensure that construction activities within 300 feet of residentially zoned property are limited to the hours of 7:00 a.m. to 6:00 p.m. on weekdays and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction is permitted on Sundays or holidays.

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Unnecessary idling of internal combustion engines should be strictly prohibited.

- Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. Construct temporary noise barriers to screen stationary noise-generating equipment when located near adjoining sensitive land uses. Temporary noise barriers could reduce construction noise levels by 5 dBA.

- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.

- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.

- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

Compliance with City code requirements and identified best management practices during construction activities will result in a less than significant construction noise impact. **(Less Than Significant Impact)**

4.7.2.5 Construction Vibration Impacts

TABLE 4.7-5
Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)	Approximate Lv at 25 ft. (VdB)
Clam Shovel Drop	0.202	94
Hydromill (slurry wall)		
-In Soil	0.008	66
-In Rock	0.017	75
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006

Construction of the proposed project will require the use of heavy equipment for demolition, excavation, moving of construction materials, etc. Pile driving would not be required and is not proposed as part of the project.

Construction activities such as drilling, use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment such as tracked vehicles, compactors, etc. may generate substantial vibration in the immediate site vicinity. The vibration levels of various construction equipment is listed in Table 4.7-5.

For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern. Due to the historic buildings and student residences surrounding the development

sites, ground-borne vibration levels exceeding 0.3 in/sec PPV would have the potential to result in a significant vibration impact. Construction activities would not exceed 0.013 in/sec PPV at a distance of 40 to 105 feet. Within 25 feet, construction activities have the potential to exceed 0.3 in/sec PPV.

Impact NOI-2: Ground-borne vibration resulting from construction activities associated with implementation of the Master Plan could cause structural damage to nearby buildings. **(Significant Impact)**

4.7.3 Mitigation and Avoidance Measures for Noise Impacts

The following mitigation measures are included in the project to reduce interior noise impacts to proposed student housing to a less than significant level.

MM NOI-1.1: Forced air mechanical ventilation, satisfactory to the local building official, shall be incorporated into all residential units facing The Alameda to allow occupants the option of keeping windows closed to control noise intrusion.

The following mitigation measures are included in the project to reduce vibration impacts to nearby buildings to a less than significant level.

MM NOI-2.1: Heavy vibration-generating construction equipment, such as vibratory rollers or clam shovel drops, are prohibited within 25 feet of any historic buildings or campus residences.

4.7.4 Conclusion

Compliance with City code requirements and best management practices will reduce temporary construction noise impacts to a less than significant level. **(Less Than Significant Impact)**

Implementation of the identified mitigation measure will reduce long-term noise impacts to on-site residences to a less than significant level. **(Less Than Significant Impact With Mitigation)**

Implementation of the identified mitigation measure will reduce construction related vibration impacts to a less than significant level. **(Less Than Significant Impact With Mitigation)**

4.8 GEOLOGY AND SOILS

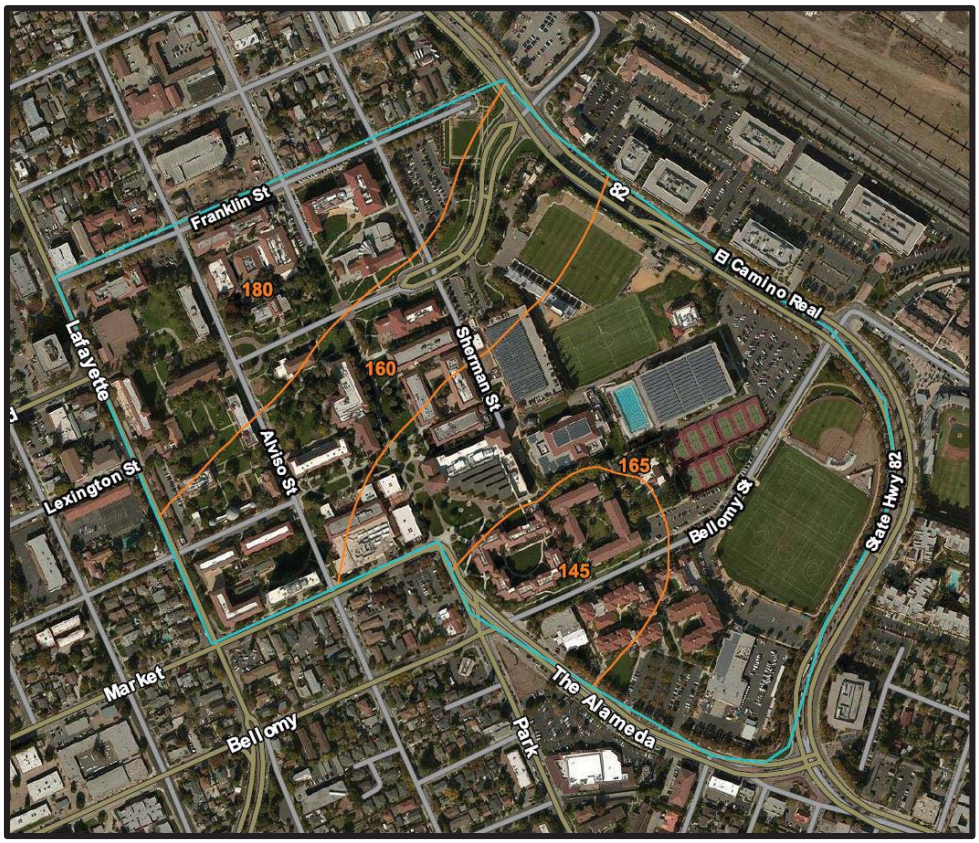
The following discussion is based on a Soil Resource Report generated from the Natural Resources Conservation Service Web Soil Survey Program in June 15, 2015. The report is included in this EIR as Appendix E.

4.8.1 Existing Setting

4.8.1.1 Regional Geology

The project site is located in the Santa Clara Valley, an alluvial basin, bounded by the Santa Cruz Mountains to the west, the Hamilton/Diablo Range to the east, and the San Francisco Bay to the north. The Santa Clara Valley was formed when sediments derived from the Santa Cruz Mountains and the Hamilton/Diablo Range were exposed by the continued tectonic uplift and regression of the inland sea that had previously inundated the area.

4.8.1.2 Site Geology



Based on the Soil Resource Report, native soil underlying the University main campus is divided into four distinct units: Urbanland-Newpark Complex, Urbanland-Clear Lake Complex, Urbanland-Campbell Complex, and Urbanland-Hangerone Complex as shown in the adjacent figure. These soil types typically have the following characteristics:

- The Urbanland-Newpark Complex (located completely underneath the Daly Science building and Third Mission Parking Lot) consists of silty clay loam up to 4.3 feet below ground surface (bgs) of native soil and fine sandy loam from 4.3 feet and 6.6 feet bgs and has a moderate shrink-swell potential.

- The Urbanland-Clear Lake Complex (located partially or completely underneath the Bannan Hall, Bannan Engineering 403 and 404, Mechanical Engineering, Bergin Hall Heafey Law Library, and Benson Center) consists of primarily silty clay up to 5.5 feet bgs and has a moderate to very high shrink-swell potential.

- The Urbanland-Campbell Complex (located partially or completely underneath the Bannan Engineering 403 and 404, Mechanical Engineering, Benson Center, Malley Fitness and Recreation Center, Sobrato Hall, and Sobrato Parking Lot) consists of silt loam in the first two feet of native soil, silty clay loam from two feet to 4.25 feet bgs, and silty clay from 4.25 feet to six feet bgs and has a moderate to very high shrink-swell potential.

- The Urbanland-Hangerone Complex (located partially underneath the Cowell Health Center) consists of clay up to three feet bgs and has a moderate to very high shrink-swell potential.

Expansive soils shrink and swell as a result of moisture changes. These changes can cause heaving and cracking of slabs-on-grade, pavement, and structures found on shallow foundations.

Groundwater

The nearest groundwater monitoring well, located on the southwestern portion of the campus (the northwest corner of the Bellomy Street/The Alameda intersection) estimated the minimum groundwater level to be between 4.4 to 24.8 feet below the ground surface (bgs).[35]

Seismicity

The San Francisco Bay Area is classified as the most seismically active region in the United States. The significant earthquakes that occur in the Bay Area are generally associated with crustal movement along well defined active fault zones of the San Andreas Fault System, which regionally trends in a northwesterly direction. The U.S. Geological Survey's (USGS) Working Group on California Earthquake Probabilities 2007 estimates that there is a 63 percent chance of at least one magnitude 6.7 earthquake occurring in the Bay Area between 2007 and 2036. The Hayward Fault is the most likely to generate an earthquake of this magnitude in the next 30 years. Active faults near the project site are shown in Table 4.8-1.

TABLE 4.8-1
Active Faults Near
the Santa Clara University Main Campus[36]

Fault	Distance from Site
Calaveras	9.1 miles NE
Hayward (Southeast Extension)	6.6 miles E
Monte Vista – Shannon	6.7 miles SW
San Andreas	10 miles SW

The site is not located within a designated Alquist-Priolo Earthquake Fault Zone[37] or in a Santa Clara County Fault Hazard

[35] Geotracker Database. http://geotracker.waterboards.ca.gov Accessed June 15, 2015.
[36] *Source:* U.S. Geological Survey. Earthquakes Hazards Program – Google Earth/KML Files. http://earthquake.usgs.gov/learn/kml.php Accessed June 15, 2015.
[37] California Department of Conservation Website, http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm, Accessed June 15, 2015.

Zone[38] and no active faults have been mapped on-site. Therefore, the risk of fault rupture at the site is low. Faults in the region are, however, capable of generating earthquakes of magnitude 7.0 or higher and strong to very strong ground shaking would be expected to occur at the project site during a major earthquake on one of the nearby faults.

Liquefaction

Liquefaction is the result of seismic activity and is characterized as the transformation of loose water-saturated soils from a solid state to a liquid state during ground shaking. During ground shaking, cyclically induced stresses may cause increased water pressure within the soil voids, resulting in liquefaction. Liquefied soils may lose shear strength that may lead to large shear deformations and/or flow failure under moderate to high shear stresses, such as beneath foundations or sloping ground. Generally layers of loose to moderately dense, saturated, non-cohesive soils are most susceptible to liquefaction. Low plasticity silts and clays can liquefy as well.

According to the Santa Clara County Geologic Hazard Zone Maps, the proposed development sites and the entire Santa Clara University campus are located within a liquefaction zone.

Lateral Spreading

Lateral spreading is a type of ground failure related to liquefaction. It consists of the horizontal displacement of flat-lying alluvial material toward an open area, such as the steep bank of a stream channel. There are no slopes or open channels in the project area where lateral spreading can occur. Therefore, the potential for liquefaction-induced lateral spreading is low.

Mineral Resources

Mineral resources known to exist in and near the Santa Clara Valley include cement, sand, gravel, crushed rock, clay, and limestone. Santa Clara County has also supplied a significant portion of the nation's mercury over the past century. Neither the State Geologist nor the State Mining and Geology Board has classified any areas in the City of Santa Clara as containing mineral deposits of statewide significance. The nearest State designated mineral resources are located in Los Altos Hills, Cupertino, and San José.[39]

4.8.2 Regulatory Framework

Development within the City of Santa Clara is subject to various Federal, State, and local regulations aimed at reducing potential impacts of geologic and seismic hazards to people, property, and the environment. As described in *Section 4.10*, *Hydrology and Water Quality*, erosion control is regulated by the Federal Clean Water Act, State of California Porter Cologne Water Quality Act, the National Pollutant Discharge Elimination System (NPDES), and the City Code (Title 13, Chapter 20, Storm Drains and Discharges).

[38] Santa Clara County. Planning Office Featured Maps, *Geologic Hazard Zones*. https://sccplanning.maps.arcgis.com/home Accessed June 15, 2015.
[39] State Mining & Geology Board. Department of Conservation. Surface Mining and Reclamation Act (SMARA) Regulations. http://www.conservation.ca.gov/smgb/Regulations/Pages/regulations.aspx Accessed March 3, 2015.

The California Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. Local agencies must regulate the construction of buildings used for human occupancy in these zones.

The California Building Code (in Title 24, California Code of Regulations) serves as the basis for the design and construction of buildings in the State. Currently, the 2013 California Building Code contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, the strength of the ground, and distance to seismic resources.

4.8.2.1 Santa Clara City Code

Title 15 of the Santa Clara City Code (Buildings and Construction) includes the 2013 California Building, Plumbing, Mechanical, Electric, Existing Building, Housing, and Municipal Fire and Environmental Codes. Requirements for building safety and earthquake hazard reduction are also addressed in Chapter 15.40 (Dangerous Building), Chapter 15.55 (Seismic Hazard Identification), and Chapter 15.60 (Santa Clara Municipal Fire and Environmental) of the City Code. Prior to the issuance of grading and building permits within defined geologic hazard zones, the City must review and approved the design-level geotechnical investigation for a project.

4.8.3 Geologic and Soils Impacts

4.8.3.1 Thresholds of Significance

For the purposes of this EIR, a geologic impact is considered significant if the project would:

- Expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), landslides, or expansive soils;
- Cause substantial soil erosion or the loss of topsoil;
- Expose people or property to major geologic hazards that cannot be mitigated through the use of standard engineering design and seismic safety techniques;
- 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; or
- 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.

4.8.3.2 Geologic Impacts to the Project Site

Seismicity, Liquefaction, and Lateral Spreading

As discussed in *Section 4.9.1.2*, the project site is in the seismically active San Francisco Bay Area which has a 63 percent probability of experiencing at least one magnitude 6.7 earthquake during the next 30 years. Earthquake faults in the region, specifically the San Andreas, Hayward, and Calaveras faults, are capable of generating earthquakes larger than 7.0 in magnitude. The project site would experience intense ground shaking in the event of a large earthquake.

Although the depth of soil disturbance is minimal (site grading and utility trenching up to a depth of three feet) for most of the project sites (project site 3 will have one level of below grade parking), the project would require a design-specific geotechnical report to determine the liquefaction potential of the proposed buildings and renovations. The probability of lateral spreading on-site is considered low since there are no open channels or steep slopes on or near the site.

Geologic conditions in the project area will require that the proposed structures be designed and built in conformance with the requirements of the 2013 California Building Code. In addition, the project is required to comply with the City Code (including Title 15, Buildings and Construction). The project will be built and maintained in accordance with a design-specific geotechnical report for each development site, the City Code, and applicable regulations including the 2013 California Building Code. The design-level geotechnical investigation shall be reviewed and approved by the City prior to issuance of building permits for any project on-site.

Because future development on campus will comply with all applicable codes and regulations, the Master Plan will not expose people or property to significant impacts associated with the geologic conditions of the site. **(Less Than Significant Impact)**

4.8.3.3 Construction Impacts

Soil Erosion

The school campus is flat and developed, and exposed soil is limited to landscaped areas. Ground disturbance would be required for demolition of the existing buildings and surface parking lots, grading, and construction of the proposed developments. Ground disturbance would expose soils and increase the potential for wind or water related erosion and sedimentation on the campus until construction is complete.

The City's NPDES Municipal Permit and the City Code are the primary means of enforcing erosion control measures through the grading and building permit process. Through compliance with the regulatory programs currently in place, the erosion impacts during construction would be less than significant.

Demolition, grading, and construction on-site would temporarily increase the potential for erosion and sedimentation that could be carried by runoff into the San Francisco Bay. The project will be required as a condition of project approval to implement the following measures, consistent with the NPDES Municipal Permit and the City Code, for avoiding and reducing construction-related erosion impacts.

- All construction sites shall implement effective erosion control, run-on and runoff control, sediment control, active treatment systems (as appropriate), good site management, and non-stormwater management through all phases of construction (including, but not limited to, site grading, building and finishing of lots) until the site is fully stabilized by landscaping or the installation of permanent erosion control measures.

- Grading shall be designed to minimize soil erosion, runoff and water waste. The grading shall avoid soil compaction in planted landscaped areas.

- Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.

- Protect storm drain inlets, gutters, ditches, and drainage courses with appropriate best management practices, such as gravel bags, fiber rolls, and berms

Because the proposed development plan will implement the above measures and comply with the NPDES Municipal Permit and the City Code, implementation of the proposed project would have a less than significant soil erosion impact. **(Less Than Significant Impact)**

Groundwater Disturbance

According to nearby groundwater monitoring records, the groundwater on the campus is a minimum 4.4 feet and a maximum of 2.48 feet bgs. Construction on all the development sites would require utility trenching up to three feet bgs, but would not encounter groundwater. Construction on project site 3 includes one level of underground parking which could potentially result in exposure of the shallow groundwater table. If excavation would reach groundwater levels, local dewatering or subgrade stabilization may be required.

Impact GEO-1: Future development under the proposed Master Plan could interfere with the shallow groundwater table. **(Significant Impact)**

4.8.3.4 Mineral Resources

The project site is not located in an area designated as containing regionally or locally significant mineral resources. **(No Impact)**

4.8.4 Mitigation and Avoidance for Geology and Soils Impacts

MM GEO-1.1: To account for seasonal variations in the groundwater level, the following measures shall be implemented:

- Excavate an additional 12 to 18 inches below subgrade, place a layer of stabilization fabric at the bottom, and backfill with clean crushed rock.
- Dewatering shall adhere to all applicable laws and regulations.

4.8.5 Conclusion

Adherence to all existing building codes, regulations, and policies, including the 2013 California Building Code will ensure construction of the proposed project will have a less than significant geologic and soils impact. **(Less Than Significant Impact)**

With implementation of the proposed mitigation, impacts to the shallow groundwater table would be reduced to less than significant. **(Less Than Significant Impact With Mitigation)**

4.9 HYDROLOGY AND WATER QUALTIY

4.9.1 Setting

4.9.1.1 Flooding

Based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps, the project site is within Zone X (Maps 06085C0227H and 06085C0231H, dated May 2009). Flood Zone X is defined as areas determined to be outside the 0.2 percent annual chance floodplain. There are no waterways on or near the project site. The closest waterway is Guadalupe River located approximately 1.2 miles east of the project site.

4.9.1.2 Storm Drainage System

The City of Santa Clara owns and maintains the municipal storm drainage system which serves the project site. The lines that serve the project site drain into the Guadalupe River. The Guadalupe River flows north, carrying the effluent from the storm drains into San Francisco Bay. There is no overland release of stormwater directly into any water body from the project site.

4.9.1.3 Groundwater

Groundwater at the project site has been encountered at depths ranging from approximately four to 25 feet bgs. Groundwater levels will typically fluctuate seasonally depending on variations in rainfall, irrigation from landscaping, and other factors. The project site does not substantially contribute to the recharging of the groundwater aquifer.

4.9.1.4 Water Quality

The water quality of Guadalupe River is directly affected by pollutants contained in stormwater runoff from a variety of urban uses. Stormwater from urban uses contains metals, pesticides, herbicides, and other contaminants, including oil, grease, asbestos, lead, and animal wastes.

The Clean Water Act, Section 303, establishes water quality standards and Total Maximum Daily Load (TMDL) programs. The 303(d) list is an inventory of impaired water bodies. The TMDL program calculates the maximum amount of a pollutant that a water body can receive and still meet water quality standards. The TMDL high priority schedule denotes the most severely impaired water bodies on the 303(d) list.

Currently, the Guadalupe River is listed as a Category 5 impaired waterway on the California 303(d) list[40]. A Category 5 impaired waterway requires development of a Total Maximum Daily Load (TMDL) schedule.[41] The Guadalupe River is a Category 5 impaired waterway because it contains high levels of Diazinon (a synthetic chemical used in industrial and household insecticides), mercury

[40] The Clean Water Act, section 303, establishes water quality standards and TMDL programs. The 303(d) list is a list of impaired water bodies.
[41] A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards.

(from mine tailings), and trash. The USEPA has approved the Diazinon TMDL for the Guadalupe River but the TMDL for mercury and trash is still pending.[42]

Nonpoint Source Pollution Program

In 1988 the State Water Resources Control Board (SWRCB) adopted the Nonpoint Source Management Plan in an effort to control nonpoint source pollution in California. In December 1999, the Plan was updated to comply with the requirements of Section 319 of the Federal Clean Water Act and Section 6217 of the Federal Coastal Zone Act Reauthorization Amendment (CZARA) of 1990. The Nonpoint Source Program requires individual permits to control discharge associated with construction activities. The Nonpoint Source Program is administered by the Regional Water Quality Control Board (RWQCB) under the National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activities. Projects must comply with the requirements of the Nonpoint Source Program if:

- They disturb one acre or more of soil; or
- They disturb less than one acre of soil but are part of a larger development that, in total, disturbs one acre or more of soil.

The NPDES General Permit for Construction Activities requires the developer to submit a Notice of Intent (NOI) to the RWQCB and to develop a Stormwater Pollution Prevention Plan (SWPPP) to control discharge associated with construction activities.

Santa Clara Valley Urban Runoff Pollution Prevention Program

The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) was developed by the RWQCB to assist co-permittees in implementing the provisions of the NPDES permit. This program was also designed to fulfill the requirements of Section 304(1) of the Federal Clean Water Act, which mandated that the Environmental Protection Agency develop NPDES application requirements for stormwater runoff. The Program's Municipal NPDES stormwater permit includes provisions requiring regulation of stormwater discharges associated with new development and development of an area-wide watershed management strategy. The permit also identifies recommended actions for the preservation, restoration, and enhancement of the San Francisco Bay Delta Estuary.

Applicable projects consist of all new public and private projects that create 10,000 square feet or more of impervious surface collectively over the entire project site and redevelopment projects that add or replace 10,000 square feet or more of impervious surface area on the project site. Additional requirements must be met by large projects (formerly known as Group 1 projects) that create one acre or more of impervious surfaces. These large projects must control increases in runoff peak flow, volume, and duration (referred to as hydromodification) caused by the project if the increase in stormwater runoff has the potential to cause erosion or other adverse impacts to receiving streams.

[42] State Water Resources Control Board Web Site. http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml Accessed September 14, 2015.

Hydromodification

In addition to water quality controls, the Municipal Regional Stormwater NPDES permit requires all new and redevelopment projects that create or replace one acre or more of impervious surface to manage development-related increases in peak runoff flow, volume, and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation or other impacts to beneficial uses of local rivers, streams, and creeks. Projects may be deemed exempt from the permit requirements if they do not meet the size threshold, drain into tidally influenced areas or directly into the Bay, drain into hardened channels, or are infill projects in subwatersheds or catchments areas that are greater than or equal to 65 percent impervious (per the Santa Clara Permittees Hydromodification Management Applicability Map). The project site is exempt from the NPDES hydromodification requirements because it is located in a subwatershed that is greater than or equal to 65 percent impervious.[43]

4.9.2 Thresholds of Significance

For the purposes of this EIR, a hydrology, drainage, or flooding impact is considered significant if the project would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Inundation of the site by seiche, tsunami, or mudflow.

[43] Santa Clara Valley Urban Runoff Pollution Prevention Program website. http://www.scvurppp-w2k.com/hmp_maps.htm Accessed September 14, 2015

4.9.2.1 Flood Impacts

Based on the FEMA flood insurance rate maps, the site is outside the 100-year flood plain. In addition, all future development on campus will conform to the City's Flood Hazard Management Ordinance, ensuring that the buildings are protected from flood damage. Because of the location of the site and its distance from any 100-year flood zone, implementation of the proposed project would not expose people or structures to significant flood hazards. **(Less Than Significant Impact)**

Based on the SCVWD dam failure inundation hazard maps, the project site is not located in the Lexington Reservoir, Andersen Dam, or any other dam failure inundation hazard zones.[44] [45] Therefore, the proposed project would have a less than significant dam induced flooding impact. **(Less Than Significant Impact)**

There are no landlocked bodies of water near the project site that would affect the site in the event of a seiche. There are no bodies of water near the project site that would affect the site in the event of a tsunami.[46] The project area is flat and there are no mountains near the site that would affect the site in the event of a mudflow. **(Less Than Significant Impact)**

4.9.2.2 Storm Drainage Impacts

Table 4.9-1, below, gives a breakdown of the pervious and impervious surfaces on the project site under both existing and project conditions.

TABLE 4.9-1
Pervious and Impervious Surfaces On-Site

Site Surface	Existing/Pre-Construction (sf)	%	Project/Post-Construction (sf)	%	Difference (sf)	%
Impervious						
Building Footprint	1,011,595	24	1,094,316	26	+82,721	+2
Parking and Hardscape	1,312,673	31	1,208,473	28	-104,200	-3
Pervious						
Pervious Pavement and Landscaping	1,943,360	45	1,989,173	46	+21,479	+1
TOTAL	4,267,628	100	4,267,628	100		

Under existing conditions, approximately 55 percent of the project site is covered with impervious surfaces. Implementation of the proposed project would reduce the amount of impervious surfaces on-site by approximately one percent. As a result, the amount of stormwater runoff would be slightly reduced compared to existing conditions.

[44] Santa Clara Valley Water District. *Andersen Dam EAP 2009 Flood Inundation Maps. 2009*. <http://www.valleywater.org/uploadedFiles/Services/CleanReliableWater/WhereDoesYourWaterComeFrom/Reservoirs/Anderson_Dam/Anderson%20Inundation%20Maps%202009.pdf?n=6912> Accessed September 14, 2015.
[45] Santa Clara Valley Water District. *Lexington Reservoir 2009 Flood Inundation Maps. 2009.* http://www.valleywater.org/Services/LexingtonReservoirAndLenihanDam.aspx Accessed September 14, 2015.
[46] Association of Bay Area Governments. *Tsunami Inundation Emergency Planning Map for the San Francisco Bay Region.* <http://quake.abag.ca.gov/tsunamis>. Accessed September 14, 2015.

Currently, the storm drainage system has sufficient capacity to support the project site.

Because implementation of the project will not result in an increase in impervious surfaces and would be required to comply with the NPDES Regional Municipal Permit, the total volume of stormwater runoff would not increase. As a result, the proposed redevelopment would not exceed the capacity of the stormwater drainage system and the project would have a less than significant impact. **(Less Than Significant Impact)**

4.9.2.3 Water Quality Impacts

Construction Impacts

Future development under the proposed Master Plan that, either individually or combined, disturb one acre or more of land area will be required to comply with the NPDES General Permit for Construction Activities as it is applicable at the Development Permit stage. Construction activities would temporarily increase pollutant loads due to grading and construction. Demolition and construction activities would temporarily increase the amount of debris on-site and grading activities would increase the potential for erosion and sedimentation that could be carried by runoff into the San Francisco Bay. As a result, future construction activities on-site would result in a temporary increase in pollutants in stormwater runoff.

All future development under the proposed project is required as a condition of project approval to include the following measures for avoiding and reducing impacts from construction stormwater runoff:

- Burlap bags filled with drain rock shall be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities shall be suspended during periods of high winds.
- All exposed or disturbed soil surfaces shall be watered at least twice daily to control dust as necessary.
- Stockpiles of soil or other materials that can be blown by the wind shall be watered or covered.
- All trucks hauling soil, sand, and other loose materials shall be covered.
- All paved access roads, parking areas, staging areas, and residential streets adjacent to the construction sites shall be swept daily with water sweepers.
- Utilize stabilized construction entrances and/or wash racks;
- Vegetation in disturbed areas shall be replanted as quickly as possible.
- All unpaved entrances to the site shall be filled with rock to remove mud from tires prior to entering City streets. A tire wash system may also be installed at the request of the City.

- Provide permanent cover to stabilize the disturbed surfaces after construction has been completed.

- A Stormwater Permit will be administered by the RWQCB. Prior to construction grading for the proposed land uses, the project proponent will file a "Notice of Intent" (NOI) to comply with the General Permit and prepare a SWPPP which addresses measures that would be included in the project to minimize and control construction and post-construction runoff. Measures will include, but are not limited to, the aforementioned RWQCB mitigation.

- The project proponent will submit a copy of the NOI and draft SWPPP to the City of Santa Clara for review and approval prior to start of construction on the project site. The certified SWPPP will be posted at the project site and will be updated to reflect current site conditions.
- When construction is complete, a Notice of Termination (NOT) for the General Permit for Construction will be filed with the RWQCB. The NOT will document that all elements of the SWPPP have been executed, construction materials and waste have been properly disposed of, and a post-construction storm water management plan is in place as described in the SWPPP for the site.

With the regulatory programs currently in place, stormwater runoff from construction activities would have a less than significant impact on stormwater quality. Because future development activities undertaken pursuant to the proposed project will comply with the regulations identified above and implement the required conditions of approval, the project would have a less than significant construction related water quality impact. **(Less Than Significant Impact)**

Post-Construction/Operational Impacts

The sites identified for future development are already occupied with buildings and parking areas. While exact totals are unknown at this time, it is reasonable to assume that at full build out of the Master Plan, there would be no substantial increase in impervious surfaces on-site as a result of future development. Nevertheless, the activities triggered by future development would still contribute pollutants that would impact stormwater runoff. Although the amounts of pollutants from existing and future land uses ultimately discharged into the waterways are unknown at this time, over time they could be substantial.

Future development projects would replace more than 10,000 square feet of impervious surface area on the project site. Therefore, all future development projects will be required to comply with the RWQCB Municipal Regional NPDES permit. In order to meet these requirements, each development will be required to install bioretention treatment areas or other Low Impact Development (LID) approved measures to treat stormwater runoff prior to entering the storm drainage system. The proposed treatment facilities will be numerically sized and will have sufficient capacity to treat and/or store all the stormwater runoff entering the storm drainage system consistent with the NPDES permit LID requirements.

With implementation of stormwater control plans consistent with RWQCB requirements, operation of future development under the Master Plan would have a less than significant water quality impact. **(Less Than Significant Impact)**

4.9.2.4 Groundwater Impacts

The quantity of impervious surfaces on the project site, with full build out under the Master Plan would be comparable to the existing condition as the areas proposed for development are currently developed with surface parking lots and buildings. The campus does not presently contribute to recharging of the groundwater aquifers and this condition will not change once development is complete. As a result, build out under the Master Plan would not interfere with groundwater recharge or cause a reduction in the overall groundwater supply. **(Less Than Significant Impact)**

4.9.3 Mitigation and Avoidance Measures for Hydrology Impacts

No mitigation is required or proposed.

4.9.4 Conclusion

With implementation of the regulatory policies and conditions of project approval listed above, the project would result in less than significant impacts on stormwater quality. The project would not deplete the groundwater supply, substantially alter the existing drainage pattern, substantially degrade water quality, or subject building occupants to flood hazards or increase stormwater runoff beyond the capacity of the existing storm drainage system. **(Less Than Significant Impact)**

4.10 BIOLOGICAL RESOURCES

The following analysis is based, in part, on a tree survey prepared by *Hort Science* in September 2015. A copy of the report is provided in Appendix F.

4.10.1 Setting

The project site is located in an urban area in the City of Santa Clara. There are no waterways, wetlands, or other sensitive habitats located on or adjacent to the project site. The nearest waterways are San Tomas Aquino Creek, located approximately 1.5 miles west of the project site, and the Guadalupe River, located approximately 1.2 miles east of the site. San Tomas Aquino Creek is channelized in the vicinity of the project site. The Guadalupe River is the nearest non-channelized waterway. The project site is completely developed and is surrounded by residential and commercial development.

Vegetation in the project area includes landscaping which primarily consists of grass, shrubs, and trees. Wildlife habitats in developed urban areas, such as the project site, are low in species diversity and include predominantly urban adapted birds and animals. There are no sensitive habitats or special status plant or animal species on-site, due to a lack of habitat to support them.

4.10.1.2 Special Status Species

Special status plant and wildlife species are not present on the highly urbanized project site, although raptors (birds of prey) and other birds could use trees on the site for nesting or foraging. Raptors and other migratory birds are protected by the Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 703, et seq.).

4.10.1.1 Conservation Plans

The project site is not located within an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP) or other approved local, regional, or State habitat conservation plan.

4.10.1.2 Trees

Mature trees (both native and non-native) are valuable to the human environment for the benefits they provide for resisting global climate change (i.e., carbon dioxide absorption), protection from weather, because they provide nesting and foraging habitat for raptors and other migratory birds, and because they are a visual enhancement. Therefore, a tree survey was completed to document and evaluate the mature trees on the site.

Trees located on the project site are primarily non-native species that vary in size and health. The City's policy is to protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size and all other trees over 36 inches in circumference (approximately 11 inches in diameter) as measured from 48 inches above the ground surface. For the purposes of this analysis, all trees within the defined area of impact (i.e., areas within which construction would occur as part of the proposed development plan) were identified and evaluated; 299 trees in total.

Table 4.10-1 shows a summary of the trees surveyed. A complete list of all the trees surveyed, including species, size, and health, is provided in Appendix F. The location of the trees are shown on the attachments in Appendix F.

TABLE 4.10-1
Tree Survey Summary

Tree Species	Total Number of Trees	Number of Protected Trees
Kwanzan cherry	26	0
Coast redwood	20	17
Evergreen elm	17	0
Honey locust	16	0
Evergreen ash	16	9
London plane	15	15
Coast live oak	13	8
Southern magnolia	12	1
Crape myrtle	12	0
Callery pear	11	0
Fern pine	10	6
Chinese hackberry	10	9
Sweetgum	10	9
Australian willow	8	0
Canary Island date palm	8	8
Chinese pistache	8	0
Chinese lantern	8	0
Canary Island pine	7	5
Hollywood juniper	6	2
Crabapple	5	0
Brazilian pepper	5	2
Mexican fan palm	5	5
Southern live oak	4	2
European birch	4	0
Modesto Ash	3	1
Raywood Ash	3	0
Lawsons cypress	2	0
Strawberry tree	2	1
Cordyline	2	0
Evergreen pear	2	0
Western redbud	2	0
Purple leaf plum	1	0
Japanese pagoda tree	1	0
Camphor	1	0
Glossy privet	1	0
Silver maple	1	0
Mayten	1	0
Blue atlas cedar	1	0

TABLE 4.10-1 Tree Survey Summary		
Tree Species	**Total Number of Trees**	**Number of Protected Trees**
Willow	1	1
Redmond linden	1	1
Cherry	1	0
Dawn redwood	1	1
Pecan	1	1
Catalpa	1	0
Chestnut	1	0
Japanese maple	1	0
California pepper	1	1
Monterey pine	1	0
Big-leaf maple	1	0
Victorian box	1	0
California bay	1	1
California buckeye	1	0
Coffeeberry	1	0
Oleander	1	0
Valley oak	1	1
Deodar cedar	1	0
Yew pine	1	0
Sydney golden wattle	1	0
TOTAL	**299**	**107**

4.10.2 Thresholds of Significance

For the purposes of this EIR, a vegetation and wildlife impact is considered significant if the project would:

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

4.10.2.1 Biological Resources Impacts

Because of the history of development in the area, no natural or sensitive habitats are present on the project site. As a result, no substantial impacts to natural plant communities or habitats would occur as a result of the project. Therefore, the project would not conflict with any local policies or ordinances that protect biological resources. **(No Impact)**

The project site and the immediate area do not have any identified special or threatened species habitat. Therefore, the proposed project would not impact special status species. **(No Impact)**

The project site is not near any riparian corridors and, therefore, the proposed project would not have a substantial adverse effect on riparian habitats in the City. **(No Impact)**

The project site is not near any wetlands; thus, implementation of the proposed project would not affect any federally protected wetlands. **(No Impact)**

The project site is not located within an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP) or other approved local, regional, or State habitat conservation plan. **(No Impact)**

Nesting Raptors and Migratory Birds

Migratory birds, like nesting raptors, are protected under the Migratory Bird Treaty Act and the California Fish and Game Code Sections 3503, 3503.5, and 2800. The California Department of Fish and Wildlife (CDFW)[47] defines "taking" as causing abandonment and/or loss of reproductive efforts through disturbance.

While the project site is located within an urban environment, the mature trees on-site and on the adjacent properties could provide nesting and/or foraging habitat for raptors and migratory birds. Therefore, construction of the proposed project may result in loss of fertile eggs or nestlings or lead to nest abandonment.

Impact BIO-1: Construction activities associated with the proposed project could result in the loss of fertile eggs, nesting raptors or other migratory birds, or nest abandonment. **(Significant Impact)**

4.10.2.2 Trees

Of the 299 trees on-site, all of them are assumed to be removed as part of the proposed project. Of the 299 trees to be removed, 107 trees are classified as protected by the City due to their size or species.

The City's General Plan (Policy 5.3.1-P10) requires new development to include new street trees and at least a 2:1 on- or off-site replacement for removal of existing trees. The proposed project would be required as a condition of project approval to plant a minimum of 598 trees. This would offset the loss of the trees to be removed as a result of the project. Because the project would be required to

[47] Formally the California Department of Fish and Game.

comply with the City's tree replacement policy, the loss of trees on-site would have a less than significant impact. **(Less Than Significant Impact)**

4.10.3 Mitigation and Avoidance for Biological Resources Impacts

The following mitigation measures will be implemented during construction to avoid abandonment of raptor and other protected migratory birds' nests:

MM BIO-1.1: Construction shall be scheduled to avoid the nesting season to the extent feasible. The nesting season for most birds, including most raptors in the San Francisco Bay area, extends from February 1 through August 31.

MM BIO-1.2: If it is not possible to schedule demolition and construction between September and January, pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of construction activities during the early part of the breeding season (February 1 through April 30) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May 1 through August 31). During this survey, the ornithologist will inspect all trees and other possible nesting habitats immediately adjacent to the construction areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with California Department of Fish and Wildlife, will determine the extent of a construction-free buffer zone to be established around the nest, typically 250 feet, to ensure that raptor or migratory bird nests will not be disturbed during project construction.

4.10.4 Conclusion

The project site is not located in any approved local, state, or national habitat conservation plan. **(No Impact)**

The project site is not near any wetlands, and therefore, implementation of the proposed project would not affect any federally protected wetlands. **(No Impact)**

There are no threatened or special status species on the project site, and as a result, the proposed project would not directly or indirectly impact any special status species habitat to a significant level. **(No Impact)**

The project would plant new trees to offset the loss of existing trees on-site and implement the identified mitigation measures to reduce and avoid impact to raptor nesting and/or foraging habitat due to project construction. With implementation of the identified mitigation measures, the project would not result in significant impacts to biological resources. **(Less Than Significant Impact with Mitigation)**

4.11 HAZARDS AND HAZARDOUS MATERIALS

The following analysis is based on a Phase I Environmental Site Assessment prepared by *AEI Consultants* in May 2015. A copy of the report is provided in Appendix G.

4.11.1 Setting

4.11.1.1 Site History

The project area was first developed in 1777 when Mission Santa Clara was founded. The Mission and its outlying developments remained occupied until approximately 1841. Shortly after the Mission Period, the main campus began to be redeveloped. By the late 1800's, the project site was developed with houses, a commercial distillery, agricultural land, horse stables, and commercial buildings. The Eberhard Tannery, constructed on-site during the mission period, remained in operation until after World War II.

Between 1915 and the 1960's the area remained primarily intact, though the campus was continuing to expand. The composition of the project area began to change in the 1960's when the University began construction of several new buildings. The University has continued to expand and modify the campus up to the present time, adding new classrooms and student housing, and surface parking lots.

4.11.1.2 Current Site Use

The project site comprises the main University campus bounded by Franklin Street, El Camino Real, The Alameda, Market Street, and Lafayette Street. The specific locations identified for redevelopment are currently developed with 16 buildings which serve primarily as classrooms, a library, and student activity space (sports and recreation). Nine of these buildings are documented as using/storing hazardous materials as shown in Table 4.11-1 below.

TABLE 4.11-1
Hazardous Materials On-Site Based on Fire Department Records

Building	Documented Usage
202	Facility maintains hazardous materials and a diesel and hydraulic oil above-ground storage tank (AST) but does not generate hazardous waste or have any underground storage tanks (USTs).
207	Facility maintains hazardous materials.
210	Facility maintains hazardous materials and petroleum ASTs in the form of a diesel generator and generates hazardous waste.
301	Facility maintains hazardous materials and AST but does not have any USTs. Former photo lab on-site was closed in 2003 under regulatory oversight.
402	Facility maintains hazardous materials but does not generate hazardous waste or have any USTs.
403	Facility has a 150 gallon diesel tank for an emergency generator.
404	Facility maintains hazardous materials including argon, oxygen, hydrogen, nitrogen, and acetylene, and petroleum ASTs in the form of a diesel generator. The facility does not produce any hazardous waste.

TABLE 4.11-1 Hazardous Materials Usage On-Site Based on Fire Department Records	
Building	**Documented Usage**
601	Facility maintains hazardous materials.
715	Facility maintains hazardous materials and petroleum ASTs in the form of a diesel generator, but does not produce hazardous waste.

City Fire Department records did not have information for Buildings 203, 211, 405, and 701. A site survey identified hazardous materials usage at Building 203. Specifically, there is an outbuilding at the western exterior of the building which contains anti-microbial water solution (four 55-gallon drums), chem-aqua oxidizer (six five-gallon containers), one 2.5-gallon container of Freon, and a 152-gallon diesel AST.

4.11.1.3 Surrounding Land Uses

The project site is located in an urban area that has a mix of public, commercial and residential land uses. The University's Jesuit Residence and parking structure are located immediately north of the main campus. A new Art/Art History building has previously been approved to be constructed adjacent to the parking structure. Commercial buildings and residences are also located immediately north of the main campus. East and south of campus is El Camino Real, the police station, the Santa Clara Transit Center, multiple office buildings, apartments, and the University's baseball field. West of campus is primarily a residential neighborhood with some retail development along The Alameda and Lafayette Street.

4.11.1.4 On-Site Sources of Contamination

Based on the historic land uses of the project site, it is reasonable to assume that native soils on-site have residual contamination from historic agricultural activities.

Underground Storage Tanks

Two USTs were previously located adjacent to Building 601 (the art building on project site 3). A 1,200 gallon UST with unknown contents was removed in 2002 and soil samples were taken with regulatory oversight from the Santa Clara County Department of Environmental Health (SCCDEH).[48] Containments were identified. In 2005, the SCCDEH granted a case closure but concluded that residual contamination in soils remaining at the UST location could pose an unacceptable risk during certain site development activities, including site grading and excavation.

Based on Santa Clara Fire Department records, a 1,321 gallon UST with unknown contents was removed in 2003 and soil samples were taken. Containments were identified. No further information on this UST was available.

[48] While it is known that the soil samples were taken with regulatory oversight from SCCDEH, the company that took the samples was not identified.

Asbestos and Lead Based Paint

Friable asbestos is any asbestos containing material (ACM) that, when dry, can easily be crumbled or pulverized to a powder by hand allowing the asbestos particles to become airborne. Common examples of products that have been found to contain friable asbestos include acoustical ceilings, plaster, wallboard, and thermal insulation for water heaters and pipes. Non-friable ACMs are materials that contain a binder or hardening agent that does not allow the asbestos particles to become airborne easily. Common examples of non-friable ACMs are asphalt roofing shingles, vinyl asbestos floor tiles, and transite siding made with cement. Non-friable ACMs can pose the same hazard as friable asbestos during remodeling, repairs, or other construction activities that would damage the material. Use of friable asbestos products was banned in 1978.

In 1978, the Consumer Products Safety Commission banned paint and other surface coating materials containing lead. The existing buildings proposed for demolition on-site were constructed prior to 1980 and are likely to contain ACMs and/or lead based paints.

4.11.1.5 Off-Site Sources of Contamination

The Phase I identified one location with leaking underground storage tanks (LUSTs) near the project site. The site, located at 2795 The Alameda, is immediately south of campus on the south side of Market Street. In 1986, a 6,000 gallon UST (gasoline), a 4,000 gallon UST (gasoline), and a 400 gallon UST (waste oil) were removed from the property, which was a former gas station (it is currently a University parking lot). Samples from a soil boring and monitoring well located near the former UST pit found concentrations of TPHg, BTEX, xylene, ethylbenzene, and MTBE. The tanks were removed and the contaminated soils excavated. While residual contamination remains, it was determined that it would not pose a significant health risk and would naturally attenuate over time. In 1999, the RWQCB and SCVWD issued case closures for this site.

The remaining land uses surrounding the project site include single-family houses and apartments, the Jesuit Residence, small neighborhood-serving commercial businesses, and office buildings. It is reasonable to assume that small quantities of household and business chemicals such as cleaning agents, pesticides, herbicides, and paint may be stored on these sites. These chemicals would, however, be stored in small quantities.

4.11.2 Thresholds of Significance

For the purposes of this EIR, a hazardous materials impact is considered significant if the project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- 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;
- 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;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.11.3 Hazardous Materials Impacts

4.11.3.1 Impacts From On-Site Conditions

On-Site Contamination

Two USTs were previously located adjacent to Building 601, the contents of which leaked into the surrounding soil, resulting in localized contamination. A 1,200 gallon UST with unknown contents was removed in 2002 and soil samples were taken. Containments were identified. In 2005, the SCCDEH granted a case closure but concluded that residual contamination in soils remaining at the UST location could pose an unacceptable risk during certain site development activities, including site grading and excavation.

A 1,321 gallon UST with unknown contents was removed in 2003 and soil samples were taken. Containments were identified. No further information on this UST was available.

Impact HAZ-1: Implementation of the proposed project could expose construction workers to residual soil contamination from two recorded LUSTs located adjacent to Building 601. **(Significant Impact)**

Agricultural Land Uses

The project site was partially occupied by farmland from about 1850 to the early 1900's when redevelopment began to occur. Because of the past agricultural uses on-site, it is reasonable to assume that pesticides and other agricultural chemicals were used as part of the normal land operations. It is common to find arsenic, lead, and dichlorodiphenyltrichloroethane (DDT) residue in the soil in Santa Clara County from past farming operations. The historic agricultural operations at this location were, however, present before chemicals were commonly used and it is assumed that only small quantities of herbicides and pesticides were used on-site. In addition, because of the amount of time that has elapsed since agricultural lands were located on-site, the likelihood of fill material on-site, and the continual redevelopment of the campus, if there are still residual contaminants in the native soil they would not be in high enough concentrations to cause a significant

impact to construction workers, future maintenance workers, or anyone else exposed to the soils on-site. **(Less Than Significant Impact)**

Asbestos and Lead-Based Paint

Due to the age of the structures on the project site, ACMs may be present. The project proposes to demolish 16 existing buildings and, as a result, an asbestos survey must be conducted under National Emission Standards for Hazardous Air Pollutants (NESHAP) Guidelines. In addition, NESHAP Guidelines require that all potentially friable ACMs be removed prior to building demolition or renovation that may disturb the ACMs.

Based on the age of the buildings, lead-based paint may also be present. If lead-based paint is still bonded to building materials, its removal is not required prior to demolition. It will be necessary, however, to follow the requirements outlined by Cal-OSHA Lead in Construction Standard, Title 8, California Code of Regulation (CCR) 1532.1 during demolition activities; these requirements include employee training, employee air monitoring, and dust control. If lead based paint is peeling, flaking, or blistered, it should be removed prior to demolition. It is assumed that such paint will become separated from the building components during demolition activities and must be managed and disposed of as a separate waste stream. Any debris or soil containing lead paint or coating must be disposed of at landfills that are permitted to accept such waste.

Demolition of the existing structures on the project site could expose construction workers or residents (including occupants of student housing on campus) in the vicinity of the proposed development areas to harmful levels of ACMs or lead.

The project is required to conform to the following regulatory programs and to implement the following measures to reduce impacts due to the presence of ACMs and/or lead-based paint:

- In conformance with State and local laws, a visual inspection/pre-demolition survey, and possible sampling, shall be conducted prior to the demolition of on-site buildings to determine the presence of asbestos-containing materials and/or lead-based paint.

- Prior to demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, California Code Regulations 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings would be disposed of at landfills that meet acceptance criteria for the waste being disposed.

- All potentially friable ACMs shall be removed in accordance with NESGAP Guidelines prior to any building demolition or renovation that may disturb the materials. All demolition activities will be undertaken in accordance with Cal/OSHA standards contained in Title 8 of CCR, Section 1529, to protect workers from exposure to asbestos.

- A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above.

- Materials containing more than one percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one percent asbestos shall be completed in accordance with BAAQMD requirements.

Conformance with aforementioned regulatory requirements will result in a less than significant impact from ACMs and Lead. **(Less Than Significant Impact)**

4.11.2.2 Impacts From Off-Site Contamination

As stated above, there is one LUST site located immediately south of campus. The site is up-gradient and cross-gradient to the project site, but has been remediated and issued case closure status. Based on available records, no groundwater was impacted and the contamination remained localized within the soil which was subsequently removed. Because groundwater was not impacted, the soil contamination from the former gas station would not have extended to the boundary of the campus. Therefore, the LUST site has not impacted the project site and would pose no health risk to construction workers. **(Less Than Significant Impact)**

4.11.2.3 Other Hazards

The project site is located within two miles of Norman Y. Mineta San José International Airport. The site is within the traffic pattern zone but outside all safety zones for the airport. The project site is in a highly developed urban area and is not adjacent to any wildland areas that would be susceptible to fire.

Implementation of the proposed project would not result in any impacts from nearby airports or wildland fires. In addition, the project would not significantly impact any adopted emergency response plan or emergency evacuation plan. **(Less Than Significant Impact)**

4.11.3 Mitigation and Avoidance Measures

The following mitigation is included in the project to reduce hazardous materials impacts to a less than significant level.

MM HAZ-1.1: Pursuant to the requirements of the case closure, the County shall be notified prior to any changes in land use, grading activities, excavation, and installation of water wells in the identified contamination area adjacent to Building 601.

MM HAZ-1.2: After County notification and prior to issuance of grading permits, soil samples shall be taken to the depth of planned excavation around the area of the previous USTs adjacent to Building 601 to determine if contaminated soil is located on-site with concentrations above established construction/trench worker thresholds. The soil sampling plan must be reviewed and approved by the Santa Clara Fire Chief prior to initiation of work.

MM HAZ-1.3: Once the soil sampling analysis is complete, a report of the findings will be provided to the Santa Clara Fire Chief, Director of Planning and Inspection, and other applicable City staff for review.

MM HAZ-1.4: If contaminated soils are found in concentrations above established thresholds a Site Management Plan (SMP) will be prepared and implemented (as outlined below) and any contaminated soils found in concentrations above established thresholds shall be removed and disposed of according to California Hazardous Waste Regulations. The contaminated soil removed from the site shall be hauled off-site and disposed of at a licensed hazardous materials disposal site.

The SMP will be prepared to establish management practices for handling impacted soil material that may be encountered during site development and soil-disturbing activities. Components of the SMP will include: a detailed discussion of the site background; preparation of a Health and Safety Plan by an industrial hygienist; notification procedures if previously undiscovered significantly impacted soil or free fuel product is encountered during construction; on-site soil reuse guidelines based on the California Regional Water Quality Control Board, San Francisco Bay Region's reuse policy; sampling and laboratory analyses of excess soil requiring disposal at an appropriate off-site waste disposal facility; soil stockpiling protocols; and protocols to manage groundwater that may be encountered during trenching and/or subsurface excavation activities. Prior to issuance of grading permits, a copy of the SMP must be approved by the City's Director of Planning and Inspection, and the Santa Clara Fire Chief.

4.11.4 Conclusion

With implementation of the identified mitigation, the proposed project would have a less than significant hazards and hazardous materials impact. **(Less Than Significant Impact With Mitigation)**

4.12 UTILITIES

The following analysis is based, in part, on a Water Supply Assessment (WSA) prepared by the City in March 2016. A copy of the report is provided in Appendix H.

4.12.1 Existing Setting

4.12.1.1 Water Supply

Water is provided to the site by the City of Santa Clara Water Utility. The system consists of more than 295 miles of water mains, 27 wells, and seven storage tanks with more than 27 million gallons of water capacity. Drinking water is provided by an extensive underground aquifer (access by the City's wells) and by two wholesale water importers: the Santa Clara Valley Water District (SCVWD) (imported from the Sacramento-San Joaquin Delta) and the San Francisco Hetch-Hetchy System (imported from the Sierra Nevada). The three sources are used interchangeably or are blended together. A water recharge program administered by SCVWD from local reservoirs and imported Sacramento-San Joaquin Delta water enhances the dependability of the underground aquifer.

The combined total water use on-site is approximately 38,392 gallons per day (gpd).

4.12.1.2 Wastewater

Wastewater from the City of Santa Clara is treated at the San José/Santa Clara Water Pollution Control Plant (Facility), located in the Alviso planning area of San José. The Facility is owned jointly by the two cities and operated by the City of San José's Department of Environmental Services. The Facility provides primary, secondary, and tertiary treatment of wastewater and has the capacity to treat 167 million gallons of wastewater per day (mgd). The Facility is currently operating under a 120 mgd dry weather effluent flow constraint.

Sanitary sewer lines that serve the project site are maintained by the City of Santa Clara Sewer Utility. The existing buildings proposed to be demolished generate approximately 30,791 gpd of wastewater.

4.12.1.3 Storm Drainage

The City of Santa Clara owns and maintains the municipal storm drainage system which serves the project site. The lines that serve the project site drain into Guadalupe River. The Guadalupe River flows north, carrying the effluent from the storm drains into San Francisco Bay. There is no overland release of stormwater directly into any water body from the project site.

4.12.1.4 Solid Waste

Solid waste collection in the City of Santa Clara is provided by Mission Trail Waste System through a contract with the City. Mission Trail Waste System also has a contract to implement the Clean Green portion of the City's recycling plan by collecting yard waste. All other recycling services are provided through Stevens Creek Disposal and Recycling. The City has a contract with the owners of the Newby Island Landfill, located in San José, to provide disposal capacity for the City of Santa

Clara through 2024. There is sufficient capacity at this facility to serve existing and planned development under the General Plan through 2024 if the landfill suspends service to other generators or if the City of San José approved a request for landfill expansion.[49] Beyond 2024, the City would need to contract with another landfill operator which would be subject to environmental review.

The California Integrated Waste Management Board (CIWMB) established a diversion requirement of 50 percent beginning in 2000. Based on the CIWMB 2008 Annual Report Summary, the City of Santa Clara has exceeded its diversion goal. The City of Santa Clara has a Construction Debris Diversion Ordinance which requires all projects over 5,000 square feet to divert a minimum 50 percent of construction and demolition debris from landfills.

The existing buildings proposed to be demolished or expanded generate approximately 1,867 pounds per day (ppd) of solid waste.[50]

4.12.2 Utilities Impacts

4.12.2.1 Thresholds of Significance

For the purposes of this EIR, a utility and service impact is considered significant if the project would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- 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;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with insufficient permitted capacity; or
- Would not comply with Federal, State, and local statutes and regulations related to solid waste.

4.12.2.2 Water Impacts

Based on the WSA prepared by the City, full build out of the proposed master plan would result in a water use on-site of 53,925 gpd, a net increase 15,533 gpd. The analysis did not account for the proposed demolition of existing buildings or the use of recycled water (which is already utilized on campus) and, therefore, overstates the net increase in water usage.

The City has determined that the level of development proposed under the master plan and the projected increase in water demand is consistent with the growth projections and future water demand assumed in the preparation and analysis of the City's 2011 Urban Water Management Plan (UWMP). The City's 2011 UWMP concluded that sufficient water supplies are available to meet the

[49] City of Santa Clara General Plan.
[50] California Integrated Waste Management Board Website http://www.calrecycle.ca.gov/wastechar/wastegenrates/Institution.htm Accessed March 17, 2016

project demand. As such, there is sufficient water supply to serve the project site under normal water year (non-drought) conditions.

In addition to normal water years, the WSA and UWMP assessed the ability of Santa Clara to meet forecasted water demands (including the proposed project) during multiple dry weather (drought) years. The City concluded that with projected supply totals and implementation of conservation measures consistent with its Water Shortage Contingency Plan, the retailer would be able to meet projected demand during multiple dry water years.

Implementation of the proposed project will not have a significant impact on existing and future water supplies. **(Less Than Significant Impact)**

4.12.2.3 Sanitary Sewer/Wastewater Impacts

Sanitary Sewer Capacity

The buildings proposed to be demolished currently generate approximately 30,791 gpd of wastewater. At full build out, the new buildings and building additions would generate approximately 53,925 gpd of wastewater, a net increase of 23,134 gpd compared to current conditions. The proposed student housing and expansion of student dining and fitness services account for most of the increase.

City staff have concluded that no capacity improvements are required in the existing sanitary sewer lines to support the proposed project. **(Less Than Significant Impact)**

Wastewater Treatment Plant Capacity

The Facility has the capacity to treat 167 million gallons of wastewater a day. Currently the Facility is operating under a 120 million gpd dry weather effluent flow constraint. The proposed project would result in a net increase in wastewater generation on the project site, but would not increase the need for wastewater treatment beyond the capacity of the Facility. With implementation of the proposed project, the Facility would still operate below the required 120 mgd constraint. As a result, the Facility has the ability to treat wastewater generated by the proposed project. **(No Impact)**

4.12.2.4 Storm Drainage Impacts

Under existing conditions, approximately 2,324,268 square feet (55 percent) of the project site is covered with impervious surfaces. Full build out of the master plan would reduce the percentage of impervious surfaces on-site by approximately one percent. As a result, the amount of stormwater runoff would not increase.

Under existing conditions, the storm drainage system has sufficient capacity to convey runoff from the site. The one percent net reduction in impervious surface area on-site will ensure that runoff from the project site will be less than existing conditions and the project would not, therefore, exceed the capacity of the local drainage system. **(Less Than Significant Impact)**

4.12.2.5 Solid Waste Impacts

The proposed project would result in a net increase of approximately 262,575 square feet of new classroom space and housing for 600 students. At full build out, the increase in campus housing and classrooms would result in an approximately 2,198 ppd net increase in solid waste generation. This increase represents less than one-tenth of one percent of the maximum daily intake allowed at the landfill.

The Newby Island Landfill, located in San José, has an agreement with the City to provide disposal capacity through 2024. The City of San José approved expansion of Newby Island Landfill and could continue to provide disposal capacity to Santa Clara beyond 2024. In addition, the City is working to meet its waste diversion goal of 50 percent. Increased recycling will extend the useful life of the landfill. Implementation of the proposed project will not result in a significant increase in solid waste and recyclable materials generated within the City of Santa Clara and will not require that new landfill facilities be contracted with or constructed to serve the proposed project. **(Less Than Significant Impact)**

4.12.3 Mitigation and Avoidance Measures for Utilities Impacts

No mitigation is required or proposed.

4.12.4 Conclusion

The proposed project would have a less than significant utilities impact. **(Less Than Significant Impact)**

4.13 AESTHETICS AND VISUAL RESOURCES

4.13.1 Existing Setting

The proposed project is comprised of seven specific development sites within the main campus. A description of each of the sites and the existing uses within the surrounding area are discussed below.

Project Site 1

Project site 1 is an existing surface parking lot surrounded by extensive landscaping. Mature street trees are located along both street frontages. Smaller trees are located within the parking lot.

To the east of the parking lot is the Third Mission conservation area, which is an open space area with the outline of the Mission building demarcated with hardscape materials. South of the parking lot is a large lawn area and Palm Drive. West of the site is Sherman Street, Lucas Hall, and the Arts and Sciences Building. Lucas Hall is a three-story stucco building with a red tile roof and is visually prominent from public viewpoints off campus. Extensive landscaping separates Lucas Hall from the surrounding roadways. The Arts and Sciences Building is a two-story stucco building with a red tile roof which is only visible from within the campus. The most visually prominent aspect of the building from project site 1 is a large curved wall with colored tile in-lays.

The project site is located on the north edge of the main campus, adjacent to Franklin Street. North of Franklin Street are single-family houses and a small apartment complex.

Project Site 2

Project site 2 is comprised of six buildings on either side of the pedestrian mall (previously The Alameda) that runs north/south through campus. All the buildings are stucco with red tile roofs and range from one to three stories tall. The buildings are located in the center of campus and are not visible from off campus.

Project Site 3

Project site 3 is two separate parcels that are currently developed with the art building and a surface parking lot. The art building is a single-story building with small transom windows along the roofline. The roof is flat and the building has no architectural features other than a small pergola and decorative sign that designate the entrance to the building. The back of the building is visible from The Alameda with garbage bins and building utilities being partially obscured by slatted chain link fencing. The parking lot has landscaping along the street frontage and trees throughout the lot.

To the north is a cluster of student residence halls. The residence halls are four-story stucco buildings with red tile roofs surrounded by extensive landscaping and pedestrian paths. To the east and south is the Facilities building. The Facilities building is a single-story stucco building. Unlike most buildings on campus, this structure has a grey panel roof. The most prominent architectural feature is the entrance, which faces the project site. The entrance is a set of double glass doors surrounded by large window panes, a peaked roof with a circular window, and a pergola. West of the site is The Alameda (a two-lane roadway with a center turn lane) and a small one-story shopping center with a large surface parking lot.

Project Site 4

Project site 4 is currently developed with the Cowell Center, a one-story stucco building with a flat roof which is not visible from the ground level. The north and east facades have large floor to ceiling windows and covered walkways. The main entrance is located on the west side of the structure which has less architectural detail and smaller windows. The south side of the building has a primarily solid façade with four thin floor to ceiling windows separated by transom windows. The building is surrounded by extensive landscaping and is not visible from off campus.

To the north, the Leavy Center is a large glass building with prominent cement pillars supporting exposed steel beams. The tennis courts to the east are not easily visible from the project site as they are screened by a seven-foot metal fence covered by dense vegetation. The parking lot to the south is a small lot with no landscaping. West of the site are two L-shaped residence halls. Both buildings are three-story stucco buildings with red tile roofs. The windows on the upper two floors have prominent decorative cement accents, the pattern of which is repeated in large cement planters at the base of the buildings.

Project Site 5

Project site 5 is comprised of three one-story stucco buildings with red tile roofs. The buildings have covered walkways with exposed wood beans that extend to the edge of the roofline.

To the north of the site is the Alumni Science Building, a three-story stucco building with a red tile roof. The northeast corner of the building is defined by a second floor terrace with a large greenhouse. East of the site is a small surface parking lot, Lucas Hall, and the Arts and Sciences Building (please refer to the description under project site 1). South of the site is the two-story De Saisset Museum. The museum is a stucco building with a primarily solid façade. The main entrance is on the south side of the building and features double glass doors with sidelights, a full second floor multi-pane transom, and a red tile roof. The museum is surrounded by extensive landscaping, including several mature trees. West of Alviso Street is O'Conner Hall which is a four-story (counting the partially below-grade basement level) stucco building. The building has a shaped parapet with a central arch, and a flat roof. The façade has a decorative eave with red tile and exposed wood beams just below the roofline.

Project Site 6

Project site 6 is developed with the Benson Center, a one- to two-story, 100,716 square foot building located immediately north of Market Street. The building is oriented to the interior of the campus, with the main entrance being on the north side of the building. As a result, the service entrance for deliveries and other back-of-building facilities are located on the southern side of the building and visually prominent along Market Street. The southern façade is stucco with no windows. The western façade has prominent windows, covered walkways, and a large entrance flanked with four mature trees in concrete planters. The main entrance on the north side of the building has a large water feature and outdoor seating area. The eastern façade has minimal windows, limited to the area around the entrance which is distinguished by four two-story cement columns.

To the north of the site is Bergin Hall (please refer to the description under project site 2). East of the site is the pedestrian mall, the campus bookstore, and the multicultural center. While the bookstore and multicultural center are individual buildings, they are located along the eastern façade of the Benson Center and appear to be part of the larger building complex. West of the site is Kennedy Mall, the one-story Kennedy Commons building, and four residence halls that range from three to 11 stories. Kennedy Mall is a large landscaped courtyard surrounded by residence halls. The Kennedy Commons building is a small stucco building with a covered walkway located at the western end of the mall that was constructed within the last 10 years. The three smaller residence halls are stucco buildings with red tile roofs. The larger residence hall has a greater window to solid surface ratio than the other buildings and a flat roof with a decorative cement railing around the edge. South of the project site, on the south side of Market Street, is a University parking lot and a small, two-story apartment building.

4.13.1.1 Scenic Views and Resources

The project site and the surrounding area are relatively flat and, therefore, the campus is only visible from the immediate area. The project site is not located within a designated scenic area or corridor, according to the City of Santa Clara General Plan.

4.13.1.2 Light and Glare

Sources of light and glare are abundant in the urban environment of the project area, including but not limited to street lights, parking lot lights, security lights, vehicular headlights, internal building lights, and reflective building surfaces and windows.

4.13.2 Thresholds of Significance

For the purposes of this EIR, a visual impact is considered significant if the project would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime view in the area.

4.13.3 Visual Impacts

4.13.3.1 Visual and Aesthetics Overview

Generally, visual effects discussed in a CEQA document are of two types: impacts from the project's appearance including both what the project will look like and what views, if any, it obscures, and the degree to which a project might allow visual intrusion, such as windows overlooking someone's private open space. The following discussion focuses on the projects appearance and the loss of views. Visual intrusion is discussed in Section 4.2.3.2 below.

Aesthetic values are subjective. Opinions as to what constitutes a degradation of visual character will differ among individuals. The best available statement of what constitutes a visually acceptable standard for new structures is the Design Guidelines adopted by the City Council and implemented through the Architectural Review Committee. The individual proposed University projects will be reviewed for consistency with the Design Guidelines by the Architectural Review Committee prior to issuance of building permits.

As with all CEQA impacts, the aesthetic effects of a project must be considered in the physical context of the project site and they must be compared to the existing conditions. The project is not proposed in a pristine natural environment or a rural area; rather, it is in an established mixed-use, urban community.

The CEQA thresholds of significance, identified in Appendix G of the CEQA Guidelines, state that a project would have a significant visual impact if it would substantially affect a scenic vista, substantially damage scenic resources (including, but not limited to trees, rock outcroppings, historic buildings, or a state scenic highway), or substantially degrade the existing visual character or quality of a project site or the surrounding area as viewed from pubic right-of-ways. There are no City, County, or State designated scenic vistas, highways, or other scenic resources within the project area.

Only three of the proposed development sites are visible from off campus. Of these, two are currently surface parking lots, and the third is the Benson Center. Project site 1 is proposed to be developed with a 95,000 square foot, four-story law school building which would be visible from Franklin Street. Project site 3 proposes to 1) demolish the existing art building adjacent to Sobrato Hall and construct a four-story addition to the residence hall, and 2) remove the parking lot adjacent to Sobrato Hall and construct a new four-story residence hall. The various commercial, residential, and University buildings in the project area vary in height, massing, architecture, and setbacks. The proposed buildings on projects sites 1 and 3 would be comparable in height to the University buildings surrounding those sites. As proposed, the Benson Center would be expanded within the interior of the campus.

These three development projects will be visible from the University campus as well as from Franklin Street, Market Street, and The Alameda. In evaluating the significance of a CEQA impact, it is necessary to consider the degree to which the general public is impacted; not individuals or particular properties. As stated above, the fact that a structure is visible does not, by itself, result in a visual impact. The proposed projects will substantially alter the visual character of the project site compared to the existing conditions with the development of two parking lots and the replacement of the art building with new student residences. The proposed buildings will place new structures on existing parking lots and/or be larger in massing and scale than the existing buildings on-site, but are consistent in size and style to the nearby University buildings. The new development within the interior of campus, which is not visible from surrounding streets or properties, will also be larger in massing and scale than the buildings they will replace, but will be consistent in size and style to the nearby University buildings. The project will not obscure any scenic vistas, damage scenic resources, or degrade the visual quality of the area. **(Less Than Significant Impact)**

4.13.3.2 Visual Intrusion

Visual intrusion addresses the general concern that windows or balconies from taller buildings will provide visual access to neighboring yards and windows of private residences. The only proposed development near off-site private residences that could result in visual intrusion would be on project site 1.

In urban built-out environments properties are in close proximity to one another and complete privacy is not typical. Construction of a three to four story structure adjacent or in proximity to residential land uses could potentially create a visual intrusion issue.

Persons on the upper levels of the proposed law school building could have a line-of-sight to five single-family houses on the north side of Franklin Street, east of Sherman Street, and up to three houses on the west side of Sherman Street. One of the houses is owned by the University and has been converted to office space. The views of the remaining residences would be limited to the front yards and one unfenced side yard and there would be no direct views into the backyards. Views into windows would be restricted by existing trees and the distance between the structures. Final site design may further limit direct views depending on building orientation and widow placement. As a result, the proposed project would have a less than significant visual intrusion impact. **(Less Than Significant Impact)**

4.13.3.3 Light and Glare

The project would include outdoor security lighting on the site along walkways and around the buildings comparable to existing lighting on-site. The outside lighting would comply with the City's lighting requirements. Per the City's Community Design Guidelines, lighting on the project site will be directed away or shielded from nearby properties and streets. Up-lighting will be minimized to avoid contributing to the overall illumination of the nighttime sky.

All the development projects under the proposed Master Plan would undergo architectural and site design review by Planning staff and the City's Architectural Review Committee prior to issuance of building permits to ensure that the projects would not create a substantial new source of glare from reflective building materials for adjacent land uses or persons traveling on the local roadways. Therefore, the proposed project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the project area. **(Less Than Significant Impact)**

4.13.4 Mitigation and Avoidance Measures for Visual Impacts

No mitigation is required or proposed.

4.13.5 Conclusion

The project would have a less than significant impact on the visual character of the project area. The project would not create significant additional sources of light or glare and it would not impact any scenic resources. **(Less Than Significant Impact)**

Unlike utility services, public facility services are provided to the community as a whole, usually from a central location or from a defined set of nodes. The resource base for delivery of the services, including the physical service delivery mechanisms, is financed on a community-wide basis, usually from a unified or integrated financial system. The service delivery agency can be a city, county, service or other special district. Typically, new development will create an incremental increase in the demand for these services; the amount of demand will vary widely, depending on both the nature of the development (residential vs. institutional, for instance) and the type of services, as well as on the specific characteristics of the development (such as high school vs. university).

The impact of a particular project on public facilities services is generally a fiscal impact. By increasing the demand for a type of service, a project could cause an eventual increase in the cost of providing the service (e.g., more personnel hours to patrol an area, additional fire equipment needed to service a tall building, etc.). That is a fiscal impact, however, not an environmental one.

CEQA does not require an analysis of fiscal impacts. CEQA analysis is required if the increased demand triggers the need for a new facility (such as a police or fire station), since the new facility would have a physical impact on the environment.

For the purposes of this EIR, a public facilities and services impact is considered significant if the project would result in substantial adverse physical impacts associated with the provision or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities.

5.1 Public Safety

Police Protection Services

Police protection services are provided in the project area by the City of Santa Clara Police Department (SCPD). The SCPD is divided into three divisions: Field Operations, Investigations, and Administrative Services and has approximately 145 sworn officers, 23 reserve officers, and 41 support personnel.[51] Police headquarters is located at 601 El Camino Real, approximately one block northeast of the project site's main campus entrance (the Palm Drive/El Camino Real intersection).

In 2014, the most frequent crimes in the City were property crimes including burglary, assault, auto theft, and other larceny.[52] The average police response time in emergency events was four minutes and 37 seconds.[53]

[51] City of Santa Clara Website: http://scpd.org/index.aspx?page=1521 Accessed April 16, 2015.
[52] Santa Clara Police Department. About Us Factsheet: Crime for 2014. Table. March 19, 2015. http://scpd.org/index.aspx?page=1521 Accessed June 8, 2015.
[53] Santa Clara Police Department. About Us Factsheet. Table. March 19, 2015. http://scpd.org/index.aspx?page=1521 Accessed June 8, 2015.

Fire Protection Services

Fire protection services are provided in the project area by the City of Santa Clara Fire Department (SCFD). The SCFD is comprised of approximately 179 fire service personnel and more than 65 reserve employees/volunteers. The department receives an average of 7,000 emergency calls per year, including hazardous materials, emergency medical, specialized rescue, and fires. The goal of the SCFD is to maintain a force sufficiently staffed and deployed to sustain a three-minute response time to initial calls 90-95 percent of the time.[54]

The SCFD has a total of 10 fire stations. Their apparatus includes eight fire engines, three ambulances, two fire trucks, one rescue unit, one hazardous materials unit, and one command vehicle. Fire Station No. 1 located 777 Benton Street is immediately north of Santa Clara University on the northeast corner of Alviso Street and Benton Street and would be the first to respond to the project site.

The City of Santa Clara participates in a mutual aid program with neighboring cities, including Mountain View, Sunnyvale, and San José. Through this program, should Santa Clara need additional assistance, one or more of the mutual aid cities would provide assistance in whatever capacity was needed.

The existing conditions on-site create a demand for fire and police services because the site is occupied with the existing University campus. Redevelopment of the project site would increase the student enrollment and the number of students living on campus. This would incrementally increase the resident population of the City which could result in an increase in demand for fire and police protection services. The increase in students would result in an increase of faculty/staff on the campus, but would not directly result in new housing or an increase in the resident population of the City.

The proposed developments will be required to be built to applicable Fire Code standards in use when construction permits are issued, including sprinklers and smoke detectors, and will include features that would reduce potential fire hazards. Access to the campus for emergency vehicles will be provided from existing designated emergency vehicle routes and parking areas. Development of the project may require additional emergency vehicle routes and designated emergency vehicle parking, which will be built in accordance with SCFD standards. The SCFD will review the final project design to ensure that it incorporates appropriate safety features to minimize criminal activity.

Although the proposed project would increase the student housing on the campus, which would likely incrementally increase demand for fire and police response and related emergency services, it will not require the development of new public safety facilities to meet service goals and, therefore, will not result in a significant physical impact on the environment. **(Less Than Significant Impact)**

5.2 School Facilities

The proposed project is the expansion of Santa Clara University, including an increase in student enrollment. The redevelopment would not generate any new permanent residences and, therefore,

[54].City of Santa Clara Fire Department Administration. Factsheet.2009. http://fire.santaclaraca.gov/fire_div.html

would have no effect on the student capacity of the existing or planned K-12 schools within the City of Santa Clara. **(No Impact)**

5.3 Parks

The City of Santa Clara provides parklands, open space, and community facilities for public recreation and community services. The City's Parks and Recreation Department maintains a 52-acre community park (Central Park), 24 neighborhood parks, four mini parks, and a wildlife and natural vegetation park. Mini parks are typically less than one acre in size and neighborhood parks range from one to fifteen acres in size. The nearest off-campus park to the project site is Washington Baseball Field Park, a 3.5-acre park located approximately 0.26 miles southwest of the project site. The baseball field park is owned by the Santa Clara Unified School District and maintained by the City.

The current Santa Clara University campus includes three sport fields, two stadiums, a park, and two gardens. With the multiple recreational facilities and open spaces on campus, it is unlikely that staff and students would substantially increase demands on other parks or recreational facilities in the City. Therefore, implementation of the proposed project would have a less than significant impact on public parks and recreational facilities. **(Less Than Significant Impact)**

5.4 Libraries

Santa Clara University has a main university library that includes multiple resources for students including a digital library catalog, databases, journals and magazines, an Archives and Special Collections, access to government documents, and a library support service.

The Archives & Special Collections contains rare books from pre-1800 theology, California history, and Jesuit history; manuscripts including records from the Franciscan missionaries from 1777 through 1851; a photography collection of the university's history; and photographs and documents of the City's history.

The addition of new students on-campus would increase the demand for library services. It is not anticipated that the proposed five-year Master Plan would require the construction of new libraries to meet City service goals because, even with the increase in student enrollment, students of the University would primarily use the on-campus libraries. Therefore, implementation of the proposed project would have a less than significant impact on public libraries. **(Less Than Significant Impact)**

5.5 Conclusion

The project will not result in significant impacts to public services in the City of Santa Clara or require the construction of new facilities to serve the resident population of the City. **(Less Than Significant Impact)**

SECTION 6.0 CUMULATIVE IMPACTS

Cumulative impacts, as defined by CEQA, refer to two or more individual effects, which when combined, are considerable or which compound or increase other environmental impacts. Cumulative impacts may result from individually minor, but collectively significant projects taking place over a period of time. The CEQA Guidelines (§15130) state that an EIR shall discuss cumulative impacts "when the project's incremental effect is cumulatively considerable." The discussion does not need to be in as great detail as is necessary for project impacts, but is to be "guided by the standards of practicality and reasonableness." The purpose of the cumulative analysis is to allow decision makers to better understand the potential impacts which might result from approval of past, present and reasonably foreseeable future projects, in conjunction with the proposed project.

6.1 Cumulative Impacts

6.1.1 Thresholds of Significance

The discussion below addresses the following aspects of cumulative impacts:

- Would the effects of the proposed project, when combined with the effects of all past, present, and pending development result in a cumulatively significant impact on the resources in question?
- If a cumulative impact is likely to be significant, would the contribution of the proposed project to that impact be cumulatively considerable?

Based on the analysis in this EIR, the proposed project would result in less than significant impacts to aesthetics, agricultural/forestry resources, energy, GHG, land use, mineral resources, population and housing, public services, recreation, and transportation. The degree to which the proposed project would add to existing or probable future impacts on existing land uses and/or resources would be negligible (i.e., minimal). The project's contribution to a cumulatively significant impact in any of these resource areas would, therefore, also be negligible.

The proposed project would result in significant air quality, biological resources, cultural resources, geology, hazardous materials, hydrology, and noise impacts. The air quality, hydrology and noise impacts as well as biological impacts related to migratory birds would result from construction of the proposed project. These impacts are temporary and would be reduced to a less than significant level with implementation of the proposed mitigation measures. Because of the temporary nature of these impacts and the fact that the impacts would be mitigated, there would be no long term cumulative effect. As a result, the projects contribution to a cumulatively significant impact in any of these resource areas would not be considerable.

The loss of up to 299 trees on-site would be mitigated by the replanting of at least 598 trees on-site or near-by, consistent with City policy requirements. While the newly planted trees will take some time to mature and provide viable habitat, the loss of 299 trees over a five year period will not be substantive enough to impact bird populations that may utilize the site. The project's contribution to a cumulatively significant loss of trees would, therefore, be less than significant.

The geology impacts would result from construction (erosion and groundwater disturbance) and long-term with building occupancy because the project site is located in a seismically active region with shallow groundwater. As with the other construction related impacts of the project, the erosion and groundwater disturbance impacts would be temporary and would be reduced to a less than significant level with implementation of the proposed mitigation measures. Because of the temporary nature of these impacts and the fact that the impacts would be mitigated, there would be no long term cumulative effect. With regard to building occupancy, the entire Bay Area is in a seismically active region, the impacts of which are addressed through the building code. The project would not contribute to a cumulative geologic impact.

The hazardous materials impacts would result from the exposure of contaminated soils during construction. The impacts are localized and will be mitigated to a less than significant level by the identified measures. Because of the temporary nature of these impacts and the fact that the impacts will be mitigated, there would be no long term cumulative effect.

The proposed project would result in an increase in water usage and wastewater generation. Based on the WSA, which took into account all pending development in the City, the City would have sufficient water resources to support all planned and pending development. In addition, the sanitary sewer study concluded that the existing infrastructure is sufficient to support proposed and planned growth in the City. As a result, the increases in potable water use and wastewater generation would not result in significant utilities impacts and are not considered cumulatively considerable.

As discussed in Section 4.13.2.5, the new development on-site would generate approximately 2,198 pounds of solid waste per day. The City has several large projects currently under review that are outside the scope of the General Plan. Approval of these projects would result in a cumulative solid waste impact due to the uncertainty of future disposal capacity at existing landfills and the probability of new landfills. The additional 2,198 pounds per day of solid waste that would be generated by the project represents less than one percent of the total cumulative increase in solid waste generation. Therefore, while the project will add to the citywide cumulative solid waste impact, the project's contribution is not cumulatively considerable. **(Less Than Significant Cumulative Impact)**

6.1.1.1 Cumulative Cultural Resources Impacts

The cultural resources impacts would result from ground disturbing activities associated with construction of the proposed project as well as the demolition of historic structures.

Subsurface Resources

The probability of cultural resources being found on each of the development sites is high due to the fact that the sites have known prehistoric and historic occupation and are located within proximity to the third, fourth and fifth Mission sites. The Cultural Resources Treatment Plan prepared for the Master Plan will be implemented prior to construction on any of the project sites to ensure that subsurface cultural resources will be identified and curated. Implementation of the Treatment Plans will allow for the preservation and study of these resources.

Project site 1 is known to contain architectural features associated with the Third Mission Quadrangle. The third Mission is a National Register resource that has provided substantial

information about California and Santa Clara history. While there were 21 Missions constructed in present day California, each one was somewhat unique to its geographic area and the population that inhabited it. Artifacts from the Third Mission Quadrangle, particularly architectural features, are a finite resource and any destruction of these resources would be considered cumulatively considerable. Furthermore, while data recovery is an accepted practice to preserve subsurface resources, data recovery of building foundations and other architectural features associated with the Third Mission Quadrangle would be insufficient to reduce impacts to these resources as they will be out of context and removed from recorded features that have been preserved in place. As a result, the project would result in a cumulatively considerable impact on Mission Period architectural artifacts. **(Significant Cumulative Impact)**

Data recovery will be sufficient to reduce impacts to Mission Period refuse features and American Period architectural and refuse features to a less than significant level. As these artifacts are more abundant, data recovery would not result in a cumulatively considerable impact. **(Less Than Significant Cumulative Impact)**

Historic Structures

The project would result in the loss of one historic structure. While Bergin Hall does represent the distinctive architectural style of the University it was not part of the original campus quadrangle, but a later addition to accommodate growth of the school. The University campus is not a static development, but has constantly changed and grown over more than 100 years. Throughout the history of the campus buildings have been renovated or removed and replaced as the needs of the University change. In light of the ever changing nature of the University campus, the loss of one historic structure not associated with the original quadrangle will not be cumulatively considerable. **(Less Than Significant Cumulative Impact)**

The demolition of Bergin Hall would not constitute a cumulatively considerable impact to the existing stock of local historic buildings. **(Less Than Significant Cumulative Impact)**

6.1.1.2 Cumulative Transportation Impacts

Traffic volumes under cumulative conditions were estimated by adding the trips from proposed but not yet approved (pending) development projects within the City of Santa Clara to background condition traffic volumes. Cumulative plus project conditions are the cumulative no project condition plus project generated traffic.

As with existing plus project and background plus project, the proposed project would have a significant cumulative impact if it would:

- cause the level of service at any local intersection to degrade from an acceptable LOS D or better under background conditions to an unacceptable LOS E or F under cumulative conditions; or
- cause the level of service at any CMP/County intersection or freeway segment to degrade from an acceptable LOS E or better under background conditions to an unacceptable LOS F under cumulative conditions; or

- at any local intersection that is already an unacceptable LOS E or F under background conditions, cause the critical-movement delay at the intersection to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more.

Cumulative Intersection Level of Service Impacts

Under the cumulative condition, four of the signalized intersections (listed below) would operate at an unacceptable LOS in one or both Peak Hours. All other study intersections would operate at an acceptable LOS.

- No. 1 – San Tomas Expressway and El Camino Real – AM and PM Peak Hour
- No. 2 – San Tomas Expressway and Benton Street – AM and PM Peak Hour
- No. 3 – San Tomas Expressway and Homestead Road – AM and PM Peak Hour
- No. 15 – Lafayette Street and Lewis Street – PM Peak Hour

The results of the cumulative plus project conditions analysis are summarized in Table 6.1-1 below.

TABLE 6.1-1
Study Intersections Level of Service – Cumulative Conditions

No.	Intersection	Peak Hour	Cumulative		Cumulative Plus Project			
			Delay	LOS	Delay	LOS	Increase Critical Delay	Increase V/C
1	San Tomas Expressway and El Camino Real (SC, CMP)	AM	**199.6**	**F**	**199.6**	**F**	**0.1**	**0.002**
		PM	**154.9**	**F**	**155.0**	**F**	**-0.1**	**0.001**
2	San Tomas Expressway and Benton Street (SC)	AM	**188.2**	**F**	**18.0**	**F**	**-0.1**	**0.001**
		PM	**146.5**	**F**	**146.4**	**F**	**-0.1**	**0.001**
3	San Tomas Expressway and Homestead Road (SC, CMP)	AM	**144.9**	**F**	**145.2**	**F**	**0.5**	**0.002**
		PM	**135.3**	**F**	**135.5**	**F**	**0.4**	**0.001**
4	Scott Boulevard and El Camino Real (SC, CMP)	AM	34.2	C	34.2	C	0.0	0.001
		PM	39.1	D	39.2	D	0.0	0.001
5	Scott Boulevard and Benton Street (SC)	AM	21.2	C	21.5	C	0.4	0.009
		PM	22.4	C	22.9	C	1.0	0.009
6	Scott Boulevard and Homestead Road (SC)	AM	23.1	C	23.2	C	0.1	0.001
		PM	26.9	C	27.0	C	0.1	0.002
7	Saratoga Avenue and Scott Boulevard (SC)	AM	28.4	C	28.4	C	0.0	0.000
		PM	24.3	C	24.3	C	0.0	0.001
8	Monroe Street and El Camino Real (SC, CMP)	AM	35.5	D	35.6	D	0.1	0.002
		PM	33.4	C	33.4	C	0.0	0.001
9	Monroe Street and Benton Street (SC)	AM	11.5	B	11.8	B	0.4	0.015
		PM	13.5	B	13.7	B	0.2	0.004
10	Monroe Street and Homestead Road (SC)	AM	10.9	B	11.1	B	0.2	0.007
		PM	11.2	B	11.2	B	0.1	0.005
11	Monroe Street and Market Street (SC)	AM	12.7	B	12.7	B	0.0	0.003
		PM	8.4	A	8.5	A	0.1	0.002

TABLE 6.1-1
Study Intersections Level of Service – Cumulative Conditions

No.	Intersection	Peak Hour	Cumulative		Cumulative Plus Project			
			Delay	LOS	Delay	LOS	Increase Critical Delay	Increase V/C
12	Monroe Street and Bellomy Street (SC)	AM	23.4	C	23.5	C	0.1	0.004
		PM	15.9	B	15.9	B	0.1	0.003
13	Monroe Street and Newhall Street (SC)	AM	27.2	C	27.2	C	0.1	0.002
		PM	29.2	C	29.2	C	0.0	0.001
14	Lafayette Street and El Camino Real (SC, CMP)	AM	47.9	D	47.9	D	0.1	0.001
		PM	50.5	D	51.0	D	0.9	0.005
15	Lafayette Street and Lewis Street (SC)	AM	9.9	A	10.0	B	0.0	0.001
		PM	**78.7**	**E**	**79.4**	**E**	**1.1**	**0.003**
16	Lafayette Street and Benton Street (SC)	AM	18.5	B	19.5	B	1.1	0.017
		PM	20.8	C	21.5	C	0.5	0.007
17	Lafayette Street and Homestead Road (SC)	AM	38.1	D	39.3	D	1.8	0.006
		PM	9.2	A	9.2	A	0.0	0.002
18	Lafayette Street and Market Street (SC)	AM	18.5	B	18.6	B	0.1	0.004
		PM	31.3	C	31.4	C	0.1	0.002
19	Lafayette Street and Bellomy Street (SC)	AM	4.0	A	4.0	A	0.0	0.001
		PM	4.5	A	4.5	A	0.0	0.001
20	Washington Street and Poplar Street (SC)	AM	13.2	B	13.2	B	0.0	0.001
		PM	9.6	A	9.6	A	0.0	0.001
21	Washington Street and Newhall Street (SC)	AM	21.3	C	21.3	C	0.1	0.002
		PM	46.2	D	46.3	D	0.0	0.001
22	El Camino Real and Benton Street (SC)	AM	13.4	B	13.5	B	0.1	0.004
		PM	16.6	B	16.7	B	0.1	0.005
23	El Camino Real and Palm Drive/Railroad Avenue (SC)	AM	10.8	B	11.0	B	0.0	0.000
		PM	12.3	B	12.7	B	0.6	0.024
24	El Camino Real and The Alameda (SC, CMP)	AM	13.5	B	13.6	B	0.2	0.010
		PM	17.2	B	17.3	B	0.2	0.009
25	The Alameda and Newhall Street (SJ)	AM	12.3	B	12.4	B	0.2	0.010
		PM	13.0	B	13.1	B	0.2	0.009
26	The Alameda and I-880 North (SJ, CMP)	AM	17.8	B	18.3	B	0.7	0.013
		PM	13.6	B	13.8	B	0.3	0.011
27	The Alameda and I-880 South (SJ, CMP)	AM	22.9	C	22.9	C	0.0	0.003
		PM	20.4	C	20.4	C	0.0	0.003

Notes: (CMP) VTA Congestion Management Program, (SC) City of Santa Clara, (SJ) City of San José
Bold represents intersection operating under unacceptable conditions.

The proposed project would not cause the LOS of any intersection to degrade to an unacceptable level or, for any intersection that is already an unacceptable LOS E or F under cumulative conditions, cause the critical-movement delay to increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more. As a result, the proposed project would have a less than significant cumulative traffic impact. **(Less Than Significant Cumulative Impact)**

6.1.2 Conclusion

Implementation of the proposed project result in a cumulatively considerable impact to Mission Period architectural artifacts. **(Significant and Unavoidable Cumulative Impact)**

Implementation of the proposed project would not result in cumulatively considerable impacts to non-Mission Period subsurface resources or historic structures. **(Less Than Significant Cumulative Impact)**

The proposed project would have a less than significant cumulative transportation impacts. **(Less Than Significant Cumulative Impact)**

All other cumulative effects would be less than significant. **(Less Than Significant Cumulative Impact)**

SECTION 7.0 PROJECT ALTERNATIVES

Section 15126.6 of the CEQA Guidelines requires that an EIR describe a reasonable range of alternatives to the proposed project that could feasibly attain most of the project objectives while avoiding or considerably reducing any of the significant impacts of the proposed project. In addition, the No Project Alternative must be analyzed in the document.

In order to comply with the purposes of CEQA, it is necessary to identify alternatives that reduce the significant impacts that are anticipated to occur if the project is implemented while trying to meet most of the basic objectives of the project. The Guidelines emphasize a common sense approach. The alternatives shall be reasonable, shall "foster informed decision making and public participation," and shall focus on alternatives that avoid or substantially lessen the significant impacts, even impacts that will be reduced to less than significant by mitigation proposed by the project.

The stated objectives of the project proponent are to:

1. Launch transformative projects that support the University's strategic plan for continued excellence in Jesuit education, engagement with Silicon Valley, global understanding and engagement, and continued support of justice and sustainability.

2. Respond to the emerging challenges in higher education to ensure long-term capacity for growth and/or renewal, provide more students with a college education in which they are likely to graduate in four years, be gainfully employed, and not be burdened with an unreasonable amount of student debt, and achieve greater economies of scale, thereby reducing the average instructional cost per student.

3. Reinforce emerging campus districts.

4. Protect special qualities of campus spaces and buildings.

5. Complement the City of Santa Clara revitalization places and be a good neighbor.

The stated objectives of the City of Santa Clara are to:

- Work with Santa Clara University to improve compatibility between University-owned properties and nearby historic resources with development that is compatible in scale, materials, design, height, mass and context with the surrounding neighborhood.
- Encourage adaptive reuse of historic structures to promote preservation.
- Allow expansion of Santa Clara University to meet the needs of the academic community and provide quality education.
- Avoid or reduce impacts to archeological and cultural resources.
- Protect historic resources from demolition.

An EIR is required to include a "No Project" alternative that "compares the impacts of approving the proposed project with the impacts of not approving the proposed project."

The significant impacts identified in this EIR as resulting from the proposed project include a significant unavoidable impact due to the loss of one historic structure and the possible damage or destruction of subsurface Mission Period artifacts. The logical way to reduce this impact would be to propose the law school building at another location and to retain the historic building on-site. Therefore, a site design alternative is discussed below.

There is no rule requiring an EIR to explore off-site project alternatives in every case. As stated in the Guidelines: "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." (Guidelines, § 15126.6, subd. (a), italics added.) As this implies, "an agency may evaluate on-site alternatives, off-site alternatives, or both." (*Mira Mar, supra*, 119 Cal.App.4th at p. 491.) The Guidelines thus do not require analysis of off-site alternatives in every case. Nor does any statutory provision in CEQA "expressly require a discussion of alternative project locations." (119 Cal.App.4th at p. 491 citing §§ 21001, subd. (g), 21002.1, subd. (a), 21061.)

In considering an alternative location in an EIR, the CEQA Guidelines advise that the key question is "whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location".[55] The proposed project is the construction of facilities to serve the Santa Clara University campus. Any location identified for the proposed project would have to be on or immediately adjacent to the campus. Given the physical constraints to expansion of the campus (including El Camino Real, the shopping/retail center near the southern end of campus, and the commercial development west of campus), the most likely alternative sites would be the residential sites immediately surrounding the campus. Due to the University's location in one of the City's oldest neighborhoods, it is unlikely that the proposed law school could be located anywhere around the campus without having a significant impact on some historic structures. For these reasons, an alternative off-site location was not analyzed.

A. NO PROJECT ALTERNATIVE

The CEQA Guidelines [§15126(d)4] require that an EIR specifically discuss a "No Project" alternative, which shall address both "the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project is not approved, based on current plans and consistent with available infrastructure and community services." The most likely No Project alternative would be for project site 1 to remain developed as is and for Bergin Hall to be retained, which would have no impacts.

Conclusion: Implementation of the no-build "No Project" alternative would avoid the significant unavoidable cultural resources impacts identified in this EIR. This alternative does not meet all of the objectives of the proposed project, but would meet the City's objectives of avoiding or reducing impacts to archaeological and cultural resources and protecting historic resources from demolition. It would not meet the City's objective of allowing expansion of the University to meet the needs of the academic community and provide quality education.

[55] CEQA Guidelines Section 15126.6(f)(2)(A)

B. SITE DESIGN ALTERNATIVE

In an effort to avoid the significant impacts to subsurface Mission Period artifacts on project site 1 that would result from implementation of the Master Plan but still allow the University to construct a new law school building, this alternative evaluates a revised site design. Under the Site Design alternative, the project would still propose a new law school building and would retain Bergin Hall to avoid the significant historic building impact. This alternative would replicate all known aspects of the proposed law school building pertaining to size and massing.

Under current campus conditions, there is no undeveloped location of equal size to project site 1 on which to construct the law school building. An existing building would need to be demolished. Alternatively, the building could be constructed on the west side of O'Connor Hall, which would require a smaller building footprint and equate to a taller building. A third option would be to construct the law school on project site 5, where the Daly Science Center is proposed to be demolished but no development is proposed.

Demolition of another building on-site does not appear feasible as all currently proposed demolition, other than the Daly Science Center, is specifically intended to allow for replacement buildings for the existing University operations. Demolition of another building would require identification of replacement space for the existing operations in an existing structure or construction of an additional building. In addition, if another building was proposed for demolition, it would have to be a non-historic structure.

Construction of the law school building adjacent to O'Connor Hall (near the intersection of Franklin Street and Alviso Street) appears to be feasible as the area is currently utilized as open space. As previously noted, the building footprint would need to be reduced to account for the smaller land area. It is anticipated that this would add one floor, making the building five stories. While a five-story building would be taller than all other buildings at the north end of campus, it would still be within the general height range of the adjacent O'Connor Hall. In addition, there are no sensitive receptors nearby that would be impacted by a taller building. The University occupies the properties on the north side of Franklin Street, west of Sherman Street, and there is a commercial development west of Lafayette Street.

The extent of subsurface artifacts at the O'Connor location is not currently known. Based on available data, it is reasonable to assume that the site would have Mission Period and American Period artifacts. The Mission Period artifacts at this location would, however, likely be less significant than what is on project site 1 due to the site being further removed from the Third Mission Quadrangle. Specifically, the site could have Mission era refuse features and American period artifacts, but is too far removed from the quadrangle to have Mission period architectural features. As discussed in Section 4.2, *Cultural Resources,* refuse features are more abundant then architectural features and can be mitigated to a less than significant level through data recovery. For this reason, impacts to subsurface resources at this location could be mitigated to a less than significant level through data recovery (per the proposed treatment plan), consistent with other project locations on campus.

The third option would be to construct the new law school on project site 5, the current location of the Daly Science Center. This project site has no development proposal. The buildings are proposed

to be demolished as they will no longer be required after the new STEM facility is constructed on project site 2. This site is comparable in size to project site 1 and, as a result, the building could remain at four stories. Similar to the O'Connor location, it is reasonable to assume that the site would have Mission Period and American Period artifacts, though likely to a lesser extent because the Daly Science buildings have basement levels. The Mission Period artifacts at this location would, however, likely be less significant than what is on project site 1 due to the site being further removed from the Third Mission Quadrangle, as noted above. For this reason, the impacts to subsurface resources at this location could be mitigated to a less than significant level through data recovery (per the proposed treatment plan), consistent with other project locations on campus. Placing the law school on project site 5 would also put the building adjacent to Lucas Hall, which is more in line with the project objective of reinforcing emerging campus districts. The building would be taller than the existing buildings on project site 5, and would be prominently visible from the De Saisset Museum. Placing a larger structure next to the De Saisset Museum would not, however, diminish the historic significance of the structure, which is based solely on its architectural style and not its relationship to other buildings or land forms on campus.

Both the O'Connor and Daly Science Center Site Design alternatives would meet all of the objectives of the proposed project and the City.

Conclusion: Implementation of Alternative B would reduce the significant unavoidable and cumulatively considerable Cultural Resources impacts identified in this EIR. This alternative meets all of the project objectives and City objectives and is environmentally superior to the proposed project.

C. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines state that an EIR shall identify an environmentally superior alternative. Based on the above discussion, the environmentally superior alternative is the Site Design Alternative because most of the project's significant cultural resources impacts would be avoided and no new impacts would result. The Site Design Alternative would achieve all of the objectives of the proposed project.

SECTION 8.0 SIGNIFICANT UNAVOIDABLE IMPACTS

A significant unavoidable impact is an impact that cannot be mitigated to a less than significant level if the project is implemented as it is proposed. The following significant unavoidable impacts have been identified to result from the proposed project:

1. Demolition of Bergin Hall, which has been determined to be eligible for the California Register of Historic Resources, would be a significant unavoidable impact.

2. Destruction or removal of subsurface architectural features from the Mission Period (associated with the third Mission) on project site 1 would be a significant unavoidable impact.

All other significant impacts of the proposed project would be reduced to a less than significant level with the implementation of mitigation measures identified in this EIR

SECTION 9.0 IRREVERSIBLE ENVIRONMENTAL CHANGES AND IRRETRIEVABLE COMMITMENT OF RESOURCES

CEQA and the CEQA Guidelines require that an EIR address "significant irreversible environmental changes which would be involved in the proposed project, should it be implemented." [§15126(c)]

If the proposed project is implemented, development of the buildings would involve the use of non-renewable resources both during the construction phase and future operations/use of the site. Construction would include the use of building materials, including materials such as petroleum-based products and metals that cannot reasonably be re-created. Construction also involves significant consumption of energy, usually petroleum-based fuels that deplete supplies of non-renewable resources. Once the new development is complete, occupants will use non-renewable fuels to heat and light the buildings. The proposed project will also consume water.

The City of Santa Clara encourages the use of buildings materials that include recycled materials and makes information available on those building materials to developers. New buildings will be built to current codes, which require insulation and design to minimize wasteful energy consumption. Future buildings will be designed to include some Green Building design features and would, as a result, use slightly less energy for heat and light and less water than a standard design educational building and the older buildings being replaced. In addition, the site is an infill location and is currently served by public transportation. The proposed project will, therefore, facilitate a more efficient use of resources over the lifetime of the project.

SECTION 10.0 GROWTH INDUCING IMPACTS OF THE PROJECT

For the purposes of this project, a growth inducing impact is considered significant if the project would:

- cumulatively exceed official regional or local population projections;
- directly induce substantial growth or concentration of population. The determination of significance shall consider the following factors: the degree to which the project would cause growth (i.e., new housing or employment generators) or accelerate development in an undeveloped area that exceeds planned levels in local land use plans; or
- indirectly induce substantial growth or concentration of population (i.e., introduction of an unplanned infrastructure project or expansion of a critical public facility (road or sewer line) necessitated by new development, either of which could result in the potential for new development not accounted for in local general plans).

The project is proposed within the existing University campus in the City of Santa Clara. The site is surrounded by existing infrastructure and both existing and planned development. Development of the project will not require upgrades to the existing water, sanitary sewer, and/or storm drain lines that directly serve the project site. In addition, the project does not include expansion of the existing infrastructure that would facilitate growth in the project area or other areas of the City.

Development of the project would replace and/or expand existing buildings within the main campus of the University. The proposed project would be compatible with the surrounding land uses and would not pressure adjacent industrial, office, and commercial properties to redevelop with new or different land uses.

The project would not have a significant growth inducing impact.

SECTION 11.0 LEAD AGENCY AND CONSULTANTS

Lead Agency

City of Santa Clara
Sharon Goei, Acting Director of Planning and Inspection
Lee Butler, City Planner
Debby Fernandez, Associate Planner

Consultants

David J. Powers & Associates
San José, CA
Judy Shanley, Principal
Shannon George, Senior Project Manager
Zach Dill, Graphic Artist

Sub-Consultants

Albion Environmental, Inc.
Santa Cruz, CA
Archaeologists

Carey & Company
San Francisco, CA
Architectural Historians

Hort Science
San José, CA
Arborists

Illingworth & Rodkin
Petaluma, CA
Noise and Air Quality

SECTION 12.0 REFERENCES AND PERSONS CONSULTED

References

AEI Consultants. *Phase I Environmental Site Assessment, Santa Clara University.* May 2015.

Albion Environmental, Inc. *Cultural Resources Treatment Plan for the Santa Clara University 2020 Master Plan.* September 2015.

Association of Bay Area Governments. Website. http://www.abag.ca.gov/

Bay Area Air Quality Management District. California Environmental Quality Act, Air Quality Guidelines. 2011.

Bay Area Air Quality Management District. California Environmental Quality Act, Air Quality Guidelines. 2012.

Bay Area Air Quality Management District. Website. http://www.baaqmd.gov/

California Energy Commission, 2009 California Climate Adaptation Strategy Discussion Draft. Frequently Asked Questions. August 3, 2009.

California Energy Commission. 2009 Integrated Energy Policy Report, December 2009.

California Energy Commission. 2007 Integrated Energy Policy Report, December 2007.

California Energy Commission. Energy Almanac, Total Electricity System Power. http://www.energyalmanac.ca.gov/electricity/total_system_power.html

California State Water Resources Control Board. Website. http://www.waterboards.ca.gov

Carey & Company, Inc. *Historic Resources Technical Report for Santa Clara University.* October 2015.

City of Santa Clara. *Santa Clara City Code.* Website. http://www.codepublishing.com/ca/santaclara/

City of Santa Clara, 2010. *Santa Clara 2010-2035 General Plan.* 2010

City of Santa Clara. 2010. *City of Santa Clara 2010-2035 General Plan Integrated Final Environmental Impact Report.* January 2011.

City of Santa Clara. *Santa Clara University Ten Year Capital Plan Final Environmental Impact Report.* Month, 2003.

City of Santa Clara. 2013. *Santa Clara Climate Action Plan.* December 2013.

Hexagon Transportation Consultants. *Traffic Survey for Santa Clara University.* October 2014.

Hort Science. *Santa Clara University Master Plan Project Areas Tree Assessment.* July 2015.
Illingworth & Rodkin. *Santa Clara University Five Year Development Plan Air Quality Assessment.* July 2015.

Illingworth & Rodkin. *Santa Clara University Expansion Plan Construction Noise and Vibration Assessment.* July 2015.

Intergovernmental Panel on Climate Change. Summary for Policymakers, Climate Change 2007: The Physical Science Bases. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. http://ipcc.ch/

United Stated Department of Agriculture. *Custom Soils Report for Santa Clara University Main Campus.* June 2015.

United States Energy Information Administration. California State Energy Profile. http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=CA#Datum

United States Energy Information Administration. State Energy Data System. http:www.eia.goc/state/seds/hf.jsp?incfile=sep_sum/plain_html/rank_use.html. September 2011.

United States Environmental Protection Agency. Light-Duty Automotive Technology, Carbon Dioxide Emissions and Fuel Economy Trends: 1975 through 2010. November 2010.

United States Environmental Protection Agency. Website. http://water.epa.gov/

United States Geological Survey. Website. http://earthquake.usgs.gov/regional/nca/liquefaction/

Persons Consulted

No persons outside of City staff and referenced technical consultants were consulted in preparation of this report.