

Draft Environmental Impact Report

Downtown Specific Plan Amendments and Specific Development Project

SCH# 2018052020

Prepared by the City of



Sunnyvale

In Consultation with



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SUMMARY

The City of Sunnyvale, as the Lead Agency, has prepared this Draft Environmental Impact Report (EIR) for the Downtown Specific Plan Amendments and Specific Developments project in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

As the CEQA Lead Agency for this project, the City of Sunnyvale is required to consider the information in the EIR along with any other available information in deciding whether to approve the project. The basic requirements for an EIR include discussions of the environmental setting, significant environmental impacts including growth-inducing impacts, cumulative impacts, mitigation measures, and alternatives. It is not the intent of an EIR to recommend either approval or denial of a project.

Summary of the Project Location and Description

The project includes six sites within the Downtown Specific Plan (DSP) area. The six sites are as follows:

- **100 Altair Way:** An approximately 0.5-acre site located at the south side of Altair Way between Aries Way and South Taaffe Street
- **300 Mathilda Avenue:** An approximately 1.8-acre site on South Mathilda Avenue, south of West McKinley Avenue
- **300 West Washington Avenue:** An approximately 0.9-acre site at the southwest corner of West Washington Avenue and South Taaffe Street
- **Macy's and Redwood Square:** An approximately 7.3-acre site south of West Washington Avenue, between South Murphy Avenue and South Taaffe Street, and north of McKinley Avenue
- **Town Center Sub-block 6:** An approximately 3.9-acre site located between West Washington Avenue and West McKinley Avenue, and South Murphy Avenue and South Sunnyvale Avenue
- **Murphy Square:** An approximately 1.5-acre site located at the northwest corner of West Evelyn Avenue and South Sunnyvale Avenue

The project consists of two primary components: (1) amendments to the DSP to allow up to 843 residential units, 260,063 square feet of commercial uses, and 860,624 square feet of office uses on the six project sites; and (2) specific development proposals on the six project sites to develop 793 residential units, 164,906 square feet of commercial uses, and 856,199 square feet of office uses.

Summary of Significant Impacts and Mitigation Measures

The following table is a brief summary of the significant environmental impacts of the project identified and discussed within the text of the EIR, and the mitigation measures proposed to avoid or reduce those impacts. The reader is referred to the main body text of the EIR for detailed discussions of the existing setting, impacts, and mitigation measures. Alternatives to the proposed project are also summarized at the end of this section.

The project would result in significant impacts to the following resources:

- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Greenhouse Gas
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation
- Utilities and Service Systems

Summary of Impacts and Mitigation Measures	
Impact	Mitigation Measures
	Air Quality
<p>Impact AQ-2: The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.</p> <p>Less than Significant Impact with Mitigation Incorporated</p>	<p><u>DSP Amendments:</u></p> <p>MM AQ-2.1: All Project Sites (except 300 West Washington Avenue): Prior to issuance of demolition and grading permits, applicants for future development under the DSP amendments shall complete a project-specific air quality analysis to evaluate construction period air pollutant emissions in accordance with the current BAAQMD CEQA Guidelines. Overlapping construction and operation air pollutant emissions shall also be evaluated, if future development of the project sites overlap. If construction or overlapping construction and operational air pollutant period emissions exceed the BAAQMD thresholds of significance, development-specific mitigation measures shall be implemented to reduce emissions. Mitigation measures could include, but are not limited to, implementing best management practices to control dust, particulate matter, and diesel exhaust and restricting the project wide fleet-average percent of NO_x emissions (see mitigation measures MM AQ-2.2 and MM AQ-2.3).</p> <p><u>Six Development Projects:</u></p> <p>MM AQ-2.2: All Project Sites (except 300 West Washington Avenue): The six development projects shall implement the below BAAQMD-recommended measures to control dust, particulate matter, and diesel exhaust emissions during construction. This list of BAAQMD measures shall be incorporated into the approved building plan set.</p> <ol style="list-style-type: none"> 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

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
	4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
	5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
	6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). 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. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.
	9. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
	10. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
	11. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.
	12. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
	13. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	<p>limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.</p> <p>14. Avoid tracking of visible soil material on to public roadways by employing the following measures if necessary: (1) treat site accesses to a distance of 100 feet from public paved roads with a six to 12-inch compacted layer of wood chips, mulch, or gravel; (2) wash truck tires and construction equipment of prior to leaving the site, or (3) other methods to reduce the deposition of soil material on public roadways.</p> <p>15. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.</p> <p>16. Minimizing the idling time of diesel-powered construction equipment to two minutes.</p>
	<p>MM AQ-2.3: All Project Sites (except 300 West Washington Avenue): Prior to construction activities, the project applicant(s) shall develop a plan demonstrating that the off-road equipment (more than 25 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 46 percent NO_x reduction. The Macy's and Redwood Square, Town Center Sub-block 6, and Murphy Square sites shall demonstrate an overall 90 percent particulate matter exhaust reduction compared to modeling results in Appendix C of the EIR. The 100 Altair and 300 Mathilda Avenue sites shall demonstrate a 97 percent reduction compared to modeling results in Appendix C of the EIR. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. The following feasible methods shall be used unless an alternative plan that achieves this requirement is submitted and approved by the Community Development Department prior to the issuance of the building permit and shall be included in the approved plan set:</p> <p>1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet EPA Tier 4 emission standards for NO_x and particulate matter, if feasible, otherwise,</p>

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	<ul style="list-style-type: none"> a. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust; alternatively (or in combination); or b. Use of alternatively-fueled equipment with lower NO_x emissions that meet the NO_x and particulate matter reduction requirements above. c. For special exceptions, a waiver to use other equipment for specialized purposes would have to be obtained from the City after review of evidence that use of such equipment meeting the above mitigation requirements is not feasible.
	2. Diesel engines, whether for off-road equipment or on-road vehicles, shall not idle for more than two minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.
	3. All on-road heavy duty diesel trucks with a gross vehicle weight rating of 33,000 pounds or greater (EMission FACtors [EMFAC] Category heavy-duty diesel truck [HDDT]) used at the six project sites (such as haul trucks, water trucks, dump trucks, and concrete trucks) shall be model year 2010 or newer.
	4. Provide line power to the sites during the early phases of construction (demolition, site preparation, grading/excavation, and trenching) to minimize the use of diesel-powered stationary equipment, such as generators. Use of diesel powered-portable equipment for the 100 Altair and 300 Mathilda Ave sites shall be limited to 100 hours for generators, 100 hours for compressors and 100 hours for cranes.

Summary of Impacts and Mitigation Measures	
Impact	Mitigation Measures
	<p><u>DSP Amendments and Six Development Projects:</u></p> <p>MM AQ-2.4: All Project Sites (except 300 West Washington Avenue): Approval of a TDM Plan to reduced operational NO_x emissions consistent with City requirements. This Plan shall demonstrate a minimum six percent overall reduction in vehicle trips and shall be approved by the Public Works Director or designee. For buildings with an identified tenant, the project applicant(s) shall submit to the City, and the City approve, a TDM plan prior to issuance of building permits. For buildings without an identified tenant, the project applicant shall submit, and the City approve, the TDM Plan prior to the building occupancy. Potential measures in the TDM plan can include, but are not limited to, the following:</p> <ol style="list-style-type: none"> 1. Unbundled parking 2. VTA SmartPass (formerly Eco Pass) for residents 3. On-site bicycle repair station 4. A bike share program 5. An on-site TDM coordinator that would provide rideshare matching services and coordinate walking/biking groups for residents 6. An on-site transportation kiosk that would provide information to residents and visitors about multi-model wayfinding and transit information
<p>Impact AQ-3: The project would not result in a cumulatively considerable net increase of criteria pollutants (ROG, NO_x, PM₁₀, and/or PM_{2.5}) for which the project region is non-attainment under an applicable federal or state ambient air quality standard.</p>	<p>See mitigation measures MM AQ-2.1 through MM AQ-2.4 above</p>
<p>Less than Significant Impact with Mitigation Incorporated</p>	
<p>Impact AQ-4: The project would not expose sensitive receptors to substantial pollutant concentrations.</p>	<p><u>DSP Amendments:</u></p> <p>MM AQ-4.1: All Project Sites (except 300 West Washington Avenue): Prior to issuance of demolition and grading permits, applicants for future development projects shall prepare a project-specific community health risk assessment (including a cumulative assessment) to evaluate construction period air pollutant emissions in accordance with the current BAAQMD CEQA Guidelines. The health risk from overlapping construction and operational air pollutant emissions shall also be evaluated. If the health risk</p>
<p>Less than Significant Impact with Mitigation Incorporated</p>	

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	for future development proposals exceed the BAAQMD thresholds of significance, measures shall be implemented to reduce the health risk. Measures could include limiting use of diesel equipment and restricting diesel emissions (see mitigation measures MM AQ-2.2 and MM AQ-2.3).
Impact AQ-C: The project would not cumulatively contribute to a cumulative significant air quality impact.	See mitigation measures MM AQ-2.1 through MM AQ-2.4, and MM AQ-4.1 above

Less than Significant Cumulative Impact with Mitigation Incorporated

Biological Resources

Impact BIO-1: The project would not have a substantial adverse effect on species identified as a candidate, sensitive, or special status species.

Less than Significant Impact with Mitigation Incorporated

DSP Amendments and Six Development Projects:

MM BIO-1.1: All Project Sites (except 300 West Washington Avenue): When possible, 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.

If it is not possible to schedule construction and tree removal between September and January, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests shall be disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other demolition or construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August).

During this survey, the ornithologist shall inspect all trees and other possible nesting habitats within and immediately adjacent to the construction area for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest to ensure that nests of bird species protected by the MBTA or Fish and Game code shall not be disturbed during project construction.

Summary of Impacts and Mitigation Measures	
Impact	Mitigation Measures
	A final report of nesting birds, including any protection measures, shall be submitted to the Director of Community Development prior to the start of grading or tree removal.
Impact BIO-C: The project would not have a cumulatively considerable contribution to a significant cumulative biological resources impact.	See mitigation measure MM BIO-1.1 above
Less than Significant Cumulative Impact with Mitigation Incorporated	
Cultural Resources	
Impact CR-1: The project would cause a substantial change in the significance of a historic resource.	<p><u>DSP Amendments and Six Development Projects:</u></p> <p>MM CR-1.1: Macy's and Redwood Square: If a heritage tree is removed or relocated, the relocation of a heritage tree shall be done under the supervision of a certified arborist, in consultation with the City arborist. The new location for a relocated tree shall be approved by the City prior to the tree's removal.</p> <p>MM CR-1.2: Macy's and Redwood Square: If a heritage tree is removed or relocated, the project applicant shall install a replacement plaque for the heritage tree with the same inscription as on the original plaques, which are noted in the 2006 Department of Parks and Recreation form. The final design of the plaque shall be approved by the City prior to its installation.</p>
Significant and Unavoidable Impact with Mitigation Incorporated	
Impact CR-2: The project would not significantly impact archaeological resources, human remains, or tribal cultural resources.	<p><u>DSP Amendments and Six Development Projects:</u></p> <p>MM CR-2.1: All Project Sites (except for 300 West Washington Avenue): Mechanical presence/absence exploration for Native American resources shall be completed prior to development related ground-disturbance or in conjunction with any remediation efforts. This work shall be conducted by an archaeologist who is trained in both local prehistoric and historical archaeology. Exploring for specific historic-era features shall consist of creating shallow wide trenches down to the historic surface based on areas identified from historic-era maps. If any archaeological resources or human remains are exposed, these shall be briefly documented, tarped for protection, and left in place. Deeper trenches should be placed beyond the areas considered sensitive for historical resources.</p>
Less than Significant Impact with Mitigation Incorporated	

Summary of Impacts and Mitigation Measures	
Impact	Mitigation Measures
	<p>If archaeological deposits or features that appear potentially eligible to the CRHR are identified during exploration, an archaeological research design and work plan shall be prepared. The plan shall be designed to facilitate archaeological excavation and evaluate any cultural resources discovered to the CRHR to assess if any are historic properties.</p> <p>The project applicant shall notify the City of Sunnyvale Community Development Director who shall notify the applicable Native American tribal representatives if any Native American resources are identified during presence/absence exploration.</p> <p>MM CR-2.2: All Project Sites (except for 300 West Washington Avenue): Prior to ground-disturbing activities, the project applicants shall have a qualified archaeologist or qualified Native American tribal representative provide appropriate cultural sensitivity training to all contractors and employees involved in the trenching and excavation.</p> <p>MM CR-2.3: All Project Sites (except for 300 West Washington Avenue): In the event that human remains are discovered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall notify the NAHC immediately. Once NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines.</p>
Impact CR-C: The project would not result in a cumulatively considerable contribution to a significant cumulative cultural resources impact.	See mitigation measures MM CR-2.1 through MM CR-2.3 above
Less than Significant Cumulative Impact with Mitigation Incorporated	

Summary of Impacts and Mitigation Measures	
Impact	Mitigation Measures
Energy	
Impact EN-1: The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation.	See mitigation measures MM AQ-2.1, MM AQ-2.2, and MM AQ-2.4 above
Less than Significant Impact with Mitigation Incorporated	
Impact EN-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	See mitigation measure MM AQ-2.4 above
Less than Significant Impact with Mitigation Incorporated	
Impact EN-C: The project would not result in a cumulatively considerable contribution to a significant energy impact.	See mitigation measures MM AQ-2.2, MM AQ-2.3, and MM AQ-2.4 above
Less than Significant Cumulative Impact with Mitigation Incorporated	
Greenhouse Gas	
Impact GHG-1: The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	See mitigation measure MM AQ-2.4 above
Less than Significant Impact with Mitigation Incorporated	
Impact GHG-2: The project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.	See mitigation measure MM AQ-2.4 above
Less than Significant Impact with Mitigation Incorporated	

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact GHG-C: The project would not result in a cumulatively considerable contribution to a GHG emissions impact.	See mitigation measure MM AQ-2.4 above
Less than Significant Cumulative Impact with Mitigation Incorporated	

Hazards and Hazardous Materials

Impact HAZ-1: The project would not create a significant hazard to the public or the environment through routine transport, use, disposal, or foreseeable upset of hazardous materials.	<p><u>DSP Amendments and Six Development Projects:</u></p> <p>MM HAZ-1.1: 100 Altair Way and Macy's: All remaining hazardous materials at the 100 Altair Way site (e.g., the hydraulic fluids from the elevator) and the Macy's building (e.g., emergency diesel generator with a 27-gallon AST, hydraulic fluids within the elevator equipment, cardboard bailer, trash compactor, shoe cleaning products, building maintenance products, and paint related products,) shall be removed and properly disposed of prior to demolition.</p> <p>During removal of the equipment with hydraulic fluids, contractors shall observe for staining and spilled oil. If stains and/or spills are observed, an Environmental Professional shall be retained to collect soil samples for laboratory analysis in accordance with commonly accepted environmental protocols. If contaminants are identified at concentrations exceeding applicable screening levels published by the RWQCB, DTSC and/or EPA , appropriate mitigation measures shall be incorporated into the demolition permit. Approval by an appropriate regulatory agency (i.e., RWQCB, DTSC or DEH) shall be obtained prior to conducting earthwork activities in the vicinity of the impacted soil.</p> <p>MM HAZ-1.2: All Project Sites (except 300 West Washington Avenue): A SMP and Health Safety Plan (HSP) shall be prepared and implemented for construction-related earthwork activities under the proposed project at each of the project sites (except for 300 West Washington Avenue). The purpose of the SMP and HSP is to establish appropriate management practices for handling impacted soil, soil vapor, and groundwater or other materials that may potentially be encountered during construction activities. The SMPs shall provide the protocols for accepting imported fill materials and protocols for sampling of in-place soil to</p>
Less than Significant Impact with Mitigation Incorporated	

Summary of Impacts and Mitigation Measures

Impact

Mitigation Measures

facilitate profiling of the soil for appropriate off-site disposal or reuse.

To evaluate potential impacts associated with prior on-site structures, the soil profiling shall include (but not be limited to) the collection of shallow soil samples (upper one-foot) and analyses for lead and organochlorine pesticides.

Because contaminants are known to be present on the Macy's and Redwood Square and Town Center Sub-block 6 sites, the SMPs for these sites shall address currently proposed uses and currently applicable screening levels (including current guidance on PCE), and shall be reviewed and approved by an appropriate regulatory agency (i.e., RWQCB, DTSC or DEH) and the HSPs and approved SMPs shall be submitted to the City prior to the issuance of a permit for grading and excavation.

If there are no contaminants identified on the other project sites (i.e., 100 Altair Way, 300 Mathilda Avenue, and Murphy Square) that exceed applicable screening levels published by the RWQCB, DTSC and/or EPA, their respective SMPs do not need to be submitted to an oversight agency and only submitted to the City prior to construction earthwork activities. If contaminants are identified at concentrations exceeding applicable screening levels at the other project sites (i.e., 100 Altair Way, 300 Mathilda Avenue, and Murphy Square), the respective SMPs and planned remedial measures shall be reviewed and approved by an appropriate regulatory agency (i.e., RWQCB, DTSC or DEH), and the HSPs and approved SMPs shall be submitted to the City prior to the issuance of a permit for grading and excavation.

MM HAZ-1.3: Town Center Sub-block 6: Future development shall implement the provisions in the RWQCB approved May 4, 2012 RAP prepared by Ground Zero Analysis, Inc., as may be amended or updated, which includes completing soil vapor sampling prior to construction to determine if VOC levels exceed the most recently adopted ESLs for the currently proposed uses. If VOC levels exceed their respective ESLs, the project shall install vapor mitigation systems in proposed building(s), unless it can be demonstrated to the satisfaction of RWQCB

Summary of Impacts and Mitigation Measures

Impact

Mitigation Measures

(or similar oversight agency) that these measures are not required for the currently proposed development. The vapor mitigation systems shall consist of impermeable vapor barriers installed beneath building foundations, passive or active sub-foundation venting systems, or other equivalent measures, and regular monitoring programs, and be approved by the overseeing regulatory agency. Other provisions of the RAP are summarized in Appendix F. Final approval that the site is suitable for the proposed land uses and development with the implementation of mitigation measures (including vapor mitigation systems) shall be issued by RWQCB and copied to the City prior to commencement of new construction activities.

MM HAZ-1.4: Macy's and Redwood Square: A vapor mitigation system design shall be incorporated in proposed building(s), unless it can be demonstrated to the satisfaction of RWQCB (or similar oversight agency) that these measures are not required for the currently proposed development. The vapor mitigation systems shall consist of impermeable vapor barriers installed beneath building foundations, passive or active sub-foundation venting systems, or other equivalent measures, and regular monitoring programs, and be approved by the overseeing regulatory agency.

MM HAZ-1.5: Murphy Square: Soil, soil vapor, and groundwater sampling shall be completed prior to construction earthwork activities to evaluate the extent of impact from up-gradient VOC releases at Town Center Sub-block 6. Groundwater shall also be analyzed for petroleum hydrocarbons due to the reported former presence of up-gradient gasoline service stations.

The evaluation of soil quality at the Murphy Square parcel shall include an evaluation of shallow soil (upper one-foot) for contaminants commonly found along rail lines, such as metals, petroleum hydrocarbons, PAHs, PCBs and pesticides. Sampling of shallow soil on the parcel also shall include testing for constituents within the fungicides and insecticides reported to have been stored by Del Monte Corporation if they are typically considered to be persistent within the environment.

Summary of Impacts and Mitigation Measures

Impact

Mitigation Measures

All soil, soil vapor, and groundwater sampling and laboratory analyses shall be conducted in accordance with commonly accepted environmental protocols.

If contaminants are identified at concentrations exceeding applicable screening levels published by the RWQCB, DTSC and/or EPA, appropriate mitigation measures shall be incorporated into the proposed development and approved by an appropriate regulatory agency (i.e., RWQCB, DTSC or DEH) . Approval that the site is suitable for the proposed land uses and development with the implementation of the mitigation measures shall be issued by the overseeing regulatory agency and copied to the City prior to the issuance of a permit for grading and excavation.

MM HAZ-1.6: Macy's and 300 Mathilda Avenue: Prior to commencement of earthwork activities, geophysical surveys shall be completed of both former gasoline service station locations to evaluate if USTs remain on these sites. If identified, the USTs shall be removed under permit from the Sunnyvale Bureau of Fire Services and underlying soil and groundwater shall be sampled and evaluated for potential contaminants of concern.

MM HAZ-1.7: Redwood Square, Town Center Sub-block 6, and 100 Altair Way: All wells shall be protected during construction activities or properly destroyed prior to construction. This work shall be coordinated with RWQCB and Valley Water. Wells to be destroyed shall be destroyed in accordance with Valley Water requirements (Ordinance 90-1, as may be subsequently amended) prior to any work that could potentially damage or obscure the wells, such as demolition or earthwork activities. Destroyed wells may be required to be replaced by the oversight regulatory agency after project construction is completed.

MM HAZ-1.8: 100 Altair Way and Macy's: Prior to the issuance of a demolition permit, an asbestos survey shall be completed for existing buildings on the 100 Altair Way and Macy's sites prior to demolition in accordance with the National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines. NESHAP guidelines require the removal of potentially friable ACMs prior to building demolition or renovation that may disturb the ACM.

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	<p>MM HAZ-1.9: 100 Altair Way and Macy's: Prior to the issuance of a demolition permit, a lead-based paint survey shall be completed for the existing buildings on the 100 Altair Way and Macy's sites in accordance with the Cal/OSHA guidelines. If lead-based paint is bonded to the building materials, the removal of lead-based paint is not required. If the lead-based paint is flaking, peeling, or blistering, it shall be removed prior to demolition. In either case, applicable OSHA regulations shall be followed; these include requirements for worker training and air monitoring and dust control. Any debris containing lead shall be disposed appropriately.</p>
<p>Impact HAZ-4: The project is not located within the vicinity of a private airstrip and is located within two miles of a public airport. The project would not result in a safety hazard for people residing or working in the project area.</p> <p>Less than Significant Impact with Mitigation Incorporated</p>	<p><u>DSP Amendments and Six Development Projects:</u></p> <p>MM HAZ-4.1: All Project Sites (except 300 West Washington Avenue): Prior to the issuance of a building permit for above ground construction, if proposed structures exceed the FAA Part 77 Surface, the project applicant shall submit an FAA Form 7460-1 for the permanent structure prior to submittal for the temporary construction equipment (outlined in mitigation measure MM HAZ-4.2 below). A "Determination of No Hazard" or "Determination of No Hazard with Conditions" shall be obtained prior to permit issuance for any above ground improvements. If a "Determination of No Hazard with Conditions" is issued, the conditions shall be included on the approved plan set and implemented.</p> <p>MM HAZ-4.2: All Project Sites (except 300 West Washington Avenue): Prior to the issuance of a building permit, if construction equipment has the potential to exceed the FAA Part 77 Surface, the project applicant shall submit an FAA Form 7460-1, "Notice of Proposed Construction or Alteration" to the FAA at least 45 days (60 to 90 days recommended) prior to construction of the project, which shall specify the equipment type (e.g., crane) and duration to be used. An Aeronautical Study Number for the permanent structure shall be included in the submittal form. A "Determination of No Hazard" or "Determination of No Hazard with Conditions" shall be obtained prior to permit issuance for above ground activities. If a "Determination of No Hazard with Conditions" is issued, all conditions shall be included on the approved plan set and implemented.</p>

Summary of Impacts and Mitigation Measures	
Impact	Mitigation Measures
<p>Impact HAZ-C: The project would not have a cumulatively considerable contribution to a significant cumulative hazardous materials impact.</p> <p>Less than Significant Impact with Mitigation Incorporated</p>	<p>See mitigation measures MM HAZ-1.1 through MM HAZ-1.10, MM HAZ-4.1, and MM HAZ-4.2 above</p>
Hydrology and Water Quality	
<p>Impact HYD-1: The project would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.</p> <p>Less than Significant Impact with Mitigation Incorporated</p>	<p><u>DSP Amendments and Six Development Projects:</u></p> <p>MM HYD-1.1: 100 Altair Way and Macy's: Prior to issuance of a demolition permit, sampling of priority building materials (i.e., calk, fiberglass insulation, thermal insulation, adhesive mastics, and rubber window gaskets) shall be collected to test for PCBs per BASMAA's Protocol for Evaluating Priority PCBs-Containing Materials before Building Demolition. If collected samples contain PCBs concentrations are equal to or greater than 50 parts per million (ppm) in one or more priority materials, abatement procedures shall be completed in accordance with federal and state regulations.</p>
<p>Impact HYD-3: The project would not substantially alter the existing drainage pattern of the site or area which would result in substantial erosion, siltation, or flooding on or off-site; or 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.</p> <p>Less than Significant Impact with Mitigation Incorporated</p>	<p><u>DSP Amendments:</u></p> <p>MM HYD-3.1: All Project Sites (except 300 West Washington Avenue): If future development implementing the proposed DSP amendments would result in an increase in impervious surfaces compared to existing conditions, the developer(s) shall complete additional analysis to determine if the existing and planned storm drain system has sufficient capacity to accommodate development runoff flows. Future development shall be responsible for completing improvements to the storm drain system to ensure there is sufficient storm drains system capacity to serve the proposed development and not result in off-site flooding, or the development shall provide adequate facilities on-site to offset peak flows from the development, thereby removing any capacity issues.</p>

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
<p>Impact HYD-C: The project would not have a cumulatively considerable contribution to a significant cumulative hydrology and water quality impact.</p> <p>Less than Significant Cumulative Impact with Mitigation Incorporated</p>	<p>See mitigation measures MM HYD-1.1 and MM HYD-3.1 above</p>
Noise and Vibration	
<p>Impact NOI-1: The project would not result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or local general plan or noise ordinance, or applicable standards of other agencies.</p> <p>Less than Significant Impact with Mitigation Incorporated</p>	<p><u>DSP Amendments and Six Development Projects:</u></p> <p>MM NOI-1.1: All Project Sites (except 300 West Washington Avenue): Prior to the issuance of building permits, a qualified acoustical consultant shall prepare a report documenting the projected mechanical and emergency generator noise and identify specific noise reduction measures necessary to reduce noise to comply with the City's 50 dBA L_{eq} nighttime residential noise limit at the shared property lines. Noise reduction measures could include, but are not limited to, selection of equipment that emits low noise levels and/or installation of noise barriers such as enclosures and parapet walls to block the line of sight between the noise source and the nearest receptors. The specific equipment shall be included on the approved building permit plan set.</p>
<p>Impact NOI-4: The project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.</p> <p>Significant and Unavoidable with Mitigation Incorporated</p>	<p><u>DSP Amendments and Six Development Projects:</u></p> <p>MM NOI-4.1: All Project Sites (except 300 West Washington Avenue): Future development shall prepare a noise control plan to be submitted for review and approval by the City prior to construction. The noise control plan shall be included in the approved building permit plan sets and address, at a minimum, the following:</p> <ol style="list-style-type: none"> 1. Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds). 2. Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. 3. Construct temporary noise barriers, where feasible as determined by the City, to screen stationary noise-generating equipment. Temporary noise

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	barrier fences would provide a five dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receptor and if the barrier is constructed in a manner that eliminates any cracks or gaps.
	4. Unnecessary idling of internal combustion engines shall be strictly prohibited.
	5. Construction staging areas shall be established at locations that would create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible as determined by the City, from residential receptors.
	6. Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
	7. Where feasible as determined by the City, temporary power service from local utility companies shall be used instead of portable generators.
	8. Locate cranes as far from adjoining noise-sensitive receptors as possible.
	9. During final grading, substitute graders for bulldozers where feasible as determined by the City. Wheeled heavy equipment are quieter than track equipment and should be used where feasible, as determined by the City.
	10. Substitute nail guns for manual hammering, where feasible as determined by the City.
	11. Avoid the use of circular saws, miter/chop saws, and radial arm saws near the adjoining noise-sensitive receptors. Where feasible as determined by the City, shield saws with a solid screen with material having a minimum surface density of two pounds per square feet (e.g., such as ¾-inch plywood).
	12. Maintain smooth vehicle pathways for trucks and equipment accessing the site, and avoid local residential neighborhoods as much as possible.
	13. During interior construction, the exterior windows facing noise-sensitive receptors shall be closed.

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	<p>14. During interior construction, locate noise-generating equipment within the building to break the line-of-sight to the adjoining receptors.</p> <p>15. The contractor shall prepare a detailed construction 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.</p> <p>16. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., bad muffler, etc.) and would 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.</p>

Impact NOI-C: The project would result in a cumulatively considerable noise or vibration impacts.

See mitigation measures MM NOI-1.1 and MM NOI-4.1 above

Significant and Unavoidable Cumulative Impact with Mitigation Incorporated

Transportation/Traffic

Impact TRN-1: The project would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

DSP Amendments and Six Development Projects:

MM TRN-1.1: All Project Sites: Prior to issuance of building permits, future development under the proposed project shall pay a fair-share payment contribution to VTA's VTP 2040 Improvement VTP ID H3: SR 237 Express Lanes (North First Street to Mathilda Avenue). This improvement would convert HOV lanes to express lanes on SR 237 between North First Street and Mathilda Avenue.

MM TRN-1.2: All Project Sites: Intersection 55: De Anza Boulevard/Homestead Road (Cupertino) – The project shall pay its fair-share payment contribution towards the addition of a third westbound left-turn lane. This improvement can be accommodated within the existing right-of-way with modifications to the median and lane widths.

Significant and Unavoidable Impact with Mitigation Incorporated

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	<p>MM TRN-1.3: All Project Sites: Intersection 76: Lawrence Expressway/Homestead Road (VTA/Santa Clara County) – Santa Clara County’s Expressway Plan 2040 Study identifies an interim (near-term) improvement that includes the addition of an eastbound through lane on Homestead Road. With this improvement, intersection operations would improve, but the intersection would continue to operate at LOS F under both background and background plus project conditions. The ultimate improvement identified by the County’s Expressway Plan 2040 is to grade-separate the intersection. The County designates the grade separation as a Tier 1 improvement and the project shall pay a fair-share contribution to this improvement.</p>
<p>Impact TRN-2: The project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.</p>	<p>See mitigation measures MM TRN-1.1 through MM TRN-1.3 above</p>
<p>Significant and Unavoidable Impact with Mitigation Incorporated</p>	
<p>Impact TRN-C: The project would result in a cumulatively considerable contribution to a significant transportation impact.</p>	<p><u>DSP Amendments and Six Development Projects:</u></p> <p>See mitigation measure MM TRN-1.2 above</p>
<p>Significant and Unavoidable Cumulative Impact with Mitigation Incorporated</p>	<p>MM TRN-C.1: All Project Sites: Intersection 19: Hollenbeck Avenue/Remington Drive – The project shall pay its fair-share contribution towards restriping the northbound and southbound approaches on Hollenbeck Avenue to provide for a dedicated left-turn and a shared through/right-turn lane. This improvement would require parking restrictions on east side of the northbound approach and the west side of the southbound approach for between 75 and 125 feet to accommodate the striping of the dedicated left-turn lane. The signal phasing on the northbound and southbound approaches could remain “permitted.”</p> <p>MM TRN-C.2: All Project Sites: Intersection 20: Hollenbeck Avenue/Fremont Avenue – The project shall pay</p>

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	<p>its fair-share payment contribution towards adding an eastbound right-turn lane from Fremont Avenue onto southbound Hollenbeck Avenue is required. A dedicated right-turn lane, through lane, and a bike lane would require a minimum width of 25 feet. The available width between the number two through lane and the curb is about 19 feet. This mitigation measure would require removing the raised median on the eastbound approach to allow for adequate ROW.</p> <p>MM TRN-C.3: All Project Sites: Intersections 29: Mathilda Avenue/Washington Avenue and Intersection 30: Mathilda Avenue/McKinley Avenue – The project shall pay its fair-share payment contribution to the City’s planned improvements along Mathilda Avenue of providing bike lanes between El Camino Real and Washington Avenue, including ROW costs for both the northbound and southbound sections.</p> <p>MM TRN-C.4: All Project Sites: Intersection 33: Mathilda Avenue/El Camino Real – The project shall pay its fair-share payment contribution toward the installation of a third eastbound left-turn lane.</p> <p>MM TRN-C.5: All Project Sites: Intersection 38: Washington Avenue/Frances Street – The project shall pay its fair-share payment contribution towards converting the intersection to an all-way stop-controlled intersection.</p> <p>MM TRN-C.6: All Project Sites: Intersection 52: Sunnyvale-Saratoga Road/Remington Drive – The project shall pay its fair-share payment contribution towards the City’s TIF Program, specifically towards the identified improvement of adding a northbound right-turn lane from Sunnyvale-Saratoga Road onto eastbound Remington Drive. In addition, the project shall pay a fair-share contribution for the installation of the separated eastbound right-turn lane.¹</p>

¹ With the additional northbound right-turn lane, the intersection would improve from unacceptable LOS F to acceptable LOS E during the AM peak hour but would remain an unacceptable LOS F during the PM peak hour. This is consistent with the results presented in the TIF Nexus Study. A dedicated southbound right-turn lane would be needed to fully mitigate the impact. However, there are right-of-way constraints that limit the physical feasibility of the dedicated southbound right-turn lane. An additional southbound right-turn lane would require an additional 11 feet of right-of-way from existing properties along the west side of Mathilda Avenue.

Summary of Impacts and Mitigation Measures

Impact	Mitigation Measures
	<p>MM TRN-C.7: All Project Sites: Intersection 53: Sunnyvale-Saratoga Road/Fremont Avenue – The project shall pay its fair-share payment contribution to the addition of a dedicated southbound right-turn lane from Sunnyvale-Saratoga Road onto westbound Fremont Avenue. The additional southbound right-turn lane would require modifying the bus duckout and northwest corner at Sunnyvale-Saratoga Road and Fremont Avenue.</p> <p>MM TRN-C.8: All Project Sites: Intersection 60: Fair Oaks Avenue/Duane Avenue – The project shall pay its fair-share payment contribution towards providing a second westbound left-turn lane from Duane Avenue onto southbound Fair Oaks Avenue and restripe the intersection and remove the on-street parking on the south side of Duane Avenue for about 200 feet from the intersection. This improvement requires modification to the traffic signal and relocation of the bus stop on the south side of Duane Avenue. The City, when implementing this improvement, shall coordinate with VTA to relocate the existing bus stop.</p>

Utilities and Service Systems

Impact UTL-4: The project would require the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would not cause significant environmental effects.

See mitigation measure MM HYD-3.1 above

Less than Significant Impact with Mitigation Incorporated

Impact UTL-C: The project would result in significant cumulative impacts to utilities and service systems.

See mitigation measure MM HYD-3.1 above

Significant and Unavoidable Cumulative Impact with Mitigation Incorporated

Summary of Project Alternatives

CEQA requires that an EIR identify alternatives to a project as it is proposed. The CEQA Guidelines specify that the EIR should identify alternatives 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.” The purpose of the alternatives analysis is to determine whether there are alternatives of design, scope, or location which would substantially lessen the significant impacts, even if those alternatives “impede to some degree the attainment of the project objectives” or are more expensive (CEQA Guidelines Section 15126.6).

While CEQA does not require that alternatives must be capable of meeting all of the project objectives, their ability to meet most of the objectives is considered relevant to their consideration. As identified in Section 2.4 Project Objectives, the City’s objectives for the project are as follows:

1. Enhance the prominence of downtown as the center of the community with the addition of iconic and high quality architecture.
2. Create an urban downtown containing a wide range of live/work options while supporting market trends for retail services and entertainment opportunities in an area that is adjacent to the transit center.
3. Maximize employment opportunities that are responsive to future job market needs, such as research and development and technology businesses, to enhance local economic vitality.
4. Maximize opportunities for higher-density housing to increase the number of new housing units that are affordable at a range of income levels and that serve a variety of household types to help address regional housing needs.
5. Create a distinct and strong sense of place by providing enhanced connections and dynamic gathering places while accommodating taller buildings with larger community gathering spaces.
6. Allow sufficient density and intensity to attract financially feasible private development that will support community benefits, such as parks, open space, affordable housing accessible to lower and moderate income households.
7. Create a district that promotes the use of a variety of sustainable transportation modes such as; bikes, pedestrian, ride-share, transit, and discourages the use of single-occupancy/private automobiles.
8. Maximize employment and housing density in close proximity to major transit stops, consistent with the Statewide sustainability goals of reducing vehicle miles traveled and minimizing greenhouse gas emissions per service population of the project.

The project objectives focus on updating the land uses, standards, and density downtown. For this reason, locations outside of downtown were not considered further. Alternative sites within the downtown were considered but not considered further because they would not avoid the project’s significant impacts.

A summary of the project alternative evaluated in this EIR is provided below. Refer to Section 7.0 Alternatives for the full discussion of each alternative.

No Project Alternatives

The CEQA Guidelines specifically require consideration of a “No Project” Alternative. The purpose of including a No Project Alternative is to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project. The Guidelines specifically advise that the No Project Alternative is “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” The Guidelines emphasize that an EIR should take a practical approach, and not “...create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment (Section 15126.6[e][3][B]).”

Under the No Project Alternative, the six project sites could remain as they are (i.e., developed with a total of 20 residential units, 181,000 square feet of commercial uses, and 8,000 square feet of office uses) or the sites could be developed with uses consistent with the existing DSP zoning designation. The existing DSP zoning allows for the development of a total of 93 residential units, 181,000 square feet of commercial uses, 17,896 square feet of office uses, and 200 hotel rooms. For these reasons, there are two logical No Project alternatives for the project: (1) a No Project/No New Development Alternative and (2) a No Project/New Development Alternative.

- **No Project/No New Development Alternative** – The No Project/No New Development Alternative assumes that the six project sites would remain as they are today; developed with a total of 20 residential units, 181,000 square feet of commercial uses, and 8,000 square feet of office uses.

The No Project/No New Development Alternative would avoid all of the environmental impacts of the project. The No Project/No New Development Alternative would partially meet Objective 2 and would not meet the other seven project objectives (Objectives 1 and 3 through 8).

- **No Project/New Development Alternative** – The No Project/New Development Alternative assumes that the project is not approved and the project sites are redeveloped consistent with the adopted DSP. Under the adopted DSP, a total of 93 residential units, 181,000 square feet of commercial uses, 17,896 square feet of office uses, and 200 hotel rooms could be developed on the sites.

The No Project/New Development Alternative would avoid the project’s significant traffic level of service (LOS) impacts and significant impact to a historic resource. This alternative would result in lesser construction noise, population and housing, and land use and planning impacts than the proposed project. The No Project/New Development Alternative would result in the same or similar impacts to aesthetics, air quality, energy, agricultural and forestry resources, biological resources, archaeological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, exterior noise, public services, recreation, and utility and service systems. The No Project/New Development Alternative would have greater greenhouse gas (GHG) impacts than the proposed project.

The No Project/New Development Alternative would partially meet Objectives 1, 2, and 5 through 7. The No Project/New Development Alternative would not meet Objectives 3, 4, and 8.

Reduced Housing and Office Alternative

The purpose of the Reduced Development Alternative is to lessen the project's significant intersection LOS impacts. The Reduced Development Alternative includes 520 residential units, 260,063 square feet of commercial uses, and 408,000 square feet of office uses.

The Reduced Housing and Office Alternative could avoid the project's impact to a historic resource and would result in lesser construction noise, population and housing, and transportation impacts than the project. This alternative would result in the same or similar impacts to aesthetics, air quality, energy, agricultural and forestry resources, biological resources, archaeological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, exterior noise, public services, recreation, and utility and service systems. The Reduced Housing and Office Alternative would result in greater GHG emissions per service population than the project.

The Reduced Housing and Office Alternative would partially meet Objectives 1, 2, and 5 through 7. The Reduced Housing and Office Alternative would not meet Objectives 3, 4, and 8.

Design Alternative

The Design Alternative would require future development of the Macy's and Redwood Square site be designed to avoid impacting the heritage trees. The total residential, commercial, and office development would be the same under this alternative as the proposed project.

The Design Alternative would avoid the project's significant and unavoidable impact to cultural resources. This alternative would result in the same or similar impacts to all other environmental resources. The Project Design Alternative would meet most of the project objectives (Objectives 1 through 4, and 6 through 8) and partially meet Objective 5.

Hotel and Reduced Office Development Alternative

In the event the City wanted to retain the ability to develop the 200 hotel rooms allowed by the adopted DSP, the amount of office development proposed by the project would need to be reduced by 146,624 feet (from 860,624 square feet to 714,000 square feet) to result in the same or lesser transportation impacts as the proposed project. The Hotel and Reduced Office Alternative includes 200 hotel rooms, 843 residential units, 260,063 square feet of commercial space, 714,000 square feet of office space.

The Hotel and Reduced Office Alternative could avoid the project's significant impact to a historic resource and result in the same or similar impacts to all other environmental resources as the project except for GHG emissions. This alternative would result in a greater GHG per service population than the proposed project.

The Hotel and Reduced Office Development Alternative would meet most of the project objectives (Objectives 1, 2, and 4 through 7) and would not meet Objectives 3 and 8.

Known Views of Local Groups and Areas of Controversy

Environmental concerns from local residents, property owners, organizations, and/or agencies about the project related to:

- EIR process
- Aesthetics
- Cultural resources
- Land use and General Plan consistency (i.e., total change in development numbers)
- Public services impacts (particularly schools)
- Transportation/traffic congestion (including freeway traffic and pedestrian/bicycle access) impacts
- Utilities (wastewater systems)

SECTION 1.0 INTRODUCTION

1.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The City of Sunnyvale, as the Lead Agency, has prepared this Draft EIR for the Downtown Specific Plan Amendments project in compliance with CEQA and the CEQA Guidelines.

As described in CEQA Guidelines Section 15121(a), an EIR is an informational document that assesses potential environmental impacts of a proposed project, as well as identifies mitigation measures and alternatives to the proposed project that could reduce or avoid adverse environmental impacts (CEQA Guidelines 15121[a]). As the CEQA Lead Agency for this project, the City of Sunnyvale is required to consider the information in the EIR along with any other available information in deciding whether to approve the project.

The basic requirements for an EIR include discussions of the environmental setting, significant environmental impacts including growth-inducing impacts, cumulative impacts, mitigation measures, and alternatives. It is not the intent of an EIR to recommend either approval or denial of a project.

1.2 EIR PROCESS

1.2.1 Notice of Preparation and Scoping

In accordance with Section 15082 of the CEQA Guidelines, the City of Sunnyvale prepared a Notice of Preparation (NOP) for this EIR. The NOP was circulated to local, state, and federal agencies on May 7, 2018. The standard 30-day comment period concluded on June 5, 2018. The NOP provided a general description of the proposed project and identified possible environmental impacts that could result from implementation of the project. Comments received within the 30-day NOP circulation period are integrated into the EIR or were considered in the preparation of the EIR. The City of Sunnyvale also held a public scoping meeting on May 23, 2018 to discuss the project and solicit public input as to the scope and contents of this EIR. The meeting was held at City of Sunnyvale Council Chambers located at 456 West Olive Avenue. Appendix A of this EIR includes the NOP and comments received on the NOP.

1.2.2 Draft EIR Public Review and Comment Period

Publication of this Draft EIR will mark the beginning of a 45-day public review and comment period. During this period, the Draft EIR will be available to local, state, and federal agencies and to interested organizations and individuals for review. Notice of this Draft EIR will be sent directly to every agency, person, and organization that commented on the NOP. Written comments concerning the environmental review contained in this Draft EIR during the 45-day public review period should be sent to:

Dave Hogan, Senior Planner
City of Sunnyvale
Community Development Department, Planning Division
456 West Olive Avenue
Sunnyvale, CA 94086
dhogan@sunnyvale.ca.gov

1.2.3 Final EIR/Responses to Comments

Following the conclusion of the 45-day public review period, the City of Sunnyvale will prepare a Final EIR in conformance with CEQA Guidelines Section 15132. The Final EIR will consist of:

- List of individuals and agencies commenting on the Draft EIR;
- Copies of letters received on the Draft EIR;
- Responses to comments received on the Draft EIR, in accordance with CEQA Guidelines (Section 15088); and
- Revisions to the Draft EIR text, as necessary.

1.2.4 EIR Certification

Section 15091(a) of the CEQA Guidelines states that no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings. The possible findings related to one or more significant environmental effects of the project are:

- (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
- (2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- (3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

If the lead agency approves a project that will result in significant adverse environmental impacts that cannot be mitigated to a less than significant level, the agency must state the reasons for its action in writing. This Statement of Overriding Considerations must be included in the record of project approval.

1.2.5 Notice of Determination

If the project is approved, the City of Sunnyvale will file a Notice of Determination (NOD), which will be available for public inspection and posted within 24 hours of receipt at the County Clerk's Office for 30 days. The filing of the NOD starts a 30-day statute of limitations on court challenges to the approval under CEQA (CEQA Guidelines Section 15094[g]).

SECTION 2.0 PROJECT INFORMATION AND DESCRIPTION

2.1 BACKGROUND INFORMATION

The City of Sunnyvale originally adopted the DSP in 1993. It has been updated four times since then, in 2003, 2007, 2008, and 2013. The certified 2003 Downtown Improvement Program Update EIR and subsequent addenda (SCH# 1988110816) (Downtown EIR), and 2004 adopted Mitigated Negative Declaration/Initial Study evaluated the environmental impacts of implementing the DSP.²

The DSP area consists of approximately 125 acres, generally bound by the railroad/Caltrain tracks to the north, Bayview Avenue to the east, El Camino Real to the south, and Charles Street to the west. The DSP area is divided into 22 Blocks. DSP Block 18 (also known as the Town Center) is informally divided into six smaller sub-blocks numbered 1 through 6. The existing development in the DSP area consists of a total of 1,446 residential units, 1,042,995 square feet of commercial uses, 983,073 square feet of office uses, and 85 hotel rooms.

The DSP area is surrounded by a mix of uses including residential, commercial, and industrial uses. Regional, vicinity, and aerial maps of the DSP area are shown in Figure 2.1-1, Figure 2.1-2, and Figure 2.1-3, respectively. A map of the DSP blocks is shown in Figure 2.1-4.

The DSP area has a General Plan land use designation of Transit Mixed-Use. The Transit Mixed-Use General Plan land use designation allows for a mix of residential uses at various densities, high-intensity commercial uses, regional commercial uses, and office uses located near rail stops or other mass transit. The DSP area is zoned Downtown Specific Plan and is subject to Chapter 19.28 of the Sunnyvale Municipal Code (SMC), which regulates land uses, overall amount of allowed development in square feet and number of units, and guidelines addressing building setbacks, open space requirements, and streetscape design within the Downtown Specific Plan zoning district.

The DSP is a long-term planning document to create a vibrant and traditional downtown that serves the local community with a desirable mix of retailers, restaurants, corporate tenants, residents, and is a regional destination providing a unique and highly active environment. The DSP contains goals, policies, design strategies and guidelines, land use and development intensities and standards to guide development in the DSP area. Buildout of the adopted DSP would result in a total of 2,200 residential units, 1,367,000 square feet of commercial uses, 1,080,000 square feet of office uses, and 200 hotel rooms.

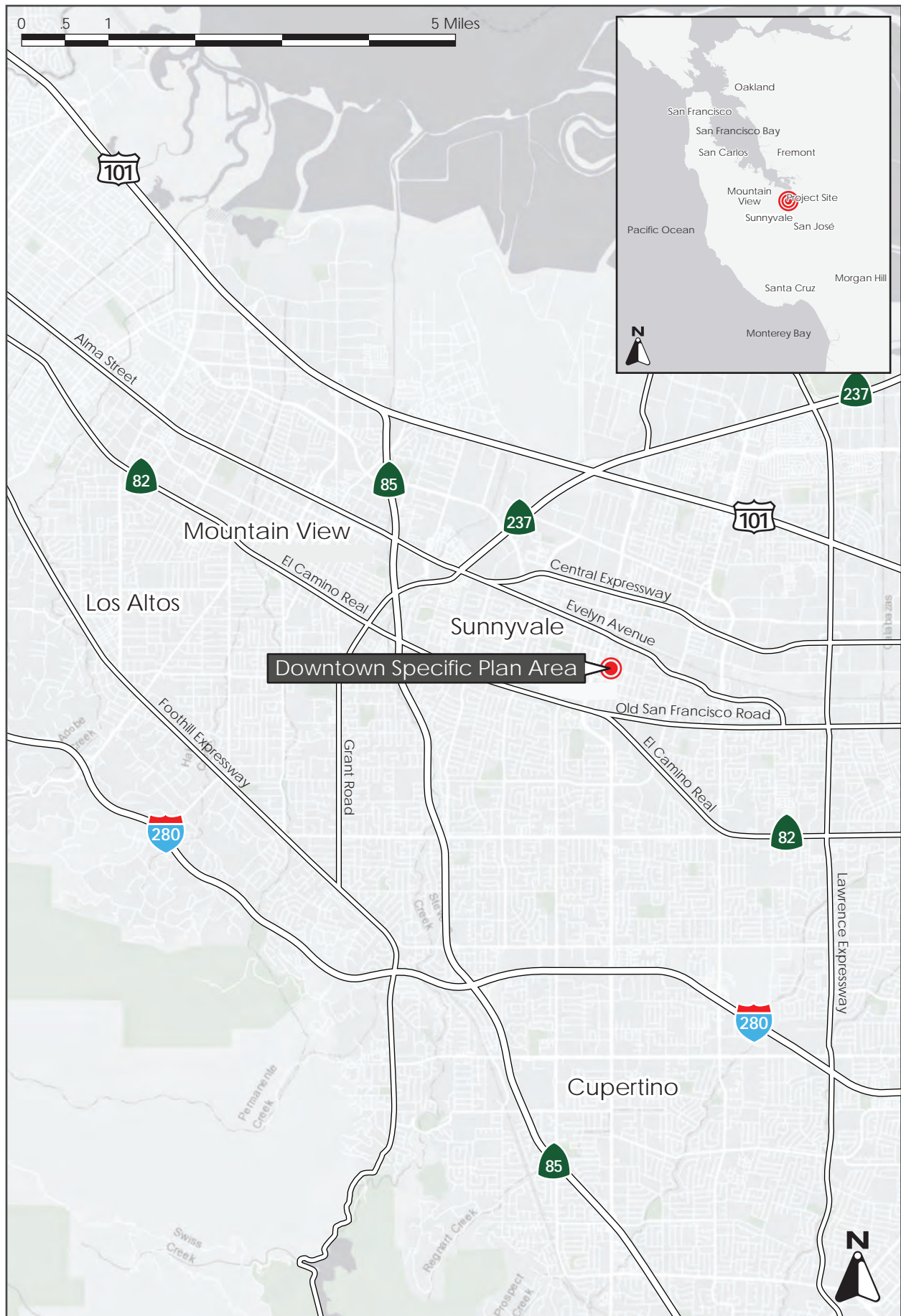
² City of Sunnyvale. *Downtown Improvement Program Update*. SCH# 1988110816. March 31, 2003.

---. *Addendum to the Program Environmental Impact Report for the Sunnyvale Downtown Improvement Program Certified by the City Council of the City of Sunnyvale June 17, 2003, by Resolution Number 123-03*. June 25, 2004.

---. *Mitigated Negative Declaration*. July 2004.

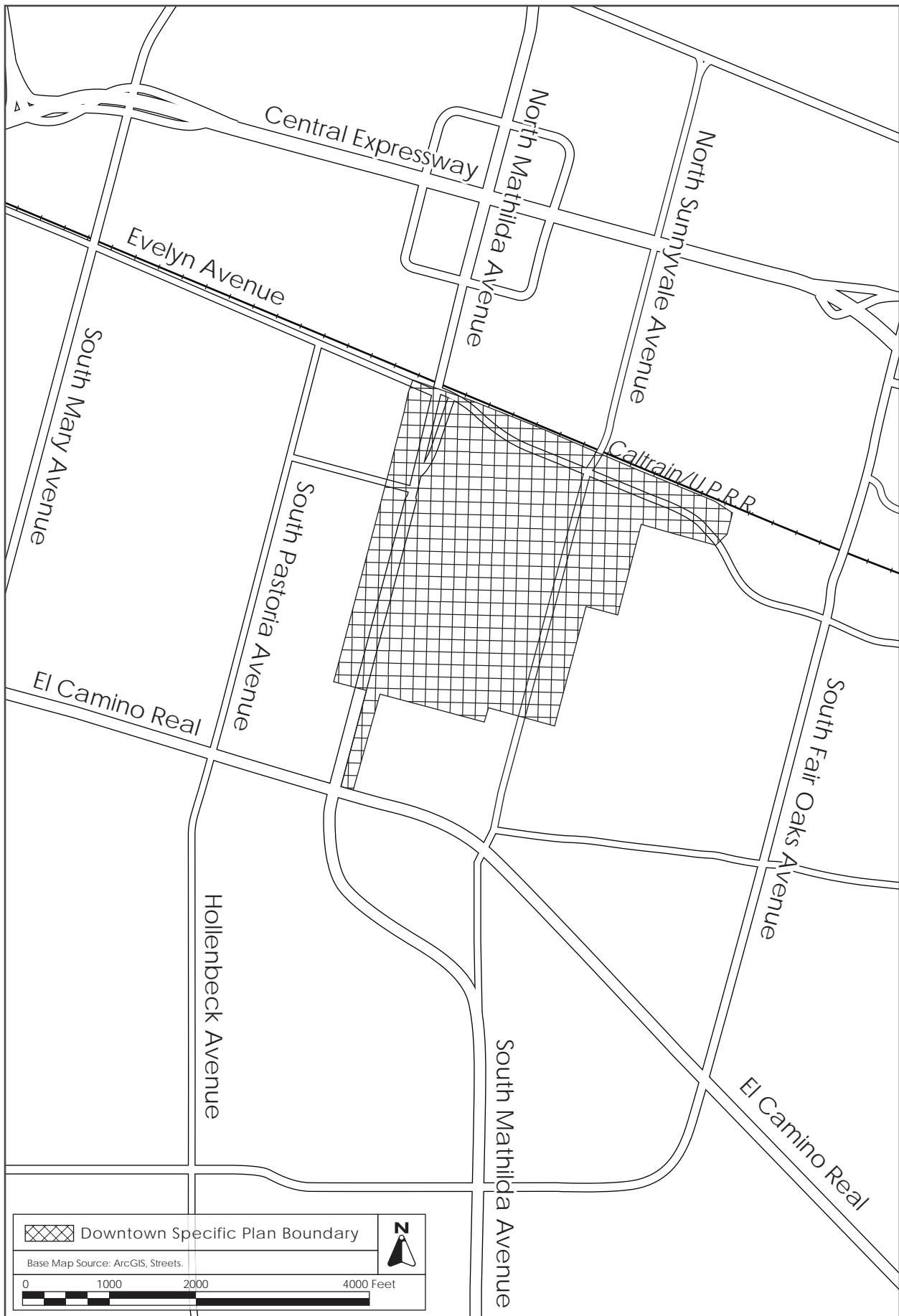
---. *Addendum to the Program Environmental Impact Report for the 2003 Sunnyvale Downtown Improvement Program Update, certified by the Sunnyvale City Council on June 17, 2003, by Resolution number 123-03*. March 23, 2007.

---. *Addendum to the Program Environmental Impact Report for the 2003 Sunnyvale Downtown Improvement Program Update, certified by the Sunnyvale City Council on June 17, 2003, by Resolution number 123-03*. July 9, 2007.



REGIONAL MAP

FIGURE 2.1-1



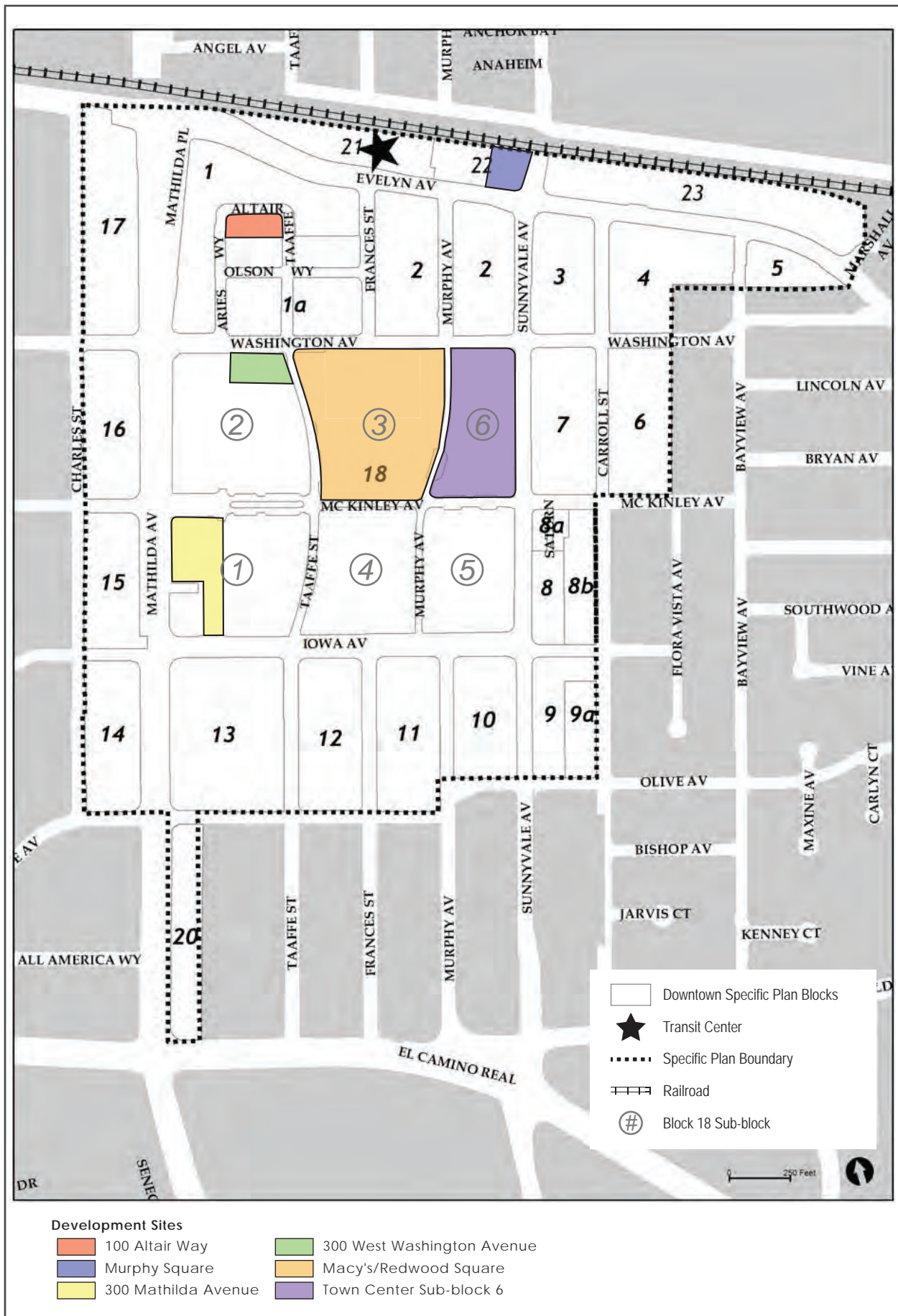
VICINITY MAP

FIGURE 2.1-2



AERIAL PHOTOGRAPH AND SURROUNDING LAND USES

FIGURE 2.1-3



DSP BLOCKS AND SUB-BLOCKS

FIGURE 2.1-4

2.2 PROJECT LOCATION

The project includes six project sites within DSP Blocks 1/1a, 18, and 22. The project site locations are shown on Figure 2.1-3 and are as follows:

- **100 Altair Way** (within DSP Block 1a but proposed to be shifted into Block 1): An approximately 0.5-acre site located at the south side of Altair Way between Aries Way and South Taaffe Street (APN: 209-07-007);
- **300 Mathilda Avenue** (within DSP Block 18, Sub-block 1): An approximately 1.8-acre site on South Mathilda Avenue (APN: 209-34-019), south of West McKinley Avenue;
- **300 West Washington Avenue** (within DSP Block 18, Sub-block 2): An approximately 0.9-acre site at the southwest corner of West Washington Avenue and South Taaffe Street (APNs: 209-41-002 and -003);
- **Macy's and Redwood Square** (DSP Block 18, Sub-block 3): An approximately 7.3-acre site south of West Washington Avenue, between South Murphy Avenue and South Taaffe Street, and north of McKinley Avenue (APN: 209-35-022 and -023);
- **Town Center Sub-block 6** (DSP Block 18, Sub-block 6): An approximately 3.9-acre site located between West Washington Avenue, West McKinley Avenue, South Murphy Avenue and South Sunnyvale Avenue (APNs: 209-35-016 through -019); and
- **Murphy Square** (within DSP Block 22): An approximately 1.5-acre site located at the northwest corner of West Evelyn Avenue and South Sunnyvale Avenue (APN: 209-06-083).

2.3 PROJECT DESCRIPTION

The project consists of two primary components: (1) amendments to the DSP which relate primarily to the commercial core, and (2) specific development proposals for the above six sites.

2.3.1 DSP Amendments

The amount of existing, allowed, and proposed development on the six project sites are shown in Table 2.3-1. The six project sites have a total of 20 residential units, 181,000 square feet of commercial space, and 8,000 square feet of office space. In addition, a development of 50 residential units and 8,720 square feet of commercial uses is currently under construction at the 300 West Washington Avenue site. Full buildout of all six sites under the adopted DSP would result in a total of 93 residential units, 181,000 square feet of commercial uses, 17,896 square feet of office uses, and 200 hotel rooms.

The proposed DSP amendments would allow for the development of a total of 843 residential units (an increase of 750 units compared to the adopted DSP), 260,063 square feet of commercial uses (an increase of 79,063 square feet compared to the adopted DSP), 860,624 square feet of office uses (an increase of 842,728 square feet compared to the adopted DSP), and no hotel rooms (a decrease of 200 hotel rooms compared to the adopted DSP).

Table 2.3-1: Summary of Existing, Allowed, and Proposed Development on the Six Project Sites

Project Site	Existing			Allowed by Adopted DSP				Proposed Project					
								Allowed by DSP with Proposed Amendments			Six Development Proposals		
	Housing (units)	Commercial (SF)	Office (SF)	Housing (units)	Commercial (SF)	Office (SF)	Hotel (rooms)	Housing (units)	Commercial (SF)	Office (SF)	Housing (units)	Commercial (SF)	Office (SF)
100 Altair Way (within DSP Block 1a/1)	20	4,000	8,000	43	4,000	8,000	0	0	0	134,324	0	0	134,324
300 Mathilda Avenue (DSP Block 18, Sub-block 1)	0	0	0	0	0	0	0	0	10,700	157,200	0	7,131	153,000
300 West Washington Avenue (DSP Block 18, Sub-block 2)	0	0	0	50	0	0	0	51	0	0	1	0	0
Macy's & Redwood Square (DSP Block 18, Sub-block 3)	0	177,000	0	0	177,000	0	200	467	188,178	500,000	467	121,775	499,775
Town Center Sub-block 6 (DSP Block 18, Sub-block 6)	0	0	0	0	0	0	0	325	61,185	0	325	36,000	0
Murphy Square (within DSP Block 22)	0	0	0	0	0	9,896	0	0	0	69,100	0	0	69,100
Total	20	181,000	8,000	93	181,000	17,896	200	843	260,063	860,624	793	164,906	856,199

The primary amendments to the DSP are as follows:

- Changing the boundary between Blocks 1 and 1a in the DSP to include the 100 Altair Way site (APN: 209-07-007), which is currently part of Block 1a into Block 1;
- Amending text and tables as needed to reflect the proposed development capacity for the six project sites;
- Amending text and tables as needed to allow for the development standards proposed by specific development projects described in Section 2.3.2 below;
- Enhance the design guidelines for buildings, streetscapes and other public spaces; and
- Making other minor modifications to the DSP to ensure internal consistency.

The DSP amendments would also require amendments to SMC Chapter 19.28 (Downtown Specific Plan) to conform the development standards in the zoning code to the amended DSP. A copy of the proposed amended DSP is included in Appendix B.

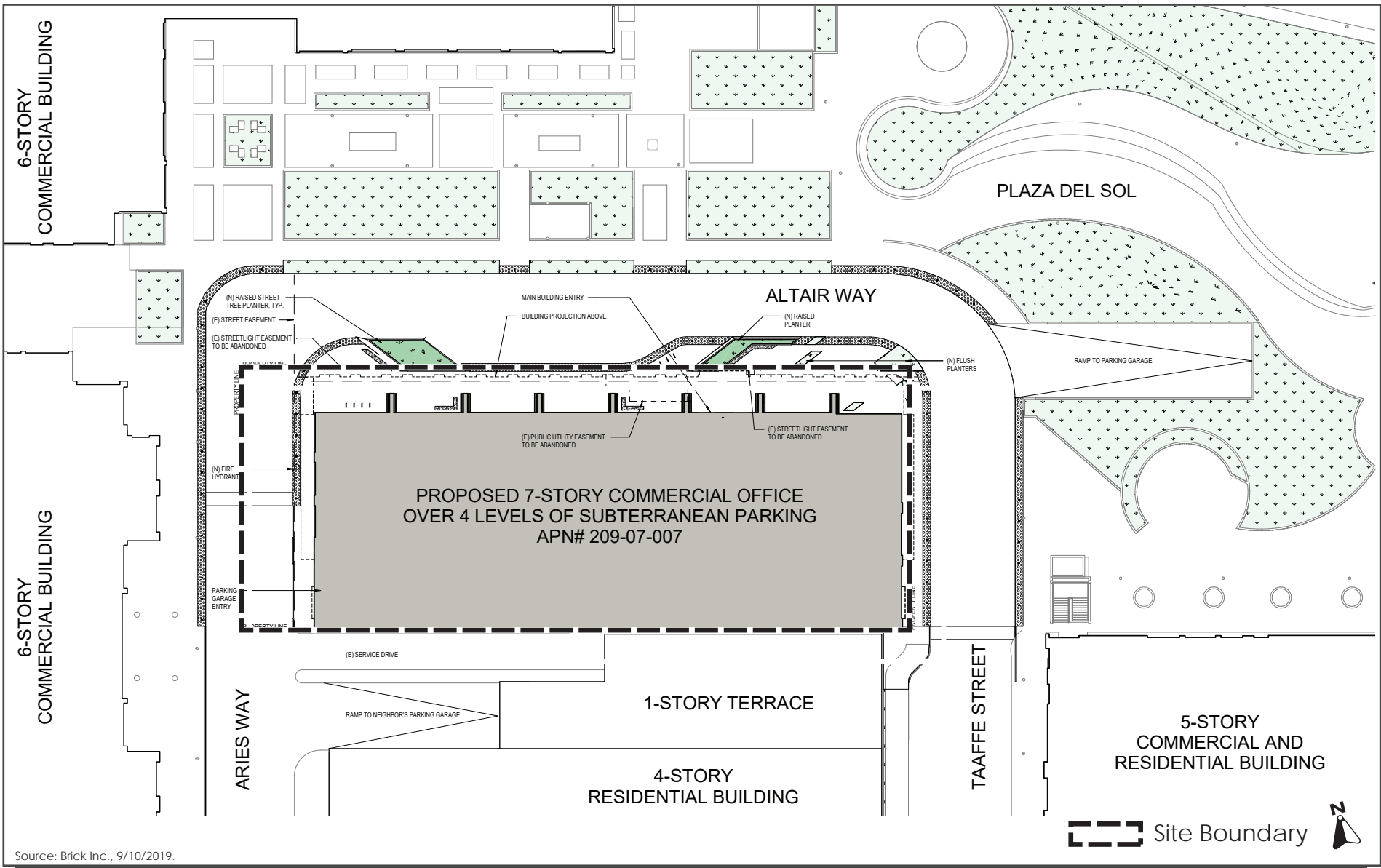
2.3.2 Six Development Projects

The six specific development proposals are described below and summarized in Table 2.3-1. It is estimated that each specific development proposal would take approximately one to 3.5 years to complete construction, starting as early as late 2019 and concluding as early as mid-2023. It is likely the proposed developments would overlap in construction. It is anticipated that all developments would be complete by 2024.

2.3.2.1 *100 Altair Way (within DSP Block 1a, but proposed to be part of DSP Block 1)*

The 100 Altair Way site is approximately 0.5-acre in size and located in DSP Block 1a at the southwest corner of Plaza Del Sol. There are currently two buildings on the site: a one-story commercial building of approximately 8,000 square feet occupied by a United States Post Office, and a three-story mixed-use building with approximately 4,000 square feet of commercial uses, ground level parking, and 20 residential units on the upper two floors.

The proposed development would demolish the existing buildings on-site and construct a seven-story (up to 116 feet in height), 134,324 square-foot office building with four levels of below ground parking. The proposed office building would include an approximately 9,500 square-foot rooftop terrace with passive recreational amenities such as walking paths, bocce ball area, and picnic tables. An approximately 37,000 cubic yards of soil would need to be excavated to a maximum depth of 43 feet for the below ground parking garage. A conceptual site plan and cross-section of the proposed 100 Altair Way development is shown in Figure 2.3-1 and Figure 2.3-2, respectively. The final design may vary from the conceptual design.



100 ALTAIR WAY CONCEPTUAL SITE PLAN

FIGURE 2.3-1



100 ALTIR WAY CONCEPTUAL CROSS SECTION

FIGURE 2.3-2

Green Building Measures

The development proposes to achieve LEED Gold³ standards and include green building measures such as on-site bicycle facilities (i.e., long- and short-term storage, showers, bike network), preferred parking for green vehicles, a green/cool roof, water-efficient landscaping, water-efficient fixtures, energy-efficient lighting, and low-emitting construction materials. LEED Gold projects have between 60 and 79 points on the LEED rating scale.

Site Access and Parking

Vehicle access to the site would be provided via two driveways on Aries Way, connecting to the proposed below ground parking garage. A total of approximate 310 parking spaces would be provided in the below ground parking garage, which would include mechanical lifts on the bottom level, and valet parking on-site. Any additional required spaces would be provided in nearby parking district facilities. A loading area is also proposed on Aries Way.

Bicycle parking on-site would be provided in accordance with the Santa Clara Valley Transportation Authority (VTA) Bicycle Technical Guidelines, which would require at least 17 Class I and five Class II bicycle parking spaces.⁴ Pedestrian access to the development would be provided via 12-foot wide sidewalks along Aries Way, Altair Way, and Taaffe Street.

2.3.2.2 300 Mathilda Avenue (within DSP Block 18, Sub-block 1)

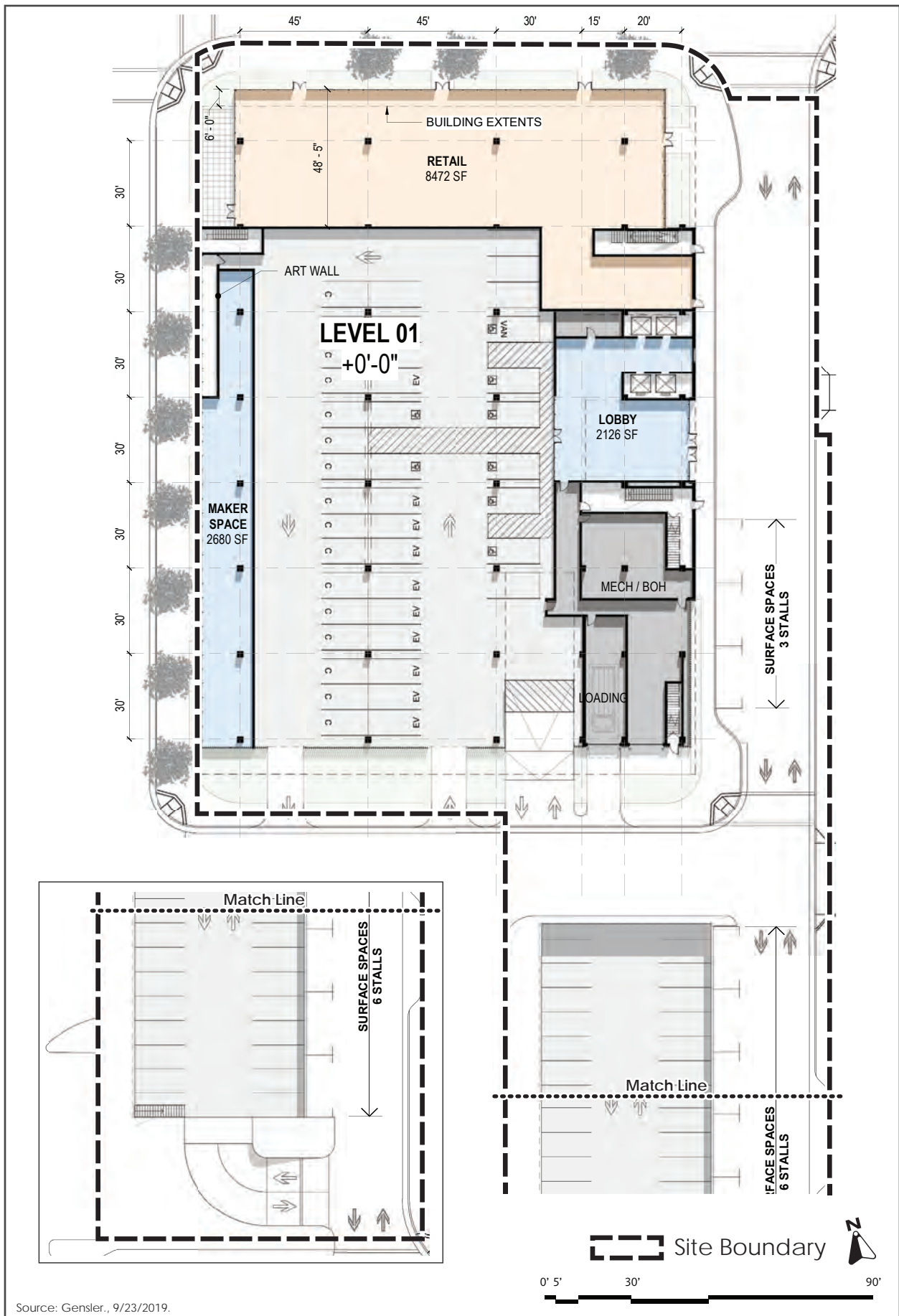
The 300 Mathilda Avenue site is an approximately 1.8-acre, undeveloped and vacant site. The proposed development would construct a five-story (up to 108 feet in height to the top of the elevator shaft), mixed-use building with 7,131 square feet of commercial uses and 153,000 square feet of office uses with two levels of below ground parking. An approximately 2,500 square foot open space area with passive recreational amenities including outdoor dining space and landscaped areas is proposed north of the building. A surface parking lot would be constructed south of the proposed building with access to the existing, adjacent three-story parking garage to the east of the site. The development would excavate a total of approximately 42,600 cubic yards of soil to a maximum excavation depth of 30 feet for the below ground parking garage. A conceptual site plan and cross-section of the proposed 300 South Mathilda Avenue development is shown in Figure 2.3-3 and Figure 2.3-4, respectively. The final design may vary from the conceptual design.

³ Leadership in Energy and Environmental Design (LEED) is a point-based building certification system. LEED has four levels of certification, with LEED Certified, LEED Silver, LEED Gold, and LEED Platinum ranked from the base to the highest level of certification.

⁴ The VTA Bicycle Technical Guidelines require the following number of bicycle spaces based on land use:

- General, multi-dwelling residential – 1 Class I per 3 units + 1 Class II per 15 units
- Retail Sales – 1 Class I per 30 employees + Class II per 6,000 square feet
- Restaurants – 1 Class I per 30 employees + Class II per 3,000 square feet
- Office – 1 per 6,000 square feet (75% Class I and 25% Class II)

Class I bicycle parking is long-term parking for residents and employees. Class II bicycle parking is short-term parking for visitors. Source: Santa Clara Valley Transportation Authority. *VTA Bicycle Technical Guidelines Table 10-3*. December 13, 2007.



300 MATHILDA AVENUE CONCEPTUAL SITE PLAN

FIGURE 2.3-3

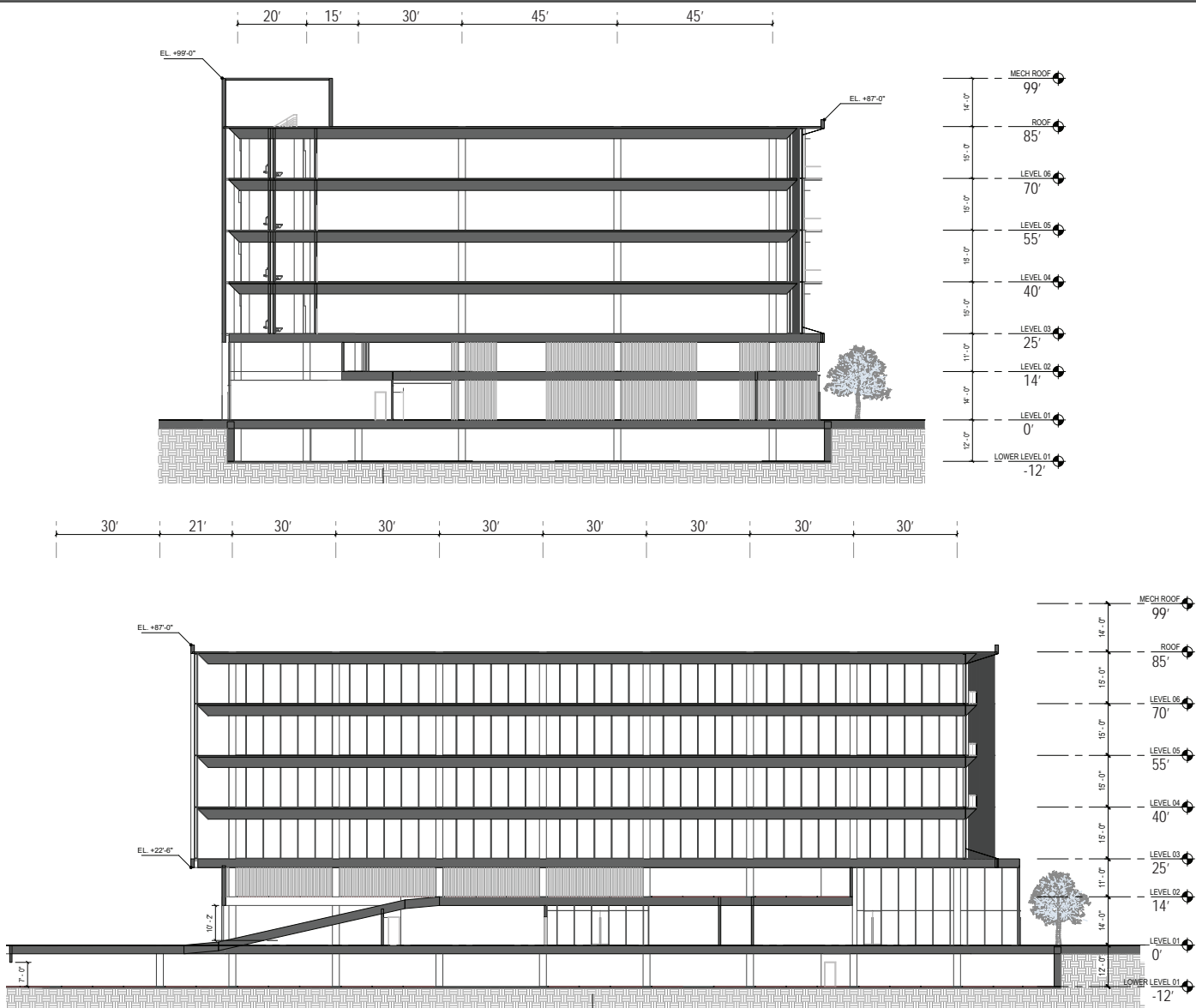


FIGURE 2.3-4

Green Building Measures

The development proposes to achieve LEED Gold standards with measures related to site location, site design and development, water use reduction, stormwater design, energy conservation and on-site generation, water treatment and reduction of use, and transportation. Green building measures that achieve LEED Gold standards include, but are not limited to, installing Energy Star appliances, planting water efficient landscaping, irrigating landscape with recycled water, installing low-flow plumbing, installing photovoltaic panels, using locally produced and recycled building construction materials, providing bicycle parking and amenities, and installing electric vehicle (EV) charging stations. The project would achieve LEED Gold standards through the list of items contained in the LEED criteria system.

Site Access and Parking

Vehicle access to the development would be provided via driveways on West McKinley Avenue, South Mathilda Avenue, and West Iowa Avenue. All driveways would provide access to the proposed below ground parking garage and surface parking lot. Access to the existing parking garage east of the development would be available from this project site as well.

A total of approximately 200 parking spaces would be provided in the below and above ground parking garage and an additional 50 parking spaces would be provided in the surface parking lot. Bicycle parking on-site would be provided in accordance with the VTA guidelines, which would require at least 22 Class I and seven Class II parking spaces.

Pedestrian access to the development would be provided via sidewalks on South Mathilda Avenue and West McKinley Avenue. The east side of the Aries Way private driveway includes a sidewalk that would provide access to the east side of the building.

2.3.2.3 *300 West Washington Avenue (DSP Block 18, Sub-block 2)*

The 300 West Washington Avenue site is an approximately 0.9-acre site currently under construction for a five-story, mixed use building that includes approximately 5,400 square feet of ground floor commercial uses and 124 residential units. The proposed project would convert an existing storage space within the building to create an additional residential unit.

2.3.2.4 *Macy's and Redwood Square (DSP Block 18, Sub-block 3)*

The Macy's and Redwood Square site constitute a single sub-block of approximately 7.3-acres in size between West Washington Avenue, South Murphy Avenue, West McKinley Avenue, and South Taaffe Street. The northern portion of the site along Washington Avenue is currently occupied by an approximately 177,000 square foot, two-story retail building occupied by a Macy's department store (the "Macy's building"). The southern portion of the site along McKinley Avenue consists of a large landscaped area with a grove of heritage redwood trees and a small parking lot. The northern portion of this site is referred to as "Macy's" and the southern portion of this site is referred to as "Redwood Square."

The proposed development would demolish the Macy's building and construct four new buildings on the site, as discussed below, while preserving most of the heritage redwood grove and creating an approximately one-acre plaza in the southwest corner of the site. The four proposed buildings would include the following:

- Two, seven-story (up to 124 feet in height) mixed-use buildings on the northern portion of the site with a total of 77,617 square feet of commercial uses⁵ and 499,775 square feet of office uses.
- Two, 12-story (up to 152 feet in height) mixed-use buildings on the southern portion of the site with a total of 44,158 square feet of ground floor commercial uses and up to 467 residential units. The ground floor would consist of mostly commercial uses emphasizing entertainment and restaurants.

In summary, this site would be developed with a total of 467 residential units, 121,775 square feet of commercial uses, and 499,775 square feet of office uses. Parking would be provided in a two-level, below-ground parking structure extending beneath all four buildings. The development would excavate a total of approximately 273,000 cubic yards of soil to a maximum excavation depth of 30 feet for the below ground parking garages.

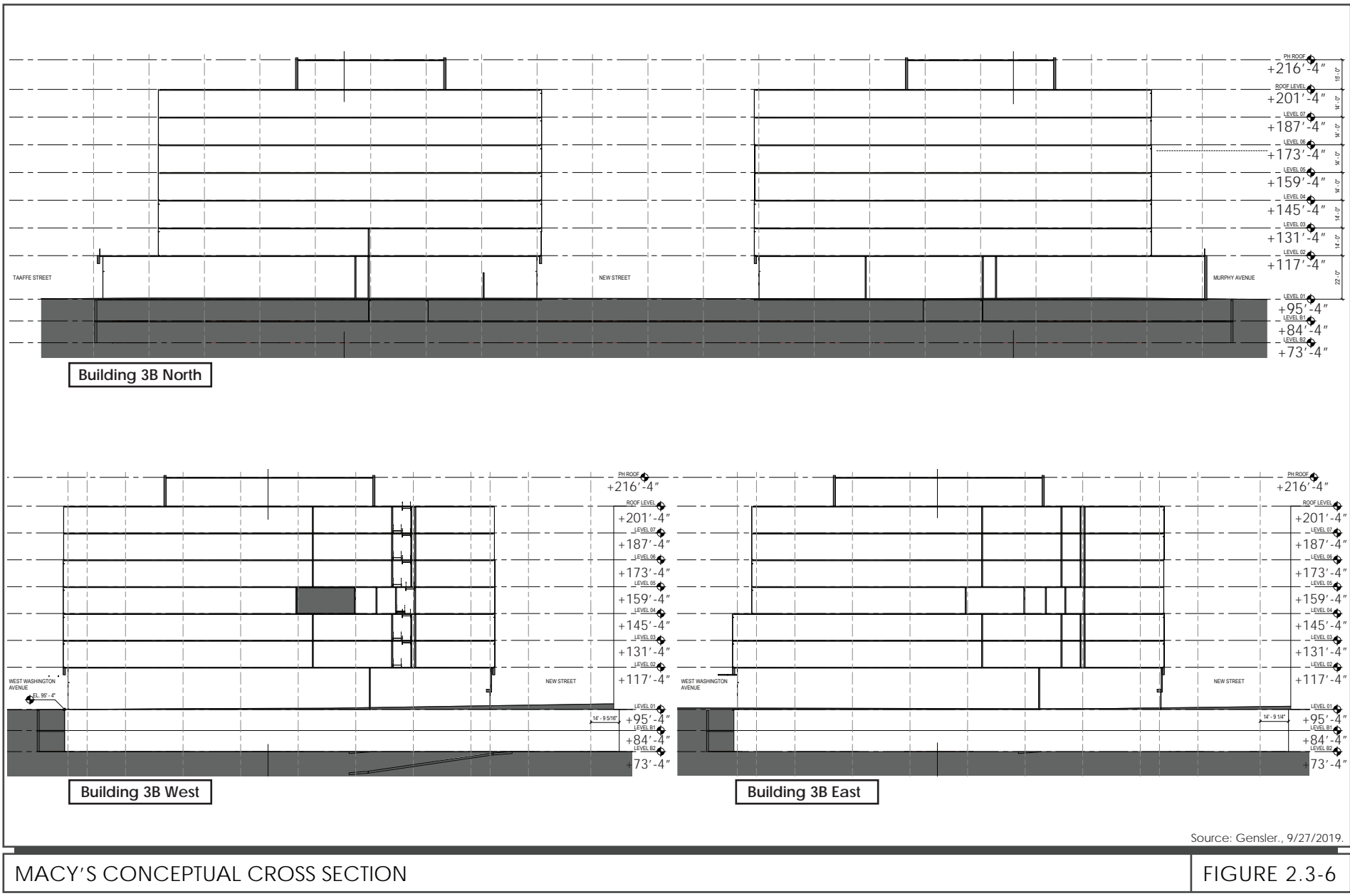
The existing heritage trees would be integrated into the landscaping of the approximate one-acre outdoor plaza at the southeast corner of the site. The outdoor plaza could include a combination of movable or temporary commercial structures totaling 2,100 square feet and passive recreational amenities such as landscaped areas, seating, play areas, and outdoor eating areas. As part of the development proposal, one of the existing redwood trees would be relocated to a different location in the plaza or some other appropriate area of the City.

In addition, South Frances Street would be extended south through the northern portion of the site. A new east-west internal driveway would bisect the site, intersecting the proposed South Frances Street extension, and providing a connection between South Taaffe Street and Murphy Avenue.

A conceptual site plan and cross-section of the proposed Macy's and Redwood Square development is shown in Figure 2.3-5, Figure 2.3-6, Figure 2.3-7, and Figure 2.3-8. The final design may vary from the conceptual design.

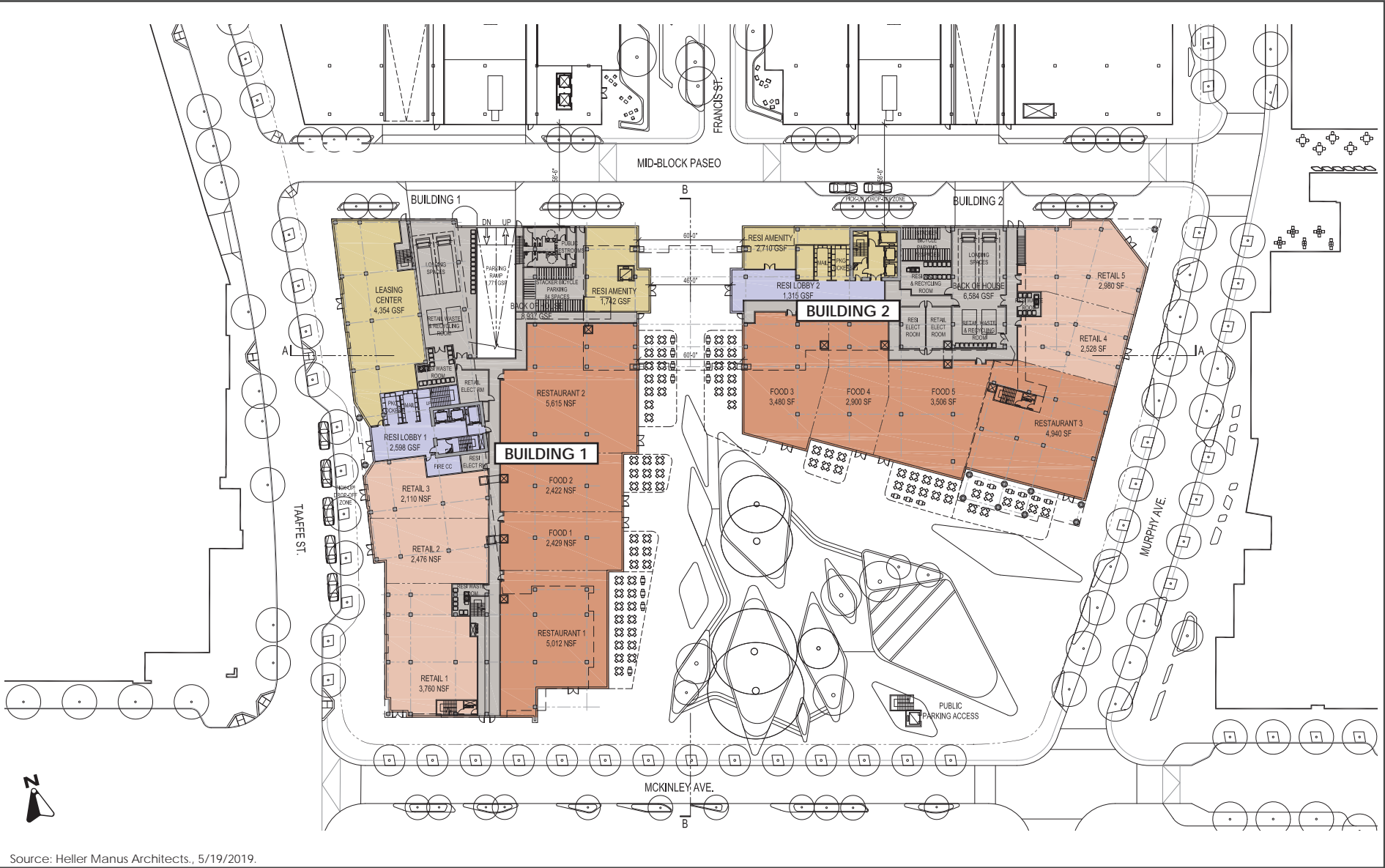
⁵ Of the approximately 77,600 square feet of commercial uses, approximately 38,000 square feet is proposed as "flex" space that could be used as either commercial or office.





MACY'S CONCEPTUAL CROSS SECTION

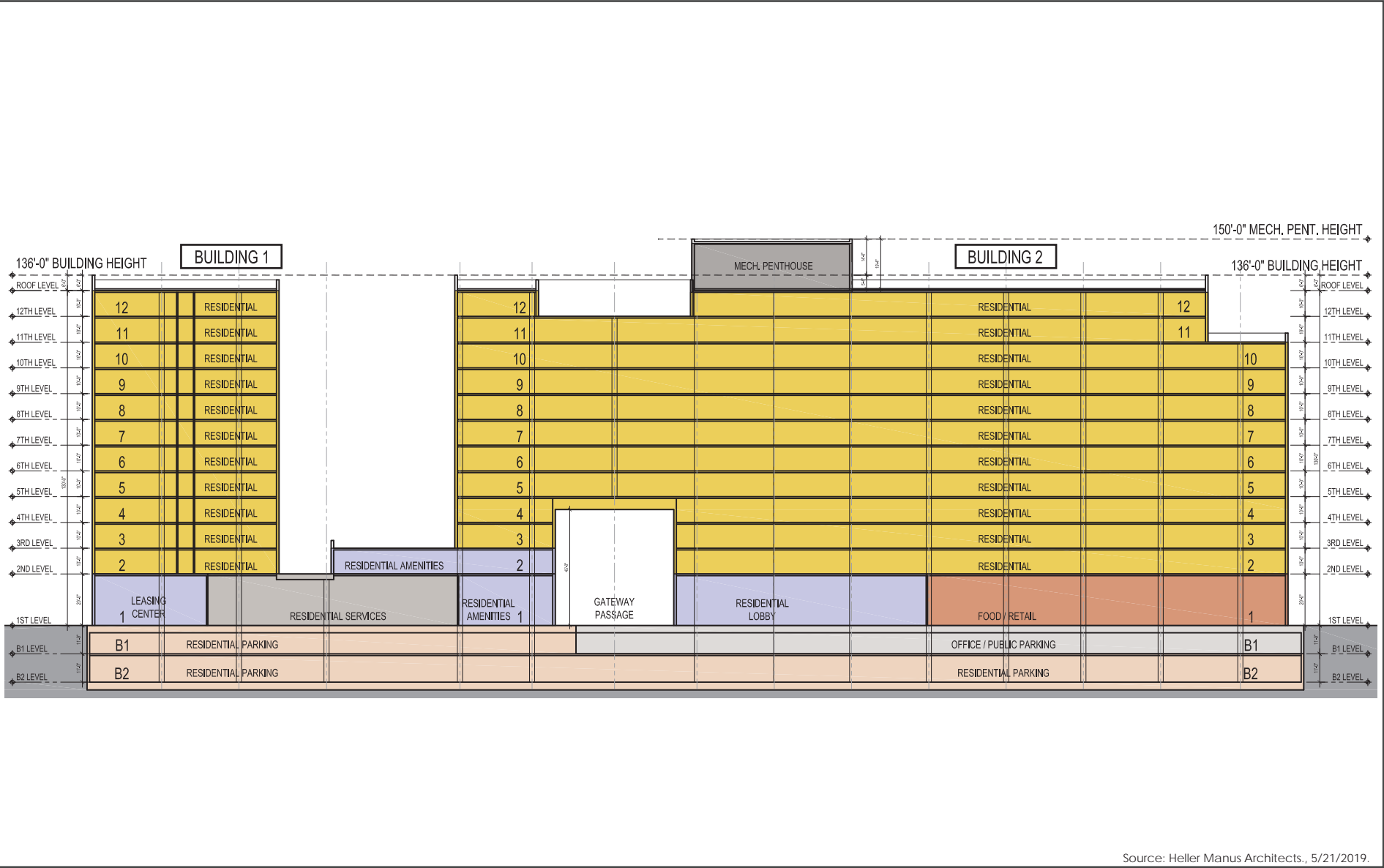
FIGURE 2.3-6



Source: Heller Manus Architects., 5/19/2019.

REDWOOD SQUARE CONCEPTUAL SITE PLAN

FIGURE 2.3-7



Source: Heller Manus Architects., 5/21/2019.

REDWOOD SQUARE CONCEPTUAL CROSS SECTION

FIGURE 2.3-8

Green Building Measures

The development proposes to achieve LEED Gold standards with measures related to site location, site design and development, water use reduction, stormwater design, energy conservation and on-site generation, water treatment and reduction, and transportation. Green building measures that achieve LEED Gold standards include, but are not limited to, installing Energy Star appliances, planting water efficient landscaping, irrigating landscape with recycled water, installing low-flow plumbing, installing photovoltaic panels, using locally produced and recycled building construction materials, providing bicycle parking and amenities, and installing EV charging stations. The project would be required to achieve LEED Gold standards through the list of items contained in the LEED criteria system.

Site Access and Parking

Vehicle access to the proposed development would be provided via driveways on West Washington Avenue, Taaffe Street, and Murphy Avenue. The proposed east-west internal driveway bisecting the site would provide a connection between Murphy Avenue and South Taaffe Street, and provide access to the proposed underground parking garages along with at-grade loading and service access to all the buildings.

The below ground parking garage on the northern portion of the site would include approximately 860 parking spaces. The below ground parking garage on the southern portion of the site would include approximately 480 parking spaces. Bicycle parking on-site would be provided in accordance with the VTA guidelines, which would require at least 202 Class I and 54 Class II parking spaces.

Pedestrian access to the site would be provided via sidewalks on Taaffe Street, West Washington Avenue, Murphy Avenue, and McKinley Avenue. New pedestrian access along the proposed South Frances Street extension and along the proposed east-west internal driveway.

2.3.2.5 *Town Center Sub-block 6 (DSP Block 18, Sub-block 6)*

The Town Center Sub-block 6 site is approximately 3.9-acres in size and is developed with a large surface parking lot (Macy's parking lot). The development proposes to redevelop the site with a seven-story (up to 94 feet in height) mixed use building with 36,000 square feet of ground floor commercial uses and 325 residential units.

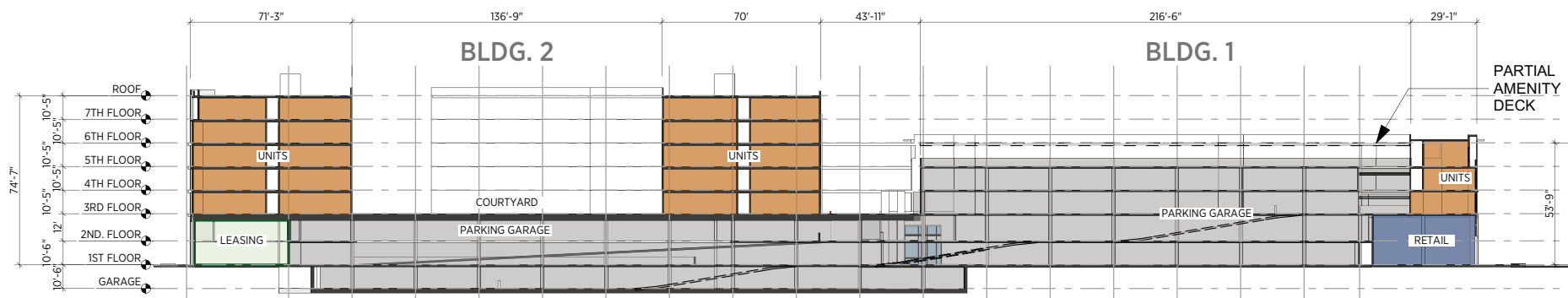
The proposed building would include one level of below ground parking, two levels of above ground parking with ground floor commercial uses and residential units lining the exterior of the parking and capped by a podium structure, and three to five levels of residential units above the podium. The number of residential levels is expected to vary across the site. The residential units on top of the podium structure would be situated around common open space areas which would include passive recreational amenities such as a pool, outdoor BBQ grills, gardens, landscaped areas, and seating areas.

The development would excavate a total of approximately 36,400 cubic yards of soil to a maximum excavation depth of 15 feet for the below ground parking garage. A conceptual site plan and cross-section of the proposed Town Center Sub-block 6 development is shown in Figure 2.3-9 and Figure 2.3-10, respectively. The final design may vary from the conceptual design.



TOWN CENTER SUB-BLOCK 6 CONCEPTUAL SITE PLAN

FIGURE 2.3-9



Source: Ankrom Moisan Architects, Inc., 9/25/2019.

TOWN CENTER SUB-BLOCK 6 CONCEPTUAL CROSS SECTION

FIGURE 2.3-10

Green Building Measures

The development proposes to achieve LEED Gold standards or Build It Green (BIG), 90 points or better, with measures related to site location, site design and development, water use reduction, stormwater design, energy conservation and on-site generation, water treatment and reduction, and transportation. Green building measures that achieve LEED Gold standards or a BIG score of at least 90 points include, but are not limited to, installing Energy Star appliances, planting water efficient landscaping, irrigating landscape with recycled water, installing low-flow plumbing, installing photovoltaic panels, using locally produced and recycled building construction materials, providing bicycle parking and amenities, and installing EV charging stations.

Site Access and Parking

Vehicle access to the proposed development would be provided via driveways on West McKinley Avenue and South Sunnyvale Avenue, which would lead to the parking structure. The parking structure would provide approximately 945 vehicle parking spaces. Bicycle parking on-site would be provided in accordance with the VTA guidelines, which would require at least 109 Class I and 33 Class II parking spaces.

Pedestrian access would be provided via sidewalks on West McKinley Avenue, East Washington Avenue, Murphy Avenue, South Sunnyvale Avenue. The project may include a new mid-block surface street.

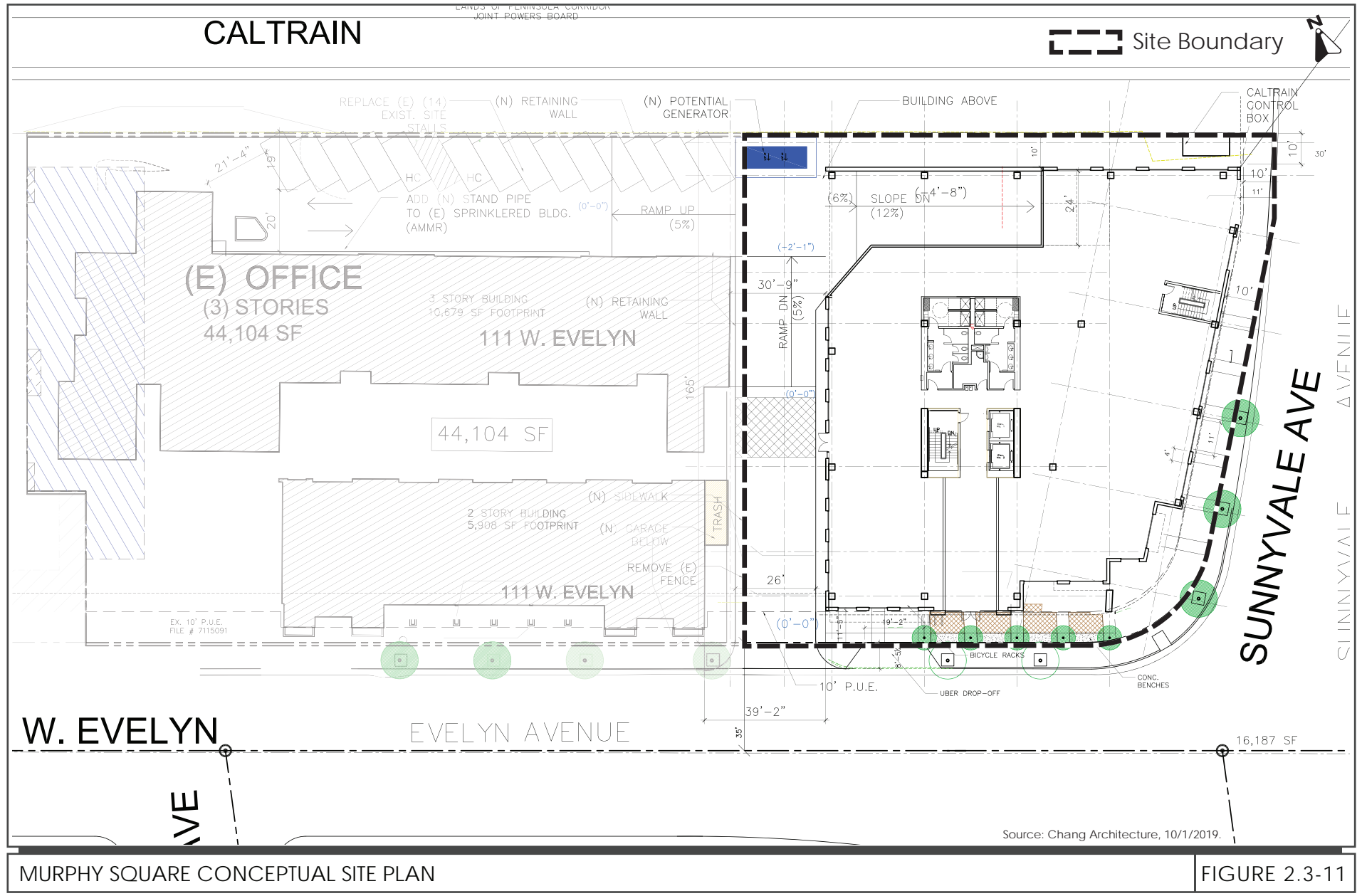
2.3.2.6 *Murphy Square (within DSP Block 22)*

The Murphy Square site is approximately 1.5-acres in size and located at the northwest corner of West Evelyn and North Sunnyvale Avenues. The Murphy Square site is currently developed with a surface parking lot that provides parking for the existing, adjacent building to the west. The proposed development would replace the existing surface parking lot with a four-story (up to 76 feet in height) 69,100-square foot office building with three levels of below ground parking. The development would excavate a total of approximately 85,380 cubic yards of soil to a maximum excavation depth of 34 feet for the below ground parking garage.

A conceptual site plan and cross-section of the proposed Murphy Square development is shown in Figure 2.3-11 and Figure 2.3-12. The final design may vary from the conceptual design.

Green Building Measures

The development proposes to achieve LEED Silver standards (or an equivalent standard) and include green building measures such as bicycle storage, EV parking and charging spaces, a bioretention area along the project driveway for at-grade stormwater, and planters against the building to capture roof rainwater.



MURPHY SQUARE CONCEPTUAL SITE PLAN

FIGURE 2.3-11

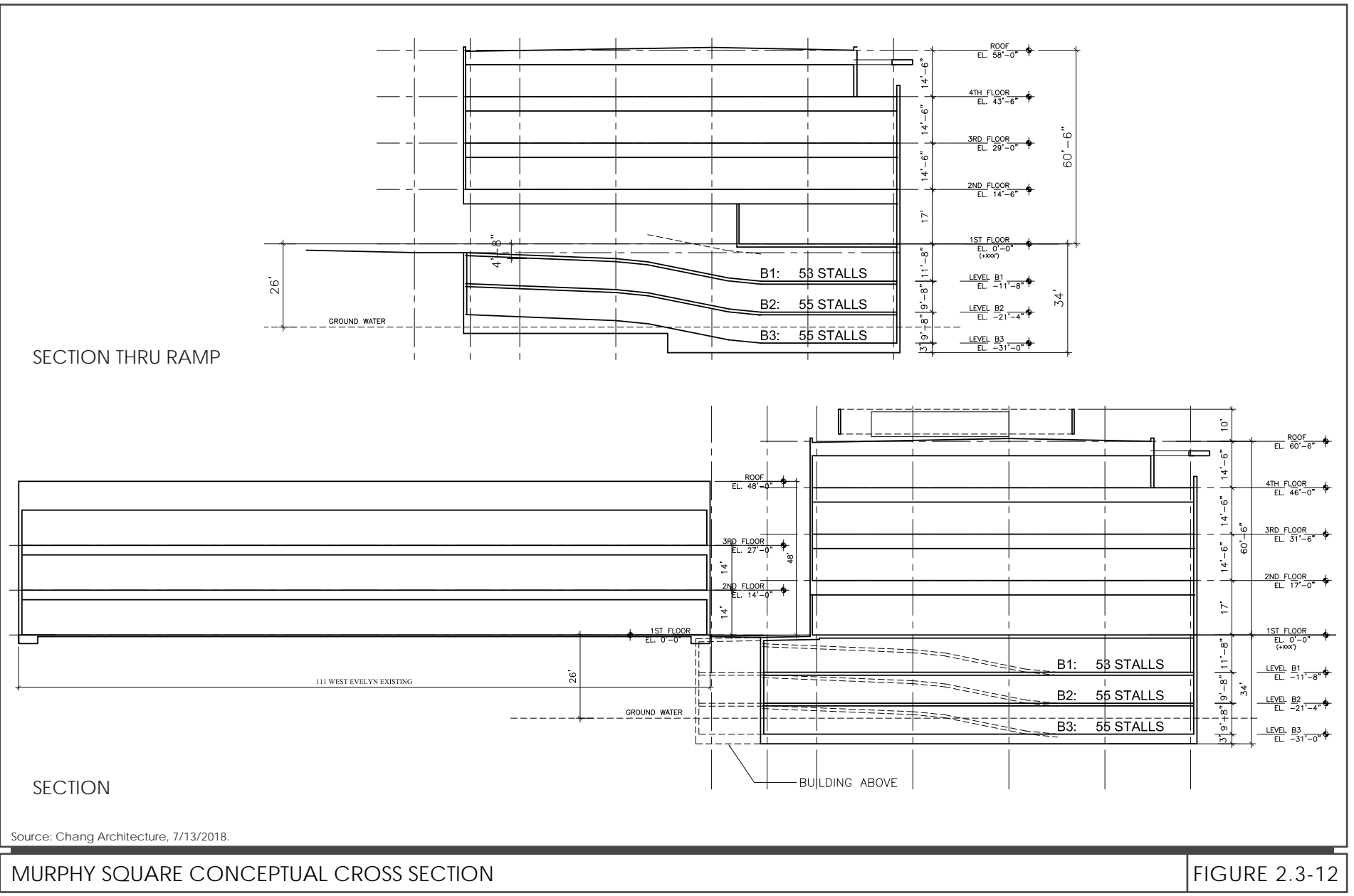


FIGURE 2.3-12

Site Access and Parking

Vehicle access to the proposed development would be provided via an existing shared driveway with the adjacent office building to the west of the project site on West Evelyn Avenue, which would lead to a proposed below ground parking garage. The parking garage would provide a total of 163 parking spaces (10 of which would be for EVs and 16 would be reserved for van pools). Ten of the existing surface parking spaces would remain. All other parking would be provided in the proposed underground garage. Bicycle parking on-site would be provided in accordance with the VTA guidelines, which would require at least nine Class I and three Class II bicycle parking spaces.

Pedestrian access to the development would be provided via sidewalks on South Sunnyvale Avenue, West Evelyn Avenue, and the shared driveway.

2.3.3 Bird Safe Design Measures

Future development under the proposed project shall confirm to the City's Bird Safe Design Guidelines. The six development projects would be consistent with the City's Bird Safe Design Guidelines by:

- Avoiding large, uninterrupted expanses of glass near open areas,
- Avoiding the funneling of open space towards a building face,
- Prohibiting glass skyways and freestanding glass walls,
- Prohibiting transparent glass walls coming together at building corners,
- Reducing glass at the top of the building,
- Prohibiting up-lighting or spotlights,
- Shielding outdoor lights,
- Incorporating shade control devices for all commercial and office windows and/or turning off commercial and office lights at night, and
- Creating smaller zones for internal lighting in accordance with California Code of Regulations (Title 24).

2.3.4 Landscaping

The proposed developments would plant new landscaping within the developments including around the perimeter of the buildings. The landscaping would include new trees, ornamental plants, and shrubs.

2.3.5 Right-of-Way Improvements

As discussed in Section 3.17 Transportation/Traffic, the project shall complete improvements to roadways as mitigation and pay a fair-share contribution towards large, planned roadway improvements. Future development under the proposed project (including the six development projects) is required to complete streetscape improvements in accordance with the City's Downtown Streetscape Standard Details and Specifications, which include standards and specifications for sidewalk paving, street tree planting and irrigation, street lights, and other street furniture.⁶

⁶ City of Sunnyvale. *Downtown Streetscape Standard Details and Specifications*. Revised June 2007.

2.3.6 Utility Infrastructure Improvements

The project would utilize existing utility connections to the six project sites where feasible and construct new utility service laterals to existing utility service systems (e.g., potable water, fire protection, sanitary sewer, storm drain, gas, and electric) in surrounding roadways. In addition, as discussed in Section 3.19 Utilities and Service Systems, the project shall pay fair-share contributions towards utility infrastructure improvements. In regards to sewer and water infrastructure, the payment of standard impact fees, specifically utility connection fees that fund maintenance, service, and improvements to existing utility systems (refer to Section 3.18 Utilities and Service Systems), by future development under the proposed project constitutes a development's fair-share contribution.

2.3.7 Conditions of Approval

The Conditions of Approval (COA) listed in Table 2.3-2 shall be incorporated into the approved project plans.

Table 2.3-2: Project Conditions of Approval		
Conditions of Approval	Applicable to:	
	DSP Amendments	Six Development Projects
Air Quality		
COA AQ-1: All Project Sites (except 300 West Washington Avenue): Prior to issuance of building permit, provide documentation that demonstrates generator equipment has obtained the proper BAAQMD permits.	✓	✓
COA AQ-2: Town Center Sub-block 6: Install air filtration in residential dwelling units located in the Town Center Sub-Block 6 site that would have PM _{2.5} levels exceeding the threshold of 0.30 µg/m ³ . Air filtration devices shall be rated with Minimum Efficiency Reporting Value (MERV) 13 or higher for portions of the site that have annual PM _{2.5} exposure at 0.30 µg/m ³ . Require property documents identify the property owner/manager as responsible for implementing an ongoing maintenance plan for the buildings' heating, ventilation, and air conditioning (HVAC) air filtration system.	✓	✓
Noise		
COA NOI-1: All Project Sites (except 300 West Washington Avenue): Complete a project-specific acoustical analysis to confirm that interior noise levels meet state interior noise standards (45 dBA DNL for residential land use, and 50 dBA L _{eq} (1-hour) for office and commercial land use).	✓	-

Table 2.3-2: Project Conditions of Approval		
Conditions of Approval	Applicable to:	
	DSP Amendments	Six Development Projects
COA NOI-2: 300 Mathilda Avenue: Provide forced-air mechanical ventilation, as determined by the local building official, for all western facing offices at 300 Mathilda Avenue to meet the state interior noise standard of 50 dBA L_{eq-1hr} .	-	✓
COA NOI-3: Macy's and Redwood Square, and Town Center Sub-block 6: Provide forced-air mechanical ventilation, as determined by the local building official, for all residential units proposed at the Macy's and Redwood Square site and Town Center Sub-block 6 site to meet the state interior noise standard of 45 dBA DNL.	-	✓
COA NOI-4: Murphy Square: Provide forced-air mechanical ventilation, as determined by the local building official, for offices at Murphy Square to meet the state's interior noise standard of 50 dBA L_{eq-1hr} . For offices with east and west facing façades, a combination of forced-air mechanical ventilation and sound-rated construction methods may be necessary. For north facing offices, additional noise insulation may be required.	-	✓
COA NOI-5: Murphy Square: Submit a Vibration Reduction Plan prepared by a qualified acoustical consultant for City review and approval prior to construction that contains vibration reduction measures to reduce groundborne vibration to acceptable levels per FTA standards.	✓	✓
Transportation		
COA TRN-1: 100 Altair Way: Install a stop sign at the exit of the project driveway and an enhanced pedestrian crosswalk that includes pedestrian-actuated warning systems (such as a Rectangular Rapid Flashing Beacon) across Altair Way to Plaza del Sol.	-	✓
COA TRN-2: 300 Mathilda Avenue: Install stop signs at the exit of the driveways and at the ramp from the parking structure.	-	✓
COA TRN-3: Macy's and Redwood Square: Install stop signs at the exit of the project driveways and at the intersection of the east-west and north-south access roads, and install an enhanced pedestrian crosswalk that includes pedestrian-actuated warning systems (such as a Rectangular Rapid Flashing Beacon) across the east-west access road.	-	✓
COA TRN-4: Town Center Sub-Block 6: Install stop signs at the exit of the driveways.	-	✓

Table 2.3-2: Project Conditions of Approval		
Conditions of Approval	Applicable to:	
	DSP Amendments	Six Development Projects
COA TRN-5: All Project Sites: Consistent with VTA Guidelines, future development under the project shall coordinate with the City and VTA to identify feasible transit priority measures near the affected facilities and include contributions to any applicable projects that improve transit speed and reliability.	✓	✓
COA TRN-7: All Project Sites: Provide bicycle parking per the VTA standards.	✓	✓
Notes: ✓ = yes applicable; - = not applicable		

2.4 PROJECT OBJECTIVES

The City's vision for the DSP area is a vibrant and traditional downtown that serves the local community with a desirable mix of retailers, restaurants, corporate tenants, residents, and is a regional destination providing a unique and highly active environment. To achieve this vision, the City's objectives for the DSP amendments are as follows:

1. Enhance the prominence of downtown as the center of the community with the addition of iconic and high quality architecture.
2. Create an urban downtown containing a wide range of live/work options while supporting market trends for retail services and entertainment opportunities in an area that is adjacent to the transit center.
3. Maximize employment opportunities that are responsive to future job market needs, such as research and development and technology businesses, to enhance local economic vitality.
4. Maximize opportunities for higher-density housing to increase the number of new housing units that are affordable at a range of income levels and that serve a variety of household types to help address regional housing needs.
5. Create a distinct and strong sense of place by providing enhanced connections and dynamic gathering places while accommodating taller buildings with larger community gathering spaces.
6. Allow sufficient density and intensity to attract financially feasible private development that will support community benefits, such as parks, open space, affordable housing accessible to lower and moderate income households.
7. Create a district that promotes the use of a variety of sustainable transportation modes such as; bikes, pedestrian, ride-share, transit, and discourages the use of single-occupancy/private automobiles.
8. Maximize employment and housing density in proximity to major transit stops, consistent with the statewide sustainability goals of reducing vehicle miles traveled and minimizing greenhouse gas emissions per service population.

2.5 USES OF THE EIR

This EIR provides decision makers in the City of Sunnyvale and the general public with environmental information to use in considering the proposed project. It is intended that this EIR be used for the discretionary approvals necessary to implement the project, as proposed. These discretionary actions may include, but are not limited to, the following:

City of Sunnyvale

- Specific Plan amendments
- Municipal Code amendments
- Special development permits
- Subdivision/condominium maps
- Architectural and site approvals
- Tree removal permits
- Development agreements
- Encroachment permits

Airport Land Use Commission

- Consistency determination

Ministerial permits would subsequently be obtained from the City, which could include demolition permits, grading permits, and building permits, in order to complete the projects.

SECTION 3.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

3.1	Aesthetics	3.10	Hydrology and Water Quality
3.2	Agricultural and Forestry Resources	3.11	Land Use and Planning
3.3	Air Quality	3.12	Mineral Resources
3.4	Biological Resources	3.13	Noise and Vibration
3.5	Cultural Resources	3.14	Population and Housing
3.6	Energy	3.15	Public Services
3.7	Geology and Soils	3.16	Recreation
3.8	Greenhouse Gas Emissions	3.17	Transportation/Traffic
3.9	Hazards and Hazardous Materials	3.18	Utilities and Service Systems

The discussion for each environmental subject includes the following subsections:

ENVIRONMENTAL SETTING

This subsection (1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and (2) describes the existing, physical environmental conditions at the project sites and in the surrounding area, as relevant.

The environmental baseline, for the purpose of this EIR, consists of the physical environmental conditions in the vicinity of the project as they exist at the time the Notice of Preparation was published (May 7, 2018), in addition to future environmental baseline conditions (planned future conditions without the project) including approximately year 2022 to evaluate background traffic impacts (refer to Section 3.17 Transportation/Traffic) and year 2035 to evaluate select cumulative impacts.

IMPACT DISCUSSION

This subsection includes the recommended checklist questions from Appendix G of the 2018 CEQA Guidelines to assess impacts. The revised 2019 CEQA Guidelines Appendix G was reviewed to ensure that major impact concerns were not overlooked in the preparation of this document.

Project Impacts

As discussed in Section 2.3 Project Description, the project includes two components: (1) DSP amendments and (2) six development projects. The City could approve the DSP amendments only or approve both the DSP amendments and the six development projects. The six development projects cannot be approved without the DSP amendments.

Per CEQA Guidelines Section 15146: The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR.

- (a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy.
- (b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow.

This EIR provides a program-level review of the proposed DSP amendments, pursuant to CEQA Guidelines Section 15146(b), and project-level review of the six development projects, pursuant to CEQA Guidelines Section 15146(a).

Cumulative Impacts

The project's cumulative impacts on the resource are also discussed. Cumulative impacts, as defined by CEQA, refer to two or more individual effects, which when combined, compound, or increase other environmental impacts. Cumulative impacts may result from individually minor, but collectively significant effects taking place over a period of time. CEQA Guideline Section 15130 states that an EIR should 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 impacts that might result from approval of past, present, and reasonably foreseeable future projects, in conjunction with the proposed project addressed in this EIR.

CEQA Guidelines Section 15130(b) advises that a discussion of cumulative impacts should reflect both their severity and the likelihood of their occurrence. To accomplish these two objectives, the analysis should include either a list of past, present, and probable future projects or a summary of projections from an adopted general plan or similar document. This EIR uses the list of projects approach, as well as projections for select discussions.

The analysis must then determine whether the project's contribution to any cumulatively significant impact is cumulatively considerable, as defined by CEQA Guideline Section 15065(a)(3). The cumulative impacts discussion for each environmental issue addresses two aspects of cumulative impacts: (1) would the effects of all of the past, present, and probable future (pending) developments listed result in a cumulatively significant impact on the resources in question; and, if that cumulative impact is likely to be significant, (2) would the contributions from the proposed project to that significant cumulative impact be cumulatively considerable?

Table 3.0-1 identifies the pending and approved (but not yet constructed or occupied) projects within 1,000 feet of the six project sites that were included in the cumulative analysis. The Caltrain Grade Separation project for a new road overpass or underpass for Sunnyvale Avenue at the existing railroad crossing (located between Hendy Avenue and Evelyn Avenues), is still in the early planning stages and there are no definitive plans or funding sources for this potential cumulative project. For this reason, the Caltrain Grade Separation project was not considered further in the cumulative analysis. A comprehensive list of all cumulative projects considered (including those beyond 1,000 feet) is included in Appendix I of this EIR.

For each environmental issue, cumulative impacts may occur over different geographic areas. For example, the project effects on air quality would combine with the effects of projects in the entire air basin, whereas noise impacts would primarily be localized to the surrounding area.

Mitigation Measures

For significant impacts, potential mitigation measures are identified and analyzed for feasibility. “Mitigation measures” are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). The mitigation measures that are appropriate for the types of approvals being considered also differ in terms of their specificity. Mitigation measures for both the program-level analysis of the DSP amendments and project-level analyses for the six development projects are identified. The mitigation measures for the program-level analysis would apply to all future development in the DSP on the six project sites, including the six development projects.

Each impact is numbered using an alphanumeric system that identifies the environmental issue. For example, **Impact HAZ-1** denotes the first potentially significant impact discussed in the Hazards and Hazardous Materials section. Mitigation measures are also numbered to correspond to the impact they address. For example, **MM HAZ-1.3** refers to the third mitigation measure for the first impact in the Hazards and Hazardous Materials section.

The EIR identifies infrastructure improvements to reduce impacts of the project. While preliminary information about the needed infrastructure improvements are provided, detailed design has not yet been done. Pursuant to CEQA Guidelines Section 15126.4(a)(B), the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project’s environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard. The infrastructure improvements identified in this EIR as mitigation include performance standards and would be required by the City as part of the project. In addition, where the infrastructure mitigation may result in secondary impacts of its own, that information is provided. Pursuant to CEQA Guidelines Section 15126.4(a)(D), if mitigation would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed.

Table 3.0-1: Cumulative Projects within 1,000 Feet of the Six Project Sites			
Project Name	Address	Distance from Project (miles)	Description
Pending Projects			
220 Carroll Street	220 Carroll Street	0.10	Demolish two single-family homes and construct 15 townhome units.
401 East Hendy Avenue	401 East Hendy Avenue	0.20	Allow a 20,500 square foot addition to an existing 11,500 square foot building and demolish a portion of two buildings with historical significance and complete demolition of one building.
421 East Washington Avenue	421 East Washington Avenue	0.20	Demolish one single-family home and subdivide one lot into two lots and build two new single-family homes.
364 Beemer Avenue	364 Beemer Avenue	0.20	Demolish one single-family home and subdivide one lot into two lots and build two new single-family homes.
Approved But Not Yet Fully Constructed/Occupied			
Civic Center Modernization Master Plan	456 W Olive Ave, Sunnyvale	0.11	Demolish approximately 113,900 square feet of building space to construct 294,000 square feet of building spaces.
365 Beemer Avenue	365 Beemer Avenue	0.20	Demolish one single-family home and subdivide one lot into two lots and build two new single-family homes.
305 Beemer Avenue	305 Beemer Avenue	0.20	Two new 2-story single family homes on subdivided lots.
311 South Mathilda Avenue	311 South Mathilda Avenue	0.04	Redevelop commercial site into a five-story mixed-use building consisting of 5,000 square feet of restaurant floor area and 75 residential units.
331 Beemer Avenue	331 Beemer Avenue	0.20	Demolish one single-family home and subdivide one lot into two lots and build two new single-family homes.
Water Pollution Control Plant (WPCP) Master Plan	1444 Borregas Avenue	3.0	The Master Plan is a long-term guide for replacing the WPCP's facilities and operations. The purpose of the Master Plan is to ensure that the WPCP can meet changing regulations, treat existing and projected wastewater flows reliably and cost effectively, and increase recycled water production.
Note: This table reflects the cumulative projects at the time the NOP was circulated in May 2018.			

3.1 AESTHETICS

3.1.1 Environmental Setting

3.1.1.1 *Regulatory Framework*

State

Senate Bill 743

Senate Bill (SB) 743 was adopted in 2013 and, among other changes, SB 743 specifies that aesthetic impacts of qualifying transit oriented developments are not considered significant impacts on the environment if:

1. The project is a residential, mixed-use residential, or employment center project, and
2. The project is located on an infill site within a transit priority area.⁷

The exemption for aesthetic impacts does not include impacts to historic or cultural resources, however. In addition, local governments retain their ability to regulate a project's transportation, aesthetics, and parking impacts outside of the CEQA process.

Scenic Highways Program

The California Scenic Highway Program is managed by the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. State laws governing the Scenic Highway Program are found in the Streets and Highway Code, Sections 260 through 263.

In Santa Clara County, the one state-designated scenic highway is State Route (SR) 9 from the Santa Cruz County line to the Los Gatos City limit. Eligible State Scenic Highways (not officially designated) include: SR 17 from the Santa Cruz County line to SR 9, SR 35 from Santa Cruz County line to SR 9, Interstate 280 (I-280) from the San Mateo County line to SR 17, and the entire length of SR 152 within the County.

⁷ An "infill site" is defined as "a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses." A "transit priority area" is defined as "an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations." A "major transit stop" means "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods." Source: Office of Planning and Research. "Changes to CEQA for Transit Oriented Development – FAQ." October 14, 2014. Accessed: May 1, 2018. Available at: <http://www.opr.ca.gov/ceqa/updates/sb-743/transit-oriented.html>.

Local

City of Sunnyvale General Plan

The City of Sunnyvale General Plan (General Plan) includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to aesthetic resources and are applicable to the proposed project.

Policy	Description
Land Use and Transportation Element	
LT-4.3	Enforce design review guidelines and zoning standards that ensure the mass and scale of new structures are compatible with adjacent structures, and also recognize the City's vision of the future for transition areas such as neighborhood Village Centers and El Camino Real nodes.
LT-13.2	Improve the visual appearance of business areas and districts by applying high standards of architectural design, landscaping, and sign standards for new development and the reuse or remodeling of existing buildings.
LT-13.8	Require high design standards for office, industrial, and research and development buildings in all business districts.
Community Character Element	
CC-1.3	Ensure that new development is compatible with the character of special districts and residential neighborhoods.
CC-3.1	Place a priority on quality architecture and site design which will enhance the image of Sunnyvale and create a vital and attractive environment for businesses, residents and visitors, and be reasonably balanced with the need for economic development to assure Sunnyvale's economic prosperity.
CC-3.2	Ensure site design is compatible with the natural and surrounding built environment.
CC-5.2	Enhance the visual character of the city by preserving diverse as well as harmonious architectural styles, reflecting various phases of the city's historical development and the cultural traditions of past and present residents.

Downtown Specific Plan

The DSP contains specific land use and design standards for new development in downtown Sunnyvale. The DSP is broken up into separate development blocks, with each block having its own specific design standards. Similar to the Zoning Code below, the design standards of the DSP include items such as building height, building density, and lighting, as well as specific architectural and style requirements.

Sunnyvale Municipal Code

SMC Title 19 (Zoning) provides development standards and regulations that are meant to enhance the visual quality of new development through building height limits, building density, building design and landscaping standards, architectural features, setback requirements, sign regulations, usable open space requirements, and public artwork in private developments.

The Zoning Code promotes good design and careful planning of development projects to enhance the visual environment. The City's development review process includes the review of preliminary plans and the consideration of public input by the Zoning Administrator, the Planning Commission, and the City Council. The City reviews private and public development applications for conformance with City plans, ordinances, and policies related to zoning, urban design, and CEQA.

- Chapter 19.94 (Tree Preservation) regulates the protection, installation, removal and long term management of significantly sized trees on private property within the City and City-owned golf courses and parks; encourages the proper protection and maintenance of significantly sized trees which are located on such property; establishes a review and permit procedure to assure the correct planting, maintenance, protection and removal of significant trees on such property; and establishes penalties for violation of its provisions. The provisions of Chapter 19.94 identify and prescribe specific procedures and requirements for the filing, processing, and consideration of the removal and preservation of trees. A significant size tree, or protected tree, is defined as:
 - Any single trunk tree 38 inches or greater in circumference (the circumference of the tree is measured at 4.5 feet above the ground); or
 - Any multi-trunk tree which has at least one trunk 38 inches or greater in circumference or where the measurements of the multi-trunks added together equal at least 113 inches.

In addition to the provisions of the Zoning Code, Chapter 13.16 (City Trees) within SMC Title 13 provides guidance and regulations on City trees, including protected trees, removal or damage to trees, and permitting. Permitting is required for planting trees in the public right of way, removal or maintenance to protected trees, and construction affecting protected trees.

3.1.1.2 *Existing Conditions*

Scenic Vistas

The term “vista” generally implies an expansive view, usually from an elevated point or open area. A scenic vista is a view of an area that is visually or aesthetically pleasing. Aesthetic components of a scenic vista include scenic quality, sensitivity level, and view access. A scenic vista is a view of natural environmental, historic, and/or architectural features possessing visual and aesthetic qualities of value to the community. Given that the DSP area is relatively flat, and the fact that the project area is mostly built out, views of scenic vistas from the project area are limited. Glimpses of the Santa Cruz Mountain Range to the west can be seen from South Sunnyvale Avenue and South Mathilda Avenue.

Tree Resources

There are a total of 87 trees on the Macy's and Redwood Square, Town Center Sub-block 6, and Murphy Square sites. The health of these trees varies from poor to good. Of the 87 trees, 37 trees are of significant size and six of the 37 significant size trees are designated as heritage trees. Additional details about the existing trees are provided in Sections 3.4 Biological Resources and 3.5 Cultural Resources.

Scenic Highways and Roadways

According to the California State Scenic Highway Program, no state-designated scenic highways occur within or adjacent to the City.⁸

Visual Character and Quality

The DSP area consists of a mix of land uses, building heights, and architectural styles. The City's historic downtown area along South Murphy Avenue is developed mostly with one- to two-story buildings. The exterior of these buildings consists of large ground-floor windows, awnings, and minimal building articulation.

There are multi-story residential and office buildings on South Taaffe Street and south of West Washington Avenue. These buildings are more contemporary in design, with exteriors of glass, concrete, and metal that are distinct from the historic buildings on South Murphy Avenue.

Sidewalks are present throughout the DSP area, with landscaping trees, shrubs, and grass spread out along them. The DSP area also has several large above ground parking structures and surface parking lots on Block 18. A visual description of each project site is provided below.

100 Altair Way

The 100 Altair Way site is developed with two buildings. There is a one-story, approximately 25-foot tall rectangular commercial building with a limited number of windows at the southwest corner of South Taaffe Street and Altair Way. This building is currently occupied by the United States Post Office. The post office building is cream colored concrete with brick detailing on the front of the building facing South Taaffe Street and green painted vertical columns. The second building on-site is a three-story, approximately 40-foot tall rectangular, mixed-use building with ground floor commercial uses and two stories of residential units above. This mixed-use building abuts the post office building to the west. The mixed-use building is primarily tan colored stucco with brown trim. There are large windows and glass doors typical of commercial uses on the ground floor and windows and patios on the upper two floors. A gated entrance into an interior surface parking lot is located on Aries Way on the west side of the building.

The 100 Altair Way site is surrounded by two-lane roadways to the north, east, and west (Altair Way, Taaffe Street, and Aries Way, respectively) and a four-story residential development to the south. A public plaza with landscaping and seating areas is located north and northeast of this site, north of

⁸ California Department of Transportation. "California Scenic Highway Mapping System". Accessed September 11, 2018. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm.

Altair Way and east of South Taaffe Street; a seven-story glass and brick façade office building is located west of this site, west of Aries Way; and a contemporary five-story residential building (Loft House) is located southeast of the site.

300 Mathilda Avenue

The 300 Mathilda Avenue site is currently an undeveloped vacant lot being used as a staging site for other construction projects in the DSP area. Wood and chain link fencing is present along the perimeter of this site. There are portable buildings, construction equipment, and light-duty trucks on this site. A gated construction entrance is located on West McKinley Avenue.

The 300 Mathilda Avenue site is bordered by a two-lane roadway (West McKinley Avenue to the north, a seven-lane roadway to the west (Mathilda Avenue), and a three-story parking garage and contemporary five-story apartment building with ground floor commercial uses (The Flats) to the east. A five-story glass and metal office building is north of this site across West McKinley Avenue, and a two-story circular glass and concrete commercial building (Bank of the West) is located south of this site on the corner of South Mathilda Avenue and West Iowa Street.

300 West Washington Avenue

The 300 West Washington Avenue site is under construction with a five-story, approximately 50-foot tall contemporary apartment building (The Flats) with ground floor commercial uses. The apartment building is multi-colored with shades of white, grey, and brown and large ground floor windows for the commercial spaces. Small private balconies are located on the upper residential floors.

The 300 West Washington Avenue site is surrounded by two-lane roadways to the north, east, and west (West Washington Avenue, South Taaffe Street, and Aries Way); and a three-story parking garage to the south. North of this site, across West Washington Avenue, is a similar, multi-story contemporary apartment building. West of this site is a five-story glass and metal office building and east of this site is an older, two-story commercial building occupied by Macy's.

Macy's and Redwood Square

The northern half of the Macy's and Redwood Square site is currently developed with a two-story, approximately 25 foot tall commercial building occupied by Macy's and a small surface parking lot. The Macy's building is cream colored and made of brick and concrete with wood accents. The parking lot entrance and main entrance to the building is located on the east side of the building on Murphy Avenue. A pedestrian overcrossing connects the Macy's building with the parking garage west of the site.

The southern half of this site (commonly referred to as Redwood Square) is developed with a large landscaped area and small surface parking lot. Most of the landscaped area consists of grass areas and mulch. A grove of six heritage redwood trees is located in the middle of the landscaped area. Vehicular access to the surface parking lot is provided on Murphy Avenue.

The Macy's and Redwood Square site is surrounded by two-lane roadways on all sides (West Washington Avenue, South Murphy Avenue, West McKinley Avenue, and South Taaffe Street). A large surface parking lot (located on Town Center Sub-block 6) is east of the site across Murphy

Avenue; a two-story contemporary commercial building with glass and metal facades (Target) is south of this site across West McKinley Avenue; two, five-story contemporary apartment buildings and a three-story parking garage are to the west; and a five-story contemporary apartment building along with one- and two-story stucco commercial buildings to the north across West Washington Avenue.

Town Center Sub-block 6

The Town Center Sub-block 6 site is currently developed with a large surface parking lot and landscaping along the perimeter. There are two driveways to the parking lot on Murphy Avenue and South Sunnyvale Avenue. The site is surrounded by two-lane roadways on all sides (West Washington Avenue, South Sunnyvale Avenue, West McKinley Avenue, and South Murphy Avenue). An active construction site for a planned grocery store and movie theater is south of this site across West McKinley Avenue; east of this site are Spanish-style one- and two-story commercial buildings and three-story apartment buildings; west of this site is the Macy's and Redwood Square project site; and north of this site are one- and two-story stucco commercial buildings along historic Murphy Avenue.

Murphy Square

The Murphy Square site is currently developed with a gated, surface parking lot serving the adjacent Spanish-style, two- and three-story mixed-use building to the west. The site is surrounded by a two-lane roadway (South Sunnyvale Avenue) to the east and a two-lane roadway (West Evelyn Avenue) to the south. The Caltrain railroad tracks are north of the site; a small surface parking lot and a two-story commercial building are south of the site across West Evelyn Avenue; and a three-story, contemporary apartment building (Villa Del Sol) is east of the site across South Sunnyvale Avenue.

Views of the six project sites are shown in Photos 1-13.

Location within a Transit Priority Area

The six project sites are located within a transit priority area as defined in SB 743. The Sunnyvale Caltrain station qualifies as a major transit stop. All of the six project sites are within one-half mile of the Sunnyvale Caltrain station (see Figure 3.1-1).



1 - View of 100 Altair Way site from Plaza Del Sol facing southwest.



2 - View of 100 Altair Way site from Plaza Del Sol facing west.



3 - View of 300 Mathilda Avenue site from West McKinley Avenue facing west.



4 - View of 300 Mathilda Avenue site from South Mathilda Avenue facing east.



5 - Adjacent Bank of the West building southwest of the 300 Mathilda Avenue site.



7 - View of Macy's site from Murphy Avenue facing northwest.



6 - View of 300 West Washington Avenue site from West Washington Avenue facing south.



8 - View of Macy's and Redwood Square sites from West McKinley Avenue facing northwest.



9 - View of Redwood Square site from West McKinley Avenue facing west.



10 - View of Sub-block 6 site from West McKinley Avenue facing north.



11 - View of Town Center Sub-block 6 site from East Washington Avenue facing southwest.



12 - View of Murphy Square site from West Evelyn Avenue facing north.



13 - Adjacent mixed-use building west of the Murphy Square site.



TRANSIT PRIORITY AREA

FIGURE 3.1-1

3.1.2 Aesthetic Impacts

Impact AES-1: The project would not result in significant aesthetic impacts. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Implementation of the project would result in changes to the built environment; however, the future development on the six project sites would consist of mixed-use residential and/or employment center type of projects and are located on infill sites within a transit priority area. Pursuant to SB 743 (Public Resources Code section 21099[d][1]) “aesthetic and parking impacts of a residential, mixed-use residential, or employment center on an infill site within a transit priority area shall not be considered significant impacts on the environment;” therefore, the aesthetics impacts of the project are not considered significant.

Though in a built, urban setting, implementation of the project would change the appearance of the downtown by constructing new buildings. Individual development projects are required to obtain City design approval prior to issuance of any demolition or building permits. The review and approval of the building designs would further reduce aesthetic impacts. **(Less than Significant Impact)**

Impact AES-C: The project would not have a cumulatively considerable contribution to a significant cumulative aesthetic impacts. **(Less than Significant Cumulative Impact)**

DSP Amendments and Six Development Projects

See Impact AES-1 discussion above. **(Less than Significant Cumulative Impact)**

3.2 AGRICULTURAL AND FORESTRY RESOURCES

3.2.1 Environmental Setting

3.2.1.1 *Regulatory Framework*

State

Farmland Mapping and Monitoring Program

The California Resources Agency's Farmland Mapping and Monitoring Program (FMMP) assesses the location, quality, and quantity of agricultural land and conversion of these lands over time. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. In CEQA analyses, the FMMP classifications and published County maps are used, in part, to identify whether agricultural resources that could be effected are present on-site or in the project area.

California Land Conservation Act

The California Land Conservation Act (Williamson Act) enables local governments to enter into contracts with private landowners to restrict parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments. In CEQA analyses, identification of properties that are under Williamson Act contract is used, in part, to identify sites that may include agricultural resources or are zoned for agricultural uses.

Forest Land, Timberland, and Timberland Production

The California Department of Forestry and Fire Protection (CAL FIRE) identifies forest land, timberland, and lands zoned for timberland production that can (or do) support forestry resources.⁹ Programs such as CAL FIRE's Fire and Resource Assessment Program (FRAP) are used to identify whether forest land, timberland, or timberland production areas that could be effected are located on or adjacent to a project site.

3.2.1.2 *Existing Conditions*

The DSP area (which includes the six project sites) has a General Plan land use designation of Transit Mixed-Use and is zoned Downtown Specific Plan. According to the Santa Clara County Important Farmland 2014 map, the six project sites are designated as Urban and Built-Up Land, meaning the land contains a building density of at least six units per 10-acre parcel or is used for industrial or commercial purposes, golf courses, landfills, airports, or other utilities.¹⁰

⁹ Forest land is land that can support 10-percent native tree cover under natural conditions and that allows for management of one or more forest resources (including timber, fish and wildlife, and biodiversity) (California Public Resources Code Section 12220[g]); Timberland is land (not owned by the federal government or designated by the board as experimental forest land) that is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees (California Public Resources Code Section 4526); and land zoned as Timberland Production is land devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses (Government Code Section 51104[g]).

¹⁰ California Department of Conservation, Division of Land Resource Protection. *Santa Clara County Important Farmland 2014*. October 2016.

None of the six project sites are used for agricultural or forestry uses. Currently, most of the sites (100 Altair Way, Murphy Square, 300 West Washington Avenue, Macy's and Redwood Square, and Town Center Sub-block 6) are developed with urban uses including parking lots, residential, commercial, and office uses; and landscaping. The 300 Mathilda Avenue site is currently undeveloped and used for construction staging.

3.2.2 Agricultural and Forestry Resources Impacts

For the purposes of this EIR, an agricultural and forestry resource impact is considered significant if the project would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- Result in a loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Impact AG-1: The project would not convert farmland, conflict with zoning for agricultural use, or conflict with a Williamson Act contract. **(No Impact)**

DSP Amendments and Six Development Projects

The six project sites and surrounding properties are not used, zoned, or designated for agricultural purposes. For these reasons, implementation of the proposed project would not convert farmland to non-agricultural uses, conflict with existing zoning for agricultural use, or conflict with a Williamson Act contract. **(No Impact)**

Impact AG-2: The project would not conflict with existing zoning of forest land or timberland, or result in the loss or conversion of forest land. **(No Impact)**

DSP Amendments and Six Development Projects

The six project sites and surrounding properties are not used or zoned for forestry or timberland purposes. For these reasons, implementation of the proposed project would not conflict with zoning of forest land or timberland or result in the loss or conversion of forest land to non-forest uses. **(No Impact)**

Impact AG-C: The project would not contribute to a significant cumulative impact on agricultural and forestry resources. **(No Cumulative Impact)**

DSP Amendments and Six Development Projects

As discussed above, the implementation of the proposed project would not impact agricultural, forestry, and/or timberland; therefore, implementation of the project would not contribute to a cumulative impact to those resources. **(No Cumulative Impact)**

3.3 AIR QUALITY

The discussion in this section is based on an Air Quality and Greenhouse Gas Assessment prepared by Illingworth & Rodkin, Inc. dated October 1, 2019. A copy of this report is included in Appendix C of this EIR.

3.3.1 Environmental Setting

3.3.1.1 *Background Information*

Criteria Pollutants

Air quality in the Bay Area is assessed related to six common air pollutants (referred to as criteria pollutants), including ground-level ozone (O₃), nitrogen oxides (NO_x), particulate matter (PM), carbon monoxide (CO), sulfur oxides (SO_x), and lead (Pb).¹¹ Criteria pollutants are regulated because they result in health effects. An overview of the sources of criteria pollutants and their associated health effects are summarized in Table 3.3-1. The most commonly regulated criteria pollutants in the Bay Area are discussed further below.

Table 3.3-1: Health Effects of Air Pollutants		
Pollutants	Primary Sources	Primary Effects
Ozone (O ₃)	Atmospheric reaction of organic gases with nitrogen oxides in sunlight	<ul style="list-style-type: none">• Aggravation of respiratory and cardiovascular diseases• Irritation of eyes• Cardiopulmonary function impairment
Nitrogen Dioxide (NO ₂)	Motor vehicle exhaust, high temperature stationary combustion, atmospheric reactions	<ul style="list-style-type: none">• Aggravation of respiratory illness• Reduced visibility
Fine Particulate Matter (PM _{2.5}) and Coarse Particulate Matter (PM ₁₀)	Stationary combustion of solid fuels, construction activities, industrial processes, atmospheric chemical reactions	<ul style="list-style-type: none">• Reduced lung function, especially in children• Aggravation of respiratory and cardiorespiratory diseases• Increased cough and chest discomfort• Reduced visibility
Toxic Air Contaminants (TACs)	Cars and trucks, especially diesel-fueled; industrial sources, such as chrome platers; dry cleaners and service stations; building materials and products	<ul style="list-style-type: none">• Cancer• Chronic eye, lung, or skin irritation• Neurological and reproductive disorders

¹¹ The area has attained both state and federal ambient air quality standards for CO. The project would not include substantial new emissions of sulfur dioxide or lead because the project does not propose industrial uses that that would emit sulfur dioxides, nor would it include the use of lead-containing paint or lead-containing pesticides that would contaminate the existing soils. These criteria pollutants are not discussed further.

Table 3.3-1: Health Effects of Air Pollutants		
Pollutants	Primary Sources	Primary Effects
Sulfur Dioxide (SO ₂)	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, industrial processes	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.
Lead (Pb)	Contaminated soil	<ul style="list-style-type: none"> • Impairment of blood functions and nerve construction. • Behavioral and hearing problems in children.

High O₃ levels are caused by the cumulative emissions of reactive organic gases (ROG) and NO_x. These precursor pollutants react under certain meteorological conditions to form high O₃ levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce O₃ levels. The highest O₃ levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources.

A problematic air pollutant of the Bay Area is PM, which is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM₁₀) and fine particulate matter where particles have a diameter of 2.5 micrometers or less (PM_{2.5}). Elevated concentrations of PM₁₀ and PM_{2.5} are the result of both region-wide emissions and localized emissions.

Toxic Air Contaminants

A broad class of compounds known as Toxic Air Contaminants (TACs) have adverse health effects. They include, but are not limited to, criteria pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, diesel fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source locations (e.g., diesel particulate matter [DPM] near a freeway).

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs. Diesel exhaust is a complex mixture of gases, vapors, and fine particles. Medium- and heavy-duty diesel trucks represent the bulk of DPM emissions from California highways. The majority of DPM is small enough to be inhaled into the lungs. Most inhaled particles are subsequently exhaled, but some deposit on the lung surface or are deposited in the deepest regions of the lungs (most susceptible to injury).¹² Chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the California Air Resources Board (CARB).

¹² California Air Resources Board. "Overview: Diesel Exhaust and Health." Accessed: June 27, 2019. Available at: <https://www.arb.ca.gov/research/diesel/diesel-health.htm>.

Sensitive Receptors

Some groups of people are more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and schools.

3.3.1.2 *Regulatory Framework*

Federal and State

Clean Air Act

At the federal level, the United States Environmental Protection Agency (EPA) is responsible for overseeing implementation of the Clean Air Act and its subsequent amendments. The federal Clean Air Act requires the EPA to set national ambient air quality standards for the six common criteria pollutants (discussed previously), including PM, O₃, CO, SO_x, NO_x, and Pb.

The state agency, CARB, regulates mobile sources throughout the state and oversees implementation of the state air quality laws and regulations, including the California Clean Air Act. The EPA and CARB have adopted ambient air quality standards establishing permissible levels of these pollutants to protect public health and the climate. Violations of ambient air quality standards are based on air pollutant monitoring data and are determined for each air pollutant. Attainment status for a pollutant means that a given air district meets the standard set by the EPA and/or CARB.

Risk Reduction Plan

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, the plan involves application of emission control strategies to existing diesel vehicles and equipment to reduce DPM (in addition to other pollutants). Implementation of this plan, in conjunction with stringent federal and CARB-adopted emission limits for diesel fueled vehicles and equipment (including off-road equipment), will significantly reduce emissions of DPM and NO_x.

Regional

2017 Clean Air Plan

The Bay Area Air Quality Management District (BAAQMD) is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. Regional air quality management districts, such as BAAQMD, must prepare air quality plans specifying how state and federal air quality standards will be met. BAAQMD's most recently adopted plan is the Bay Area 2017 Clean Air Plan (2017 CAP). The 2017 CAP focuses on two related BAAQMD goals: protecting public health and protecting the climate. To protect public health, the 2017 CAP describes how BAAQMD will continue its progress toward attaining state and

federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. The 2017 CAP includes control measures designed to reduce emissions of methane and other super-greenhouse gases (GHGs) that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.¹³

CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines (May 2017) are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. Jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing air quality impacts developed by BAAQMD within their CEQA Air Quality Guidelines. The guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

Local

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to air quality and are applicable to the proposed project.

Policy	Description
Land Use and Transportation Element	
LT-2.1	Enhance the public's health and welfare by promoting the city's environmental and economic health through sustainable practices for the design, construction, maintenance, operation, and deconstruction of buildings, including measures in the Climate Action Plan.
LT-2.2	Reduce greenhouse gas emissions that affect climate and the environment through land use and transportation planning and development.
Environmental Management Element	
EM-11.2	Utilize land use strategies to reduce air quality impact.
EM-11.3	Require all new development to utilize site planning to protect citizens from unnecessary exposure to air pollutants.
EM-11.4	Apply the indirect source rule to new development with significant air quality impacts. Indirect source review would cover commercial and residential projects as well as other land uses that produce or attract motor vehicle traffic. ¹⁴
EM-11.6	Contribute to a reduction in regional vehicle miles travelled.

¹³ BAAQMD. *Final 2017 Clean Air Plan*. April 19, 2017.

¹⁴ Indirect sources are land uses and facilities that attract or generate motor vehicle trips and thus result in air pollutant emissions, e.g., shopping centers, office buildings, and airports, etc. Application of an indirect source review rule is intended to reduce construction and operation emissions and population exposure associated with new or modified land uses.

Policy	Description
EM-11.8	Assist employers in meeting requirements of Transportation Demand Management (TDM) plans for existing and future large employers and participate in the development of TDM plans for employment centers in Sunnyvale.

City of Sunnyvale Climate Action Playbook

The City of Sunnyvale Climate Action Playbook (August 2019) sets a vision for the City to reduce carbon emissions by 2050. The playbook includes six strategies with “plays” that identify areas for action to reduce GHG emissions (including air pollutant emissions). The following plays from the plan are related to air quality and are applicable to the proposed project.

Play	Description
Strategy 2: Decarbonizing Buildings	
2.3	Achieve all-electric new construction
Strategy 3: Decarbonizing Transportation & Sustainable Land Use	
3.1	Increase opportunities for and encourage development of mixed-use sites to reduce vehicle miles per person
3.2	Increase Transportation Options and Support Shared Mobility

3.3.1.3 *Existing Conditions*

The Bay Area is considered a non-attainment area for ground-level O₃ and PM_{2.5} under both the federal Clean Air Act and state Clean Air Act. The area is also considered nonattainment for PM₁₀ under the state act, but not the federal act. The area has attained both state and federal ambient air quality standards for CO.

All of the project sites are developed with office, commercial, residential uses, and/or surface parking except for 300 Mathilda Avenue, which is currently undeveloped. There are sensitive receptors including single- and multi-family residential uses adjacent to the six project sites, a senior living facility adjacent to the Town Center Sub-block 6 site, and an after school care facility adjacent to the southeast of the Murphy Square site. In addition, there are two daycare/after school care facilities approximately 670 feet south and 870 southeast of the Town Center Sub-block 6 site.

3.3.2 Air Quality Impacts

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

As discussed in CEQA Guidelines Section 15064(b), the determination of whether a project may have a significant effect on the environment calls for judgment on the part of the lead agency and must be based to the extent possible on scientific and factual data. The City of Sunnyvale has considered the air quality thresholds within the BAAQMD CEQA Air Quality Guidelines and regards these thresholds to be based on the best information available for the San Francisco Bay Area Air Basin and conservative in terms of the assessment of health effects associated with TACs and PM_{2.5}. The BAAQMD CEQA Air Quality thresholds used in this analysis are identified in Table 3.3-2 below.

Note that the 300 West Washington Avenue development project is the conversion of an existing space within a building to one new residential unit. The construction and operational air pollutant emissions from this additional multi-family unit would be minimal and would not make a notable difference to the overall emissions. Therefore, the 300 West Washington Avenue development would have a less than significant air quality impact, and is not discussed further in the following analysis.

Table 3.3-2: BAAQMD Air Quality Significance Thresholds			
Pollutant	Construction Thresholds	Operation Thresholds	
	Average Daily Emissions (pounds/day)	Annual Daily Emissions (pounds/year)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG, NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15
PM _{2.5}	54 (exhaust)	54	10
CO	Not Applicable	9.0 ppm (eight-hour) or 20.0 ppm (one-hour)	
Fugitive Dust	Dust Control Measures/Best Management Practices	Not Applicable	
Health Risks and Hazards for New Sources (within a 1,000-foot Zone of Influence)			
Health Hazard	Single Source	Combined Cumulative Sources	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental Annual PM _{2.5}	0.3 µg/m ³	0.8 µg/m ³ (average)	
Note: µg/m ³ = micrograms per cubic meter; Zone of Influence = 1,000-foot radius from property line of source or receptor.			
Source: Bay Area Air Quality Management District. <i>California Environmental Quality Act Air Quality Guidelines</i> . May 2017.			

Impact AQ-1: The project would not conflict with or obstruct implementation of the applicable air quality plan. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

The BAAQMD CEQA Air Quality Guidelines set forth criteria for determining consistency with the CAP. In general, a project is considered consistent if it: (1) supports the primary goals of the CAP; (2) includes relevant control measures; and (3) does not interfere with implementation of CAP control measures. As shown in Table 3.3-3 below, the proposed project would generally be consistent with the 2017 CAP measures to reduce automobile trips, as well as energy and water use.

Table 3.3-3: Project Consistency with Applicable 2017 BAAQMD CAP Control Measures	
Control Measure	Project Consistency with Measure Intent
Transportation Measures	
<p>TR2 - Trip Reduction Programs: Implement the regional Commuter Benefits Program (Rule 14-1) that requires employers with 50 or more Bay Area employees to provide commuter benefits. Encourage trip reduction policies and programs in local plans, e.g., general and specific plans while providing grants to support trip reduction efforts. Encourage local governments to require mitigation of vehicle travel as part of new development approval, to adopt transit benefits ordinances in order to reduce transit costs to employees, and to develop innovative ways to encourage rideshare, transit, cycling, and walking for work trips. Fund various employer-based trip reduction programs.</p>	<p>Consistent: The project is required to implement a Transportation Demand Management (TDM) program (see mitigation measure MM AQ-2.4) to reduce project generated trips by at least six percent. The program measures could include, but are not limited to, carpool incentives, carshare memberships, additional last-mile services, and vanpools. The project sites are also in proximity to regional transit.</p>
<p>TR8 - Ridesharing, Last-Mile Connection: Promote carpooling and vanpooling by providing funding to continue regional and local ridesharing programs, and support the expansion of carsharing programs. Provide incentive funding for pilot projects to evaluate the feasibility and cost-effectiveness of innovative ridesharing and other last-mile solution trip reduction strategies. Encourage employers to promote ridesharing and carsharing to their employees.</p>	
<p>TR9 - Bicycle and Pedestrian Access and Facilities: Encourage planning for bicycle and pedestrian facilities in local plans, e.g., general and specific plans, fund bike lanes, routes, paths and bicycle parking facilities.</p>	<p>Consistent: As discussed in Section 3.17 Transportation/Traffic, the existing bicycle and pedestrian facilities provide adequate access to the six project sites. The developments would include bicycle parking facilities on-site, as described in Section 3.17.3.</p>
<p>TR13 - Parking Policies: Encourage parking policies and programs in local plans, e.g., reduce minimum parking requirements; limit the supply of off-street parking in transit-oriented areas; unbundle the price of parking spaces; support implementation of demand-based pricing in high-traffic areas.</p>	<p>Consistent: The DSP amendments would reduce the minimum parking requirement in the DSP area, consistent with Zoning Code standards, and require parking be time restricted and shared. In addition, as required by mitigation measure MM AQ-2.4, the project shall implement TDM measures to promote alternatives to single-occupancy vehicle trips.</p>

Table 3.3-3: Project Consistency with Applicable 2017 BAAQMD CAP Control Measures	
Control Measure	Project Consistency with Measure Intent
Building Measures	
<p>BL1 - Green Buildings: Collaborate with partners such as KyotoUSA to identify energy-related improvements and opportunities for onsite renewable energy systems in school districts; investigate funding strategies to implement upgrades. Identify barriers to effective local implementation of the California Green Building Standards Code (CALGreen; Title 24) statewide building energy code; develop solutions to improve implementation/enforcement. Work with ABAG's BayREN program to make additional funding available for energy-related projects in the buildings sector. Engage with additional partners to target reducing emissions from specific types of buildings.</p>	<p>Consistent: The project would be constructed consistent with CALGreen and Title 24 requirements.</p>
<p>BL2 - Decarbonize Buildings: Explore potential Air District rulemaking options regarding the sale of fossil fuel-based space and water heating systems for both residential and commercial use. Explore incentives for property owners to replace their furnace, water heater or natural-gas powered appliances with zero-carbon alternatives. Update Air District guidance documents to recommend that commercial and multi-family developments install ground source heat pumps and solar hot water heaters.</p>	<p>Consistent: Electricity is provided to the site by Silicon Valley Clean Energy (SVCE). SVCE customers are automatically enrolled in the GreenStart plan, which generates its electricity from 100 percent carbon free sources; with 50 percent from solar and wind sources, and 50 percent from hydroelectric. Customers have the option to enroll in the GreenPrime plan, which generates its electricity from 100 percent renewable sources such as wind and solar.</p>
<p>BL4 - Urban Heat Island Mitigation: Develop and urge adoption of a model ordinance for "cool parking" that promotes the use of cool surface treatments for new parking facilities, as well existing surface lots undergoing resurfacing. Develop and promote adoption of model building code requirements for new construction or reroofing/roofing upgrades for commercial and residential multifamily housing.</p>	<p>Consistent: Future development shall use materials with high reflectivity for all new parking lots and sidewalks to reduce the heat island effect. Future development would also be subject to provisions for reduced parking standards, and constructed in compliance with CALGreen, which requires installation of cool roofs for commercial buildings.</p>

Table 3.3-3: Project Consistency with Applicable 2017 BAAQMD CAP Control Measures	
Control Measure	Project Consistency with Measure Intent
Waste Management Measures	
WA4 - Recycling and Waste Reduction: Develop or identify and promote model ordinances on community-wide zero waste goals and recycling of construction and demolition materials in commercial and public construction projects.	Consistent: The project shall provide on-site recycling services and recycle and/or salvage for reuse a minimum of 65 percent of nonhazardous construction and demolition waste.
Water Measures	
WR2 - Support Water Conservation: Develop a list of best practices that reduce water consumption and increase on-site water recycling in new and existing buildings; incorporate into local planning guidance.	<i>Consistent:</i> The project would be constructed consistent with CALGreen and Title 24 requirements, which require incorporation of water conservation measures.

As described above in Table 3.3-3, the project would be consistent with the applicable 2017 CAP control measures by reducing project generated trips, including bicycle parking facilities on-site, complying with CALGreen and Title 24, using 100 percent carbon free electricity, reducing the heat island effect, and recycling. The project, therefore, would not conflict with or obstruct the implementation of the 2017 CAP. **(Less than Significant Impact)**

Impact AQ-2: The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. **(Less than Significant Impact with Mitigation Incorporated)**

As discussed previously in Section 3.3.1.3, the Bay Area is considered a non-attainment area for ground-level O₃ and PM_{2.5} under both the federal and state Clean Air Act. The area is also considered a nonattainment area for PM₁₀ under the state act, but not the federal act. The Bay Area has attained both state and federal ambient air quality standards for CO. As part of an effort to attain and maintain ambient air quality standards for O₃ and PM₁₀, BAAQMD has established thresholds of significance for these air pollutants and their precursors (see Table 3.3-2). These thresholds are for O₃ precursor pollutants (ROG and NO_x), PM₁₀, and PM_{2.5}, and apply to both construction period and operational period impacts.

Because of the size and development capacity in DSP Block 18 (Macy's and Redwood Square, Town Center Sub-Block 6, and 300 Mathilda Avenue), construction of future development within Block 18 is expected to be phased. The phasing of construction means that for an intermediate period, a portion of the project would be operational while the remaining portions of the project would be under construction. As a result, the impacts during the overlapping phase is also discussed below.

DSP Amendments

Construction Period Emissions

Implementation of the proposed DSP amendments would result in short-term emissions from construction activities associated with development, including site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM₁₀ and PM_{2.5} emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby.

Demolition and construction of buildings can also generate PM₁₀ and PM_{2.5} emissions. Off-road construction equipment is often diesel-powered and can be a substantial source of NO_x emissions, in addition to PM₁₀ and PM_{2.5} emissions. Diesel exhaust from construction equipment poses both a health and nuisance impact to nearby receptors.

Overlapping Construction and Operation Period Emissions

It is possible that future development under the DSP amendments could occur concurrently or be staggered/phased, and that some sites would be occupied or operational while other sites are under construction. The overlapping of construction and operational emissions from future development proposed under the DSP amendments may exceed BAAQMD's significance threshold for criteria air pollutant emissions. When future development is proposed, project-specific analysis shall be required to evaluate impacts from overlapping construction and operational period emissions.

As discussed in Section 2.3.2.7, full build out of the development contemplated in the proposed amendments to the DSP could take five years. In acknowledgement of the anticipated time required for full build out and in order to facilitate a thorough analysis of potential environmental impacts associated with construction of any future development under the proposed DSP amendments, this EIR analyzes the construction and overlapping construction and operation period emissions based on the construction phasing and information for the six development projects. The analysis of the construction and overlapping construction and operation period emissions for the six development projects furthers the purposes of this EIR by allowing for more detailed analysis of environmental impacts and providing decisionmakers with better information before taking action on the proposed DSP amendments. Any individual project proposal deviating from the assumed construction phasing and details of the six development projects (as described below and in detail in Appendix C) may require additional analysis to determine whether such variance in construction of an individual project or in combination with other development contemplated in the DSP may cause a significant environmental impact not disclosed in this EIR.

DSP Amendments Mitigation Measure:

MM AQ-2.1: All Project Sites (except 300 West Washington Avenue): Prior to issuance of demolition and grading permits, applicants for future development under the DSP amendments shall complete a project-specific air quality analysis to evaluate construction period air pollutant emissions in accordance with the current BAAQMD CEQA Guidelines. Overlapping construction and operation air pollutant emissions shall also be evaluated, if future development of the project sites overlap. If construction or overlapping construction and operational air pollutant period emissions exceed the BAAQMD thresholds of significance, development-specific mitigation measures shall be implemented to reduce emissions. Mitigation measures could include, but are not limited to, implementing best management practices to control dust, particulate matter, and diesel exhaust and restricting the project wide fleet-average percent of NO_x emissions (see mitigation measures MM AQ-2.2 and MM AQ-2.3).

Future development under the proposed DSP amendments, with the implementation of mitigation measure MM AQ-2.1, would not result in significant construction period emissions or significant overlapping construction and operation period emissions by completing a project-specific analysis at the time a specific development is proposed and implementing measures to control and reduce emissions to be below BAAQMD thresholds of significance. For the six development projects, implementing BAAQMD best management practices and restricting the project wide fleet-average percent of NO_x emissions (see mitigation measures MM AQ-2.2 and MM AQ-2.3), would reduce construction air pollution emissions from future development projects to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

Six Development Projects

Based on the information provided by the project applicants, the six development projects would be constructed from 2019 to mid-2023, and be operational in 2024. A review of the construction schedule for the six development projects provided by the project applicants shows construction and operation of the project would overlap from 2019 to 2023.

Construction Period Emissions

Construction period emissions were modeled based on equipment list and schedule information provided by the applicants. Refer to Appendix C for details about the modeling, data inputs, and assumptions. The average daily construction criteria air pollutant emissions of the proposed six development projects are summarized in Table 3.3-4 below. As shown in Table 3.3-4, the construction period NO_x emissions would exceed the BAAQMD average daily significance threshold. Construction period emissions of ROG, PM₁₀ exhaust, and PM_{2.5} exhaust would be below the BAAQMD significance thresholds.

Table 3.3-4: Six Development Projects Average Daily Construction Period Emissions				
	ROG	NO_x	PM₁₀ Exhaust	PM_{2.5} Exhaust
	(pounds per day)			
Six Development Projects (unmitigated)	40.2	103.2	15.9	6.7
BAAQMD Thresholds	54	54	82	54
<i>Exceed Threshold (unmitigated)?</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>No</i>
Six Development Projects (with mitigation measures MM AQ-2.2 and MM AQ-2.3)	---	53.6	---	---
<i>Exceed Threshold (with mitigation)?</i>	---	<i>No</i>	---	---
Note: Bold emission indicates emission exceeding the threshold of significance.				

Overlapping Construction and Operation Period Emissions

The overlapping construction and operation criteria air pollutant emissions for the six development projects were modeled and the results are summarized in Table 3.3-5. Refer to Appendix C for details about the modeling, data inputs, and assumptions. As shown in Table 3.3-5, the overlapping construction and operation period NO_x emissions would exceed the BAAQMD significance threshold. Overlapping construction and operation period emissions of ROG, PM₁₀ exhaust, and PM_{2.5} exhaust would be below the significance thresholds.

Table 3.3-5: Project Average Daily Overlapping Construction and Operation Period Emissions				
	ROG	NO_x	PM₁₀ Exhaust	PM_{2.5} Exhaust
	(pounds per day)			
A. Project Emissions (unmitigated)	46.5	110.9	22.4	8.4
B. Existing Emissions	15.3	35.1	24.1	6.6
Net Project Emissions (A – B)	31.2	75.8	-1.6	1.8
BAAQMD Thresholds	54	54	82	54
<i>Exceed Threshold (unmitigated)?</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>No</i>
Net Project Emissions (with mitigation measures MM AQ-2.2 and MM AQ-2.3)	---	26.3	---	---
<i>Exceed Threshold (with mitigation)?</i>	---	<i>No</i>	---	---
Note: Bold emission indicates emission exceeding the threshold of significance.				

Six Development Projects Mitigation Measures:

MM AQ-2.2: All Project Sites (except 300 West Washington Avenue): The six development projects shall implement the below BAAQMD-recommended measures to control dust, particulate matter, and diesel exhaust emissions during construction. This list of BAAQMD measures shall be incorporated into the approved building plan set.

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. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). 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. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.
9. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
10. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
11. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.
12. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.

13. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
14. Avoid tracking of visible soil material on to public roadways by employing the following measures if necessary: (1) treat site accesses to a distance of 100 feet from public paved roads with a six to 12-inch compacted layer of wood chips, mulch, or gravel; (2) wash truck tires and construction equipment of prior to leaving the site, or (3) other methods to reduce the deposition of soil material on public roadways.
15. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
16. Minimizing the idling time of diesel-powered construction equipment to two minutes.

MM AQ-2.3: All Project Sites (except 300 West Washington Avenue): Prior to construction activities, the project applicant(s) shall develop a plan demonstrating that the off-road equipment (more than 25 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 46 percent NO_x reduction. The Macy's and Redwood Square, Town Center Sub-block 6, and Murphy Square sites shall demonstrate an overall 90 percent particulate matter exhaust reduction compared to modeling results in Appendix C of the EIR. The 100 Altair and 300 Mathilda Avenue sites shall demonstrate a 97 percent reduction compared to modeling results in Appendix C of the EIR. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. The following feasible methods shall be used unless an alternative plan that achieves this requirement is submitted and approved by the Community Development Department prior to the issuance of the building permit and shall be included in the approved plan set::

1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet EPA Tier 4 emission standards for NO_x and particulate matter, if feasible, otherwise,
 - a. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust; alternatively (or in combination); or
 - b. Use of alternatively-fueled equipment with lower NO_x emissions that meet the NO_x and particulate matter reduction requirements above.
 - c. For special exceptions, a waiver to use other equipment for specialized purposes would have to be obtained from the City after

review of evidence that use of such equipment meeting the above mitigation requirements is not feasible.

2. Diesel engines, whether for off-road equipment or on-road vehicles, shall not idle for more than two minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.
3. All on-road heavy duty diesel trucks with a gross vehicle weight rating of 33,000 pounds or greater (EMission FACtors [EMFAC] Category heavy-duty diesel truck [HDDT]) used at the six project sites (such as haul trucks, water trucks, dump trucks, and concrete trucks) shall be model year 2010 or newer.
4. Provide line power to the sites during the early phases of construction (demolition, site preparation, grading/excavation, and trenching) to minimize the use of diesel-powered stationary equipment, such as generators. Use of diesel powered-portable equipment for the 100 Altair and 300 Mathilda Ave sites shall be limited to 100 hours for generators, 100 hours for compressors and 100 hours for cranes.

Modeling was completed to determine the effectiveness of mitigation measure MM AQ-2.2 and MM AQ-2.3, the implementation of BAAQMD best management practices and restricting the project wide fleet-average percent of NO_x emissions, at reducing criteria pollutant emissions. The modeling results show that with the implementation of mitigation measures MM AQ-2.2 and MM AQ-2.3, the six development projects' significant construction and overlapping construction and operation period NO_x emissions would be reduced to a less than significant level (see Table 3.3-4 and Table 3.3-5). Refer to Appendix C for additional details about the modeling. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Operation Period Emissions

Operational emissions from the project (i.e., the DSP amendments and six development projects) would be generated primarily from vehicles driven by future residents, employees, and customers. Vehicle trips from the project were calculated in the Transportation Impact Analysis (TIA) completed for the project (refer to Appendix I). Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are also typical emissions from the proposed land uses. The operational emissions of the project were modeled and the results are summarized in Table 3.3-6. Refer to Appendix C for details about the modeling, data inputs, and assumptions.

As shown in Table 3.3-6, the project's operation emissions would not exceed the BAAQMD annual tons per year thresholds. The project's average daily operation emissions of ROG and NO_x, however, would exceed the BAAQMD average daily significance thresholds. The project's average daily operation emissions of PM₁₀ exhaust and PM_{2.5} exhaust would be below the BAAQMD significance thresholds.

Since operational emissions primarily consists of mobile sources. A reduction in project trips would reduce operation emissions.

Table 3.3-6: Project Operation Period Emissions				
	ROG	NO_x	PM₁₀ Exhaust	PM_{2.5} Exhaust
Annual				
A. Project Operational Emissions (unmitigated) (tons per year)	11.8	14.2	13.1	3.7
B. Existing Operational Emissions (tons per year)	1.9	4.2	3.7	1.0
Net Project Operational Emissions (A – B) (tons per year)	9.9	10.0	9.4	2.7
BAAQMD Thresholds (tons per year)	10	10	15	10
<i>Exceed Threshold (unmitigated)(tons per year)?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Daily				
Net Project Operational Emissions (A – B) (pounds per day)	54.4	55	51	15
BAAQMD Thresholds (pounds per day)	54	54	82	54
<i>Exceed Threshold (unmitigated)(pounds per day)?</i>	Yes	Yes	<i>No</i>	<i>No</i>
Net Project Operational Emissions (with mitigation measure MM AQ-2.4) (pounds per day)	53	52	---	---
<i>Exceed Threshold (with mitigation)(pounds per day)?</i>	<i>No</i>	<i>No</i>	---	---
Note: Bold emission indicates emission exceeding the threshold of significance.				

DSP Amendments and Six Development Projects Mitigation Measures:

MM AQ-2.4: All Project Sites (except 300 West Washington Avenue): Approval of a TDM Plan to reduced operational NO_x emissions consistent with City requirements. This Plan shall demonstrate a minimum six percent overall reduction in vehicle trips and shall be approved by the Public Works Director or designee. For buildings with an identified tenant, the project applicant(s) shall submit to the City, and the City approve, a TDM plan prior to issuance of building permits. For buildings without an identified tenant, the project applicant shall submit, and the City approve, the TDM Plan prior to the building occupancy. Potential measures in the TDM plan can include, but are not limited to, the following:

1. Unbundled parking
2. VTA SmartPass (formerly Eco Pass) for residents
3. On-site bicycle repair station
4. A bike share program
5. An on-site TDM coordinator that would provide rideshare matching services and coordinate walking/biking groups for residents
6. An on-site transportation kiosk that would provide information to residents and visitors about multi-model wayfinding and transit information

Modeling was completed to determine the effectiveness of mitigation measure MM AQ-2.4, the implementation of a TDM program, at reducing future project-related vehicle trips. The modeling results show that with the implementation of mitigation measure MM AQ-2.4, the project significant operation average daily ROG and NO_x emissions would be reduced the project's average daily operation emissions of ROG and NO_x to a less than significant level (see to Table 3.3-6). Refer to Appendix C for additional details about the modeling. **(Less than Significant Impact with Mitigation Incorporated)**

Impact AQ-3: The project would not result in a cumulatively considerable net increase of criteria pollutants (ROG, NO_x, PM₁₀, and/or PM_{2.5}) for which the project region is non-attainment under an applicable federal or state ambient air quality standard. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

As discussed in Section 3.3.1.3 Existing Conditions and under Impact AQ-2, the Bay Area is in non-attainment for O₃, PM_{2.5} under federal and state standards and PM₁₀ under state standards only. In developing thresholds of significance for air pollutants, BAAQMD considered the emissions levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. As discussed under Impact AQ-2, with implementation of mitigation measures MM AQ-2.1 through MM AQ-2.4, the project's individual (and therefore, cumulative) net increase of criteria pollutants or precursors (ROG, NO_x, PM₁₀, and PM_{2.5}) would be reduced to a less than significant level. Refer to the discussion under Impact AQ-2 for more details. **(Less than Significant Impact with Mitigation Incorporated)**

Impact AQ-4: The project would not expose sensitive receptors to substantial pollutant concentrations. **(Less than Significant Impact with Mitigation Incorporated)**

Future development under the proposed project can increase the health risk of existing sensitive receptors during construction, overlapping construction and operation, and operational periods. Temporary project construction activity which generates dust and equipment exhaust would affect nearby sensitive receptors. Operation of the project would result in an increase in traffic and include the use of diesel-powered emergency generators, which would increase air pollutant and TAC emissions in the area. The project's impacts to existing sensitive receptors are discussed below for construction activities, operational activities, and the combined effect from simultaneous construction and operation activities.

DSP Amendments

Construction Health Risk

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a TAC. Construction exhaust emissions may pose health risks for sensitive receptors near the project. The primary community risk impact issue associated with construction emissions are cancer risk and exposure to PM_{2.5}.

To evaluate the health risk of a development project during construction, specific information about construction equipment type, use, and duration of use is required. Given the results of the health risk assessment completed for the six development projects (discussed below), any and all future development under the DSP amendments could exceed BAAQMD's significance threshold for health risks during construction period and require mitigation measures. For reference, mitigation measures may include, but are not limited to, the measures listed under MM AQ-2.2 and MM AQ-2.3 discussed under Impact AQ-2 for the six development projects.

Construction and Operation Health Risk

It is possible that future development under the DSP amendments could occur concurrently or stagger. It is possible that some sites are operational while other sites are under construction. Given the health risk assessment completed for the six development projects (discussed below), future development under the DSP amendments would likely exceed BAAQMD's significance threshold for health risks during overlapping construction and operational emissions.

As discussed in Section 2.3.2.7, full build out of the development contemplated in the proposed amendments to the DSP could take five years. In acknowledgement of the anticipated time required for full build out and in order to facilitate a thorough analysis of potential health risk impacts associated with construction and operation of any future development under the proposed DSP amendments, this EIR analyzes the construction and operation health risk based on the construction phasing and information for the six development projects. The analysis of the construction and operation health risk for the six development projects furthers the purposes of this EIR by allowing for more detailed analysis of environmental impacts and providing decisionmakers with better information before taking action on the proposed DSP amendments. Any individual project proposal deviating from the assumed construction phasing and details of the six development projects (as detail in Appendix C) may require additional analysis to determine whether such variance in construction of an individual project or in combination with other development contemplated in the DSP may cause a significant health risk impact not disclosed in this EIR.

DSP Amendments Mitigation Measures:

MM AQ-4.1: All Project Sites (except 300 West Washington Avenue): Prior to issuance of grading and demolition permits, applicants for future development projects shall prepare a project-specific community health risk assessment (including a cumulative assessment) to evaluate construction period air pollutant emissions in accordance with the current BAAQMD CEQA Guidelines. The health risk from overlapping construction and operational air pollutant emissions shall also be evaluated. If the health risk for future development proposals exceed the BAAQMD thresholds of

significance, measures shall be implemented to reduce the health risk. Measures could include limiting use of diesel equipment and restricting diesel emissions (see mitigation measures MM AQ-2.2 and MM AQ-2.3).

Future development under the proposed DSP amendments, with the implementation of mitigation measure MM AQ-4.1, would reduce its significant construction period health risks and significant overlapping construction and operation period health risks by completing a project-specific analysis at the time a development is proposed and implementing measures (if required) to reduce the health risk to below the BAAQMD thresholds of significance. For reference, the six development projects, with implementation of mitigation measures MM AQ-2.2 and MM AQ-2.3 (limiting use of diesel equipment and restricting diesel emissions), would reduce construction health risks to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

Six Development Projects

Construction Period Health Risk

A community risk assessment for the six development projects was completed to evaluate the health effects to nearby sensitive receptors from construction emissions of DPM and PM_{2.5}. Refer to Appendix C for details about community health risk modeling, data inputs, and assumptions.

Table 3.3-7 summarizes the maximum excess cancer risk, annual PM_{2.5} concentration, and non-cancer Hazard Index (HI) based on the maximum DPM concentration affecting the maximally exposed individual (MEI), which is the sensitive receptor affected the most by the project. The MEI during construction period is located at the Loft House Apartment adjacent to the southern boundary of the 100 Altair Way site. As shown in Table 3.3-7, the construction risk impacts from the six development projects exceeds the BAAQMD single-source thresholds for incremental cancer risk and PM_{2.5} concentration, while the single-source HI threshold is not exceeded.

Table 3.3-7: Six Development Projects Construction Risk Impacts to the Off-Site MEI			
Source	Cancer Risk (per million)	Annual PM_{2.5} (µg/m³)	Hazard Index
Six Development Projects (unmitigated)	306.1	1.05	0.19
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
<i>Exceed Threshold (unmitigated)?</i>	Yes	Yes	<i>No</i>
Six Development Projects (with mitigation measures MM AQ-2.2 and MM AQ-2.3)	9.2	0.11	---
<i>Exceed Threshold (with mitigation)?</i>	<i>No</i>	<i>No</i>	---
Note: Bold emission indicates emission exceeding the threshold of significance.			

Overlapping Construction and Operation Period Health Risk

The health risk impact from overlapping construction and operation emissions of the six development projects to the MEI was evaluated and the results are summarized in Table 3.3-8. Refer to Appendix C for details about community health risk modeling, data inputs, and assumptions. As summarized in Table 3.3-8, the combined construction and operation risk impacts from the six development projects exceed the BAAQMD single-source thresholds for incremental cancer risk and PM_{2.5} concentration, while the single-source HI threshold is not exceeded.

Table 3.3-8: Six Development Projects Overlapping Construction and Operation Risk Impacts to the Off-Site MEI			
Source	Cancer Risk (per million)	Annual PM_{2.5} (µg/m³)	Hazard Index
Six Development Projects Construction (2019-2023) (unmitigated)	306.1	1.05	0.19
Project Traffic Increase ¹ (operation in 2024)	0.1	0.02	0.01
Six Development Projects Generators (operation in 2024)	0.4	<0.01	<0.01
Six Development Projects (overlapping construction and operation) ² (unmitigated)	306.6	1.05	0.19
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
<i>Exceed Threshold (unmitigated)?</i>	Yes	Yes	<i>No</i>
Six Development Projects Overlapping Construction and Operation (with mitigation measures MM AQ-2.2 and MM AQ-2.3)	9.2	0.11	---
<i>Exceed Threshold (with mitigation)?</i>	<i>No</i>	<i>No</i>	---
<p>Note: Bold emission indicates emission exceeding the threshold of significance.</p> <p>¹ Includes Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue.</p> <p>² The project's overlapping construction and operational health risk impacts include impacts from project construction, generators, and traffic increase on the local roadways. The overall project impact, in terms of increased cancer risk, was assessed by combining the exposure of TACs from construction and operation over an assumed lifetime exposure to the project emissions. In terms of annual PM_{2.5} and HI, which are based on annual exposures only, the maximum level from either construction or operation is identified.</p>			

As shown in Table 3.3-7 and Table 3.3-8, the health risk from the six development projects from construction and overlapping construction and operation period emissions to the off-site MEI would primarily be from construction emissions.

Modeling was completed to determine the effectiveness of mitigation measures MM AQ-2.2 and MM AQ-2.3. Modeling results show that implementation of mitigation measures MM AQ-2.2 and MM AQ-2.3 would reduce the construction and overlapping construction and operation cancer risk and PM_{2.5} emissions at the MEI from the six development projects to a less than significant level

(refer to Table 3.3-7 and Table 3.3-8).¹⁵ **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Operation Period Health Risk

Community risk impacts from project operation were assessed by modeling the increased lifetime cancer risk and annual PM_{2.5} concentrations caused by project traffic and use of diesel engines that power emergency generators. Since vehicle trips are the main source of operational emissions, and it is likely future development under the proposed DSP amendments would include diesel generators, this analysis of the operational health risk impacts is for both the DSP amendments and six development projects.

The project would increase traffic on local roadways. Modeling was completed to evaluate the health risk to nearby off-site sensitive receptors associated with TACs and PM_{2.5} from traffic on roadways near the project area (Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue). The modeling included project generated traffic and assumed the project would be built out in 2024.

In addition to traffic on nearby roadways, the operational health risk includes the health risk from operation of on-site emergency generators.¹⁶ This analysis assumes that future development under the proposed DSP amendments would include emergency generators and the emergency generators would be of similar size and type as proposed by the six development projects. The six development projects propose the following generators:

- 100 Altair Way: one 150 kilowatt, 185 horsepower generator
- 300 Mathilda Avenue: one 100 kilowatt, 152 horsepower generator
- 300 West Washington Avenue: none
- Macy's and Redwood Square: two 150 kilowatt, 240 horsepower generator; one 1,000 kW (kilowatt), 1,528 horsepower generator
- Town Center Sub-block 6: none
- Murphy Square: one 450 kilowatt, 555 horsepower generator

Table 3.3-9 summarizes the maximum excess cancer risk, annual PM_{2.5} concentration, and non-cancer HI based on the maximum DPM concentration affecting the MEI. The MEI during operation period is also located at the Loft House Apartments. Refer to Appendix C for details about the modeling, data inputs, assumptions, and MEI. As summarized in Table 3.3-7, the project's operation-related increased cancer risk, annual PM_{2.5} concentration, and HI at the MEI do not exceed the BAAQMD single-source thresholds. **(Less than Significant Impact)**

¹⁵ The implementation of mitigation measures MM AQ-2.2 and MM AQ-2.3 would reduce the overlapping construction and operation cancer risk and PM_{2.5} emissions to a less than significant level. The implementation of mitigation measure MM AQ-2.4 (a TDM plan) would further reduce the overlapping construction and operation emission.

¹⁶ It is assumed that the generators would be operated for testing and maintenance purposes, with a maximum of 50 hours per year of non-emergency operation under normal conditions per BAAQMD requirements.

Table 3.3-9: Project Operation Community Risk Impacts to the Off-Site MEI			
Source	Cancer Risk (per million)	Annual PM_{2.5} (µg/m³)	Hazard Index
Project Traffic Increase (unmitigated)	0.07	0.16	>0.1
Project Generators (operation in 2024)	2.91	0.01	>0.1
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
<i>Exceed Threshold (unmitigated)?</i>	<i>No</i>	<i>No</i>	<i>No</i>

Impact AQ-5: The project would not create objectionable odors affecting a substantial number of people. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

According to BAAQMD's CEQA Guidelines, an odor source with five or more confirmed complaints per year averaged over three years is considered to have a significant impact. Future construction activities in the project area could result in odorous emissions from diesel exhaust associated with construction equipment. Because of the temporary nature of these emissions and highly diffusive properties of diesel exhaust, exposure of sensitive receptors to these emissions would be limited and the impact is considered less than significant.

BAAQMD has identified a variety of land uses and types of operations that would produce emissions that may lead to odors. Land uses identified include wastewater treatment plants, sanitary landfills, food processing facilities, coffee roasters, composting facilities, and confined animal facility/feed lot/dairy facility. The proposed project would include residential, office, and retail land uses, which do not fall under any of the land uses identified by BAAQMD to cause objectionable odors.

Other sources, such as restaurants, that could be associated with future development typically result in only localized sources of odors that would not impact a large number of people. Thus, the impact would be less than significant. **(Less than Significant Impact)**

Impact AQ-C: The project would not cumulatively contribute to a cumulative significant air quality impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

By its very nature, air pollution is largely a cumulative impact. The geographic area for cumulative criteria air pollutant impacts is the San Francisco Bay Area Air Basin. Past, present, and future development projects in the Bay Area contribute to the adverse cumulative criteria air pollutant air impacts. No single land use project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

DSP Amendments and Six Development Projects

Consistency with the Clean Air Plan

As discussed under Impact AQ-1, the project is consistent with the 2017 CAP prepared by BAAQMD. For this reason, the project would not have a cumulatively considerable impact to the implementation of the CAP. **(Less than Significant Cumulative Impact)**

Criteria Air Pollutant Emissions

As discussed under Impact AQ-3, in developing thresholds of significance for air pollutants, BAAQMD considered the emissions levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. As discussed under Impact AQ-2 and Impact AQ-3, future development under the DSP amendments would not result in significant construction period or overlapping construction and operation period air pollutant emissions with the implementation of mitigation measures MM AQ-2.1 through MM AQ-2.4. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

Exposure of Sensitive Receptors

The geographic area for cumulative impacts to sensitive receptors is within 1,000 feet of the six project sites. This distance is recommended by BAAQMD because adverse effects are the greatest within this distance. At further distances, health risk diminishes. A review of the project area indicates existing sources of TACs within or approximately 1,000 feet of the six project sites include Caltrain, Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue, and six stationary sources (i.e., four generators, a crematory, and one with multiple types of permitted sources).¹⁷ In addition, the construction of the project would overlap with three other cumulative projects within 1,000 feet of the six project sites. The three cumulative projects include 200 Carroll Street, 311 South Mathilda Avenue, and the Civic Center Master Plan (refer to Table 3.0-1 for a description of these cumulative projects). The Civic Center Master Plan cumulative project is located about 500 feet from the 300 Mathilda Avenue site. The 220 Carroll Street cumulative project is located about 410 feet east of the Town Center Sub-block 6 site. The 311 South Mathilda Avenue cumulative project is located about 150 feet west of the 300 Mathilda Avenue site.¹⁸

Community risk impacts from the cumulative sources to the project MEI were modeled and the results are summarized in Table 3.3-10. Refer to Appendix C for details about the modeling, data inputs, and assumptions. As shown in Table 3.3-10, the six development projects would have a cumulatively considerable contribution to a significant cumulative cancer risk and annual PM_{2.5} impact. The six development projects would not exceed the BAAQMD cumulative threshold for HI.

¹⁷ Two of the four stationary sources identified were conservatively included in the cumulative analysis although they are slightly outside of the 1,000-foot radius.

¹⁸ Note that all three cumulative projects are over 1,000 feet from the project MEI, and the project MEI is not downwind of these projects.

Table 3.3-10: Six Development Projects Cumulative Community Risk at the Off-Site MEI			
Source	Cancer Risk (per million)	Annual PM_{2.5} (µg/m³)	Hazard Index
Six Development Projects Overlapping Construction and Operation (unmitigated)	306.6	1.05	0.19
Six Development Projects Overlapping Construction and Operation (with mitigation measures MM AQ-2.2 and MM AQ-2.3)	9.2	0.11	---
Roadways ¹	6.7	0.03	<0.01
Project Generators	0.4	<0.01	<0.01
Wyant & Smith Crematory	1.6	0.02	0.14
Broadcom Corporation at 280 feet (generator)	0.9	<0.01	<0.01
Sunnyvale Acquisition LLC c/o RiverRock Estate GRP at 800-ft (Generator)	0.3	<0.01	<0.01
Target Corporation Store (Generator)	<0.1	<0.01	<0.01
SBC (Generator) at >1,000-ft ²	2.5	<0.01	0.01
Northrop Grumman Systems Corporation (Multiple Sources) at >1,000-ft ²	1.2	<0.01	<0.01
220 Carroll Street	0.2	<0.01	<0.01
Civic Center Modernization Master Plan	<0.36	<0.05	<0.01
311 South Mathilda Avenue	0.2	<0.01	<0.01
Cumulative Sources (including unmitigated project emissions)	324.2	1.49	<0.44
Cumulative Sources with mitigated Project Construction and Operation (with mitigation measures MM AQ-2.2 and MM AQ-2.3)	26.8	<0.55	---
BAAQMD Cumulative Source Threshold	>100	>0.8	>10.0
<i>Exceed Threshold (unmitigated)?</i>	Yes	Yes	<i>No</i>
<i>Exceed Threshold (with mitigation measures)</i>	<i>No</i>	<i>No</i>	---
<p>Note: Bold emission indicates emission exceeding the threshold of significance.</p> <p>¹ Includes Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue</p> <p>² These sources are just outside of the 1,000-foot radius; therefore, is conservatively included in the cumulative analysis.</p>			

As discussed under Impact AQ-4, the project would not result in significant health risks to nearby sensitive receptors with the implementation of mitigation measures MM AQ-4.1, MM AQ-2.2, and MM AQ-2.3. As shown in Table 3.3-10, with implementation of mitigation measures MM AQ-2.2 and MM AQ-2.3, the cumulatively significant cancer risk and annual PM_{2.5} impact of the six

development projects would also be reduced to a less than significant cumulative level. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

Odors

There are no existing land uses such as those discussed under Impact AQ-5 in the DSP area that are significant sources of odor. As discussed above, the project could generate odorous emission from diesel exhaust during construction period, however, this emission would be temporary and is considered to be less than significant. The proposed project and cumulative projects listed in Table 2.3-1 do not include or propose uses that would generate significant sources of odor. Since there are no existing odorous emissions in the project area, and the project would not generate odorous emission during its operation, there would be a less than significant cumulative odor impact. **(Less than Significant Cumulative Impact)**

3.3.3 Non-CEQA Effects

Per California Building Industry Association v. Bay Area Air Quality Management District, 62 Cal. 4th 369 (BIA v. BAAQMD), effects of the environment on the project are not considered CEQA impacts. The following discussion is included for informational purposes only because the City of Sunnyvale has policies that address existing air quality conditions affecting a proposed project including General Plan policies EM-11.3. The criteria used by the City of Sunnyvale for determining whether new receptors would be effected are the same as those listed for Single-Source Health Risk and Combined Cumulative Health Risk in Table 3.3-2, above.

DSP Amendments and Six Development Projects

Community Health Risk to On-Site Receptors

A community risk assessment was completed to analyze the effects of the proposed emergency diesel generators, future traffic on nearby roadways, and existing TAC and PM_{2.5} sources on the future sensitive receptors (i.e., residences) on the six project sites.

From On-Site Emergency Diesel Generators

The community health risk to future on-site residences from on-site emergency diesel generators was evaluated and the results are summarized in Table 3.3-11. Refer to Appendix C for details about the modeling, data inputs, and assumptions. As shown in Table 3.3-11, the generators located at Macy's and Redwood Square site could adversely affect future residences on-site due to their proximity to these stationary sources.

Table 3.3-11: On-Site Generator Screening Health Risk Estimations			
Generator Location and Size	Cancer Risk (per million)	Annual PM_{2.5} (µg/m³)	Hazard Index
100 Altair Way (150kW, 185hp)	1.5	<0.01	<0.01
300 Mathilda Avenue (100kW, 152hp)	0.5	<0.01	<0.01
Macy's (two 150 kW, 240 HP)	30.9	0.04	0.01
Redwood Square (1,000kW, 1,528hp)	45.5	0.06	0.01
Murphy Square (450kW, 555hp)	1.5	<0.01	<0.01
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
<i>Exceed Threshold (without condition of approval COA AQ-1)?</i>	Yes	<i>No</i>	<i>No</i>
Note: A distance adjustment was included in the screening to account for the distance between the generator and closest on-site sensitive receptor.			

In most cases, normal testing and maintenance operation of generators would have less than significant community risk impacts. With the implementation of condition of approval COA AQ-1 (refer to Table 2.3-2), the exposure to sensitive receptors would be reduced such that health risks would not exceed the BAAQMD single-source thresholds.

From Combined Sources

In addition, community health risk to future on-site residences from combined sources (emergency diesel generators, future traffic on nearby roadways, and existing TAC and PM_{2.5} sources) was modeled and the results are summarized in Table 3.3-12. Refer to Appendix C for details about the modeling, data inputs, and assumptions. As shown in Table 3.3-12, the cumulative PM_{2.5} concentration would exceed the BAAQMD single-source threshold but not the cumulative source threshold.

Modeling was completed to determine the effectiveness of conditions of approval COA AQ-2 (refer to Table 2.3-2), assuming a combination of outdoor exposure (three hours a day from open windows or being outside the unit) and indoor exposure (21 hours of indoor exposure to filtered air). The results shown that the effective control efficiency using MERV13 is about 70 percent for PM_{2.5} exposure. The implementation of COA AQ-2, therefore, would reduce the maximum annual PM_{2.5} concentration from 0.32µg/m³ to less than 0.1µg/m³, which would reduce annual PM_{2.5} exposure below the recommended single-source significance threshold for health risks.

Table 3.3-12: Community Health Risk Effects to Future Sensitive Receptors			
Source	Cancer Risk (per million)	Annual PM_{2.5} (µg/m³)	Hazard Index
Project Generators	Significant		
Caltrain Rail Line	3.0	<0.01	<0.01
Roadways ¹	1.9	0.32	0.01
Wyant & Smith Crematory	1.6	0.02	0.14
Broadcom Corporation at 730-ft (Generator)	0.3	<0.01	<0.01
Sunnyvale Acquisition LLC c/o RiverRock Estate GRP at 480-ft (Generator)	0.1	<0.01	<0.01
Target Corporation Store (Generator)	<0.1	<0.01	<0.01
SBC (Generator)	10.0	<0.01	0.03
Northrop Grumman Systems Corporation (Multiple Sources)	1.2	<0.01	<0.01
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
<i>Exceed Single-Source Threshold (without condition of approval COA AQ-2)?</i>	<i>No</i>	<i>Yes</i>	<i>No</i>
Roadways ¹ (with condition of approval)	---	0.1	---
<i>Exceed Single-Source Threshold (with condition of approval COA AQ-2)?</i>	<i>No</i>	<i>No</i>	<i>No</i>
Combined Sources	18.2	0.4	<0.23
BAAQMD Cumulative Source Threshold	>100	>0.8	>10.0
<i>Exceed Cumulative-Source Threshold (without condition of approval COA AQ-2)?</i>	<i>No</i>	<i>No</i>	<i>No</i>
¹ Includes Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue.			

3.4 BIOLOGICAL RESOURCES

3.4.1 Environmental Setting

3.4.1.1 *Regulatory Framework*

Federal and State

Special-Status Species

Individual plant and animal species listed as rare, threatened or endangered under state and federal Endangered Species Acts are considered “special-status species.” Federal and state “endangered species” legislation has provided the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both the USFWS and CDFW if activities associated with a proposed project will result in the taking of a species listed as threatened or endangered. To “take” a listed species, as defined by the State of California, is “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” said species. “Take” is more broadly defined by the federal Endangered Species Act to include “harm” of a listed species.

In addition to species listed under state and federal Endangered Species Acts, Section 15380(b) and (c) of the CEQA Guidelines provide that all potential rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Guidelines. These may include plant species of concern in California listed by the California Native Plant Society and CDFW listed “Species of Special Concern.”

Migratory Bird and Birds of Prey Protections

Federal and state laws protect most bird species. The federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Birds of prey, such as owls and hawks, are protected in California under provisions of the State Fish and Game Code. The code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFW.

Sensitive Habitats

Wetland and riparian habitats are considered sensitive habitats under CEQA. They are also afforded protection under applicable federal, state, and local regulations, and are generally subject to regulation, protection, or consideration by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and/or the USFWS under provisions of the federal Clean Water Act (e.g., Sections 303, 304, 404) and State of California Porter-Cologne

Water Quality Control Act. EPA regulations, called for under Section 402 of the Clean Water Act, also include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge into waters of the United States (e.g., streams, lakes, bays, etc.).

Local

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to biological resources and are applicable to the proposed project.

Policy	Description
Land Use and Transportation Element	
LT-2.3	Accelerate the planting of large canopy trees to increase tree coverage in Sunnyvale in order to add to the scenic beauty and walkability of the community; provide environmental benefits such as air quality improvement, wildlife habitat, and reduction of heat islands; and enhance the health, safety, and welfare of residents.
LT-2.5	Recognize the value of protected trees and heritage landmark trees (as defined in City ordinances) to the legacy, character, and livability of the community by expanding the designation and protection of large signature and native trees on private property and in City parks.

Urban Forest Management Plan

The Urban Forest Management Plan (UFMP) was adopted by the City in 2014 to sustain, protect, and promote the urban forest. The UFMP contains goals and guidelines for tree maintenance and encouraging positive tree management.

Sunnyvale Municipal Code

- Chapter 13.16 (City Trees) provides guidance and regulations on City trees, including protected trees, removal or damage to trees, and permitting.¹⁹ Permitting is required for planting trees in the public right of way, removal or maintenance to protected trees, and construction affecting protected trees.
- Chapter 19.94 (Tree Preservation) regulates the protection, installation, removal and long term management of significantly sized trees on private property within the City and City-owned golf courses and parks; encourages the proper protection and maintenance of significantly sized trees which are located on such property; establishes a review and permit procedure to assure the correct planting, maintenance, protection and removal of significant trees on such property; and establishes penalties for violation of its provisions. The provisions of Chapter 19.94 identify and prescribe specific procedures and requirements for

¹⁹ Pursuant to SMC Chapter 13.16, a "City tree" is defined as any woody plant which is growing within the public right-of-way along a city street and has a trunk four inches or more in diameter at four and one-half feet above normal ground level.

the filing, processing, and consideration of the removal and preservation of trees. A significant size tree (or protected tree) is defined as:

- Any single trunk tree 38 inches or greater in circumference (the circumference of the tree is measured at 4.5 feet above the ground); or
- Any multi-trunk tree which has at least one trunk 38 inches or greater in circumference or where the measurements of the multi-trunks added together equal at least 113 inches.

Bird Safe Design Guidelines

In order to address bird safety concerns, the City Council adopted the Bird Safe Building Design Guidelines in January 2014. The intent of these guidelines is to reduce the risk of bird collisions in new construction. These guidelines focus on building design issues based upon the location of the proposed building, and provide a set of design requirements. These guidelines address design requirements for (1) sites within 300 feet of a body of water or that are adjacent to an open space or park area larger than one acre in size and (2) for other areas of the City that are considered to be lower risk for bird collisions. The design requirements include minimizing reflective surfaces and glass walls, reducing night time lighting, discouraging the placement of larger water features, and avoiding landscape designs that emphasize tall landscaping adjacent to reflective surfaces.

3.4.1.2 *Existing Conditions*

The DSP area is in an urban area surrounded by development (refer to Figure 2.1-3). The DSP area consists of a mix of land uses and landscaping.

Habitats in developed, urban areas such as the DSP area are extremely low in species diversity. The wildlife species most often associated with developed areas include urban adapted birds such as the rock dove, mourning dove, house sparrow, and European starling. There are no sensitive habitats or wetlands on or adjacent to the six project sites. Due to the lack of sensitive habitats and the generally developed nature of the six project sites, special-status plant and animal species are not expected to occur on the six project sites. The primary biological resources on the project sites are trees.

Trees are located in the Macy's and Redwood Square, Town Center Sub-block 6, and Murphy Square sites. Arborist reports were completed by Walter Levison in January 2017 and October 2018, and by HortScience in October 2017 and August 2018. Copies of the arborist reports are included in Appendix D of this EIR. There are a total of 87 trees on the Macy's and Redwood Square, Town Center Sub-block 6, and Murphy Square sites.

The trees at the Macy's and Redwood Square and Town Center Sub-block 6 sites are in fair to good health. The protected trees at the Murphy Square site are in poor to good health. Of the 87 trees, 37 trees meet the definition of a protected tree contained in the Chapter 19.94, Tree Preservation. Twenty-one of these protected trees are located on the Macy's and Redwood Square site. These protected trees on the Macy's and Redwood Square site consist of three African fern pine and 12 Brazilian pepper trees in the northern portion of the site along the perimeter of the Macy's building and six coast redwood trees in the middle of the southern half of the site. The six coast redwood trees are also designated as local heritage resource trees. Nine of the protected trees are located on the

Town Center Sub-block 6 site. These protected trees consist of one tulip tree, three southern magnolia, and five Italian stone pine. The Murphy Square site contains the remaining seven protected trees. They are located in and around the parking lot and consist of four lemon-scented gum trees, two evergreen pear trees, and one Mexican fan palm. Additional detail, including tree location and size, is included in Appendix D.

3.4.2 Biological Resources Impacts

For the purposes of this EIR, a biological resource 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 (CDFW) of Fish and Wildlife or United States Fish and Wildlife Service (USFWS);
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- 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.

Impact BIO-1: The project would not have a substantial adverse effect on species identified as a candidate, sensitive, or special status species. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Because the six project sites are mostly developed, disturbed by human use, and located in an urbanized area, the sites do not contain sensitive habitats. Due to the lack of sensitive habitats on the sites (see discussion under Impact BIO-2), no special-status plant or animal species are expected to be present within the six project sites.

Nesting birds may be periodically present in trees and landscaping on and adjacent to the six project sites. Nesting birds are protected under provisions of MBTA and Fish and Game Code Sections 3503, 3503.5, and 2800.

Future construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes abandonment and/or loss of reproductive effort is considered a taking by the CDFW. Any loss of

fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact. Construction activities, such as exterior architectural improvements, tree removal, and site grading, that disturb a nesting bird or raptor on a site or immediately adjacent to the construction zone would constitute a significant impact.

DSP Amendments and Six Development Projects Mitigation Measure:

MM BIO-1.1: **All Project Sites (except 300 West Washington Avenue):** When possible, 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.

If it is not possible to schedule construction and tree removal between September and January, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests shall be disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other demolition or construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August).

During this survey, the ornithologist shall inspect all trees and other possible nesting habitats within and immediately adjacent to the construction area for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest to ensure that nests of bird species protected by the MBTA or Fish and Game code shall not be disturbed during project construction.

A final report of nesting birds, including any protection measures, shall be submitted to the Director of Community Development prior to the start of grading or tree removal.

Future construction under the proposed project, with the implementation of the above mitigation measure, would result in less than significant impacts to nesting birds by avoiding construction activities during the nesting season and conducting preconstruction surveys in order to avoid disturbing active nests that may be affected by project construction. **(Less than Significant Impact with Mitigation Incorporated)**

Impact BIO-2: The project would not have a substantial adverse effect on riparian habitat, wetland, or other sensitive natural community. **(No Impact)**

DSP Amendments and Six Development Projects

The six project sites are mostly developed, disturbed by human use, and located in an urban area. The six project sites do not contain sensitive habitats, such as riparian habitat and wetlands. **(No Impact)**

Impact BIO-3: The project would not interfere substantially with the movement of fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites. **(No Impact)**

DSP Amendments and Six Development Projects

The six project sites are mostly developed and located in an urban area. The six project sites do not contain any wetlands or open space areas along the San Francisco Bay that provide habitat or movement corridors for wildlife species in the region. For these reasons, the project would not impact the movement of fish or wildlife species, act as a wildlife corridor, or impede use of wildlife nursery sites. **(No Impact)**

Impact BIO-4: The project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **(No Impact)**

DSP Amendments and Six Development Projects

Sunnyvale Municipal Code Chapters 13.16 and 19.94

The six project sites have a total of 87 trees, 37 of which are protected trees. The protected trees include six coast redwood trees that are also designated heritage trees.

Future development under the proposed project shall comply with SMC Chapter 13.16 and obtain necessary permits to plant, maintain, remove, and protect city trees during construction. Pursuant to SMC Chapter 19.94, future development under the proposed project shall follow the procedures and requirements for removing and preserving protected trees on the project sites. At the discretion of the Director of Community Development, replacement trees may be required as a condition of issuance of a protected tree removal permit, or as a condition of any discretionary permit for development or redevelopment (SMC Chapter 19.94.080). The project, therefore, would not conflict with the SMC Chapters 13.16 and 19.94.

Under the six development projects, the six heritage trees on the Macy's and Redwood Square site would be preserved. The remaining 31 protected trees on the Macy's and Redwood Square and Murphy Square sites would be removed as a result of the six development projects proposed. While the development six development projects would result in the removal of 31 protected trees, the six development projects would plant at least 190 new trees.²⁰ The six development projects would result in a replacement ratio of approximately 1:6 (protected trees removed: planted) or 1:2 (total trees removed: planted).

²⁰ Hogan, Dave. Senior Planner, City of Sunnyvale. Personal Communications. May 28, 2019.

In addition, the Macy's and Redwood Square project is required to implement the following measures identified in the adopted 2004 Mitigated Negative Declaration/Initial Study for the heritage trees:

- Irrigation shall be provided for the trees throughout the demolition and construction of the project, an automatic sprinkler system shall be incorporated as practical, including the provision of a temporary waterline for irrigation.
- The project arborist shall review the grading plan to ensure that the root system is preserved during excavation and final site work.

The removal of any protected trees would be done in conformance with SMC requirements. The six development projects would also implement the additional tree preservation and protection guidelines identified in their respective arborist reports (see Appendix D). **(No Impact)**

Bird Safe Design Guidelines

The City's Bird Safe Design Guidelines stipulate that efforts should be taken to reduce bird strikes in all locations of the City. Future development under the proposed DSP amendments (including the six development projects) shall comply with the applicable Bird Safe Design Guidelines. The project, therefore, would not conflict with the City's Bird Safe Design Guidelines.

The consistency of the six development projects with applicable Bird Safe Design guidelines are described in Table 3.4-1 below.

Table 3.4-1: Summary of Applicable Bird Safe Design Guidelines and the Six Development Projects Consistency	
Applicable Guideline	Consistency
Avoid large expanse of glass near open areas, especially when tall landscaping is immediately adjacent to the glass walls	The six project sites are not located near open areas that would attract large numbers of birds. The six development projects include glass windows and glass facades on portions of the buildings, as well as smaller residential window openings. Tall landscaping (i.e., trees) would be set back from the large glass facades and bird safe applications (e.g., fritting, mesh screen) would be applied to the glazing on the glass or in front of the facade. The six development projects are consistent with this guideline.
Avoid the funneling of open space towards a building face	The six development projects do not funnel open space that is attractive to birds towards their building facades. The proposed courtyards would not be designed to funnel birds towards glass windows. The six development projects are consistent with this guideline.
Prohibit glass skyways or freestanding glass walls	No glass skyways or freestanding glass walls are proposed. The six development projects are consistent with this guideline.

Table 3.4-1: Summary of Applicable Bird Safe Design Guidelines and the Six Development Projects Consistency	
Applicable Guideline	Consistency
Avoid transparent glass walls coming together at building corners to avoid birds trying to fly through glass	The six development projects do not include glass walls or windows that come together at building corners. The six development projects are consistent with this guideline.
Reduce glass at top of building, especially when incorporating a green roof into the design	The six development projects do not have glass windows that extend to the top of the building. The 100 Altair Way project includes a roof top garden, but would use wood materials mostly with limited glass windows and doors. Glass facades would also include a bird safe applications (e.g., fritting, mesh screen) to deter birds collisions. The six development projects are consistent with this guideline.
Prohibit up lighting or spotlights	The six development projects do not propose up-lighting or spotlights. The six development projects are consistent with this guideline.
Shield lighting to cast light down onto the area to be illuminated	Outdoor lighting would be shielded. The six development projects, therefore, would be consistent with this guideline.
Turn commercial building lights off at night or incorporate blinds into window treatment to use when lights are on at night	The six development projects would include shade control devices for all windows and would turn off commercial lights at nights, as described in Section 2.3.2. The six development projects, therefore, would comply with this guideline by incorporating blinds and turning off commercial lights at night.
Create smaller zones in internal lighting layouts to discourage wholesale area illumination	The six development projects would comply with this guideline through compliance with the Building Energy Efficiency Standards in Title 24 that requires smaller lighting zones inside buildings.

As summarized in Table 3.4-1, the six projects are consistent with the City's Bird Safe Design Guidelines by:

- Avoiding large, uninterrupted expanses of glass near open areas,
- Avoiding the funneling of open space towards a building face,
- Prohibiting glass skyways and freestanding glass walls,
- Prohibiting transparent glass walls coming together at building corners,
- Reducing glass at the top of the building,
- Prohibiting up-lighting or spotlights,
- Shielding outdoor lights,
- Incorporating shade control devices for all commercial and office windows and/or turning off commercial and office lights at night, and
- Creating smaller zones for internal lighting in accordance with Title 24.

For these reasons, the DSP amendments and the six development projects would not conflict with the City's Bird Safe Design Guidelines. **(No Impact)**

Impact BIO-5: The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan. **(No Impact)**

DSP Amendments and Six Development Projects

The DSP area is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The proposed project, therefore, would not conflict with provisions of any of these plans. **(No Impact)**

Impact BIO-C: The project would not have a cumulatively considerable contribution to a significant cumulative biological resources impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

The geographic area for cumulative biological resources impacts includes the DSP area and its surrounding area because localized development would affect the same group of biological resources.

Sensitive Habitats and Conflicts with Local Policies, Ordinances, and Plans

The DSP area is located within an urbanized area and does not contain sensitive habitat. As discussed above, the proposed project would have no impact on the movement of fish or wildlife species, established wildlife corridors, native wildlife nursery sites, riparian habitat, wetlands, and other sensitive natural communities. The project would not conflict with SMC Chapters 13.16 and 19.94, or an adopted habitat conservation plan. For these reasons, the project would not have a cumulatively considerable contribution toward significant impacts to these resources. **(No Cumulative Impact)**

Special-Status Species

Future construction under the proposed project could impact nesting birds (if present during construction). Other past, present, and pending development projects could also impact nesting birds (if present during construction). Cumulatively, the proposed project and other development projects in the area could result in a significant impact to nesting birds. Each development project, however, is subject to federal, state, and local regulations (including the MBTA, Fish and Game Code, and SMC) which avoid and/or minimize impacts to nesting birds, such as MM BIO-1.1. For these reasons, the proposed project would not have a cumulatively considerable contribution to a significant cumulative biological resources impact to nesting birds. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

3.5 CULTURAL RESOURCES

The discussion in this section is based in part on a cultural resource literature search and Native American consultation for the project site by Holman & Associates in September 2018, and a Historic Resource Evaluation for the 100 Altair site on Block 1a by Archives & Architecture, LLC in May 2018. A copy of the literature search is on file at the City. A copy of the Historic Resource Evaluation can be found in Appendix E of this EIR.

3.5.1 Environmental Setting

3.5.1.1 *Regulatory Framework*

Federal

National Historic Preservation Act

The National Register of Historic Places (NRHP), established under the National Historic Preservation Act, is a comprehensive inventory of known historic resources throughout the United States. The NRHP is administered by the National Park Service and includes buildings, structures, sites, objects and districts that possess historic, architectural, engineering, archaeological or cultural significance. For a resource to be eligible for listing, it also must retain integrity of those features necessary to convey its significance in terms of (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association. CEQA requires evaluation of project effects on properties that are listed in or eligible for listing in the NRHP.

State

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The CRHR aids government agencies in identifying, evaluating, and protecting California's historical resources, and indicates which properties are to be protected from substantial adverse change (Public Resources Code, Section 5024.1[a]). The CRHR is administered through the State Office of Historic Preservation (SHPO), which is part of the California State Parks system. A historic resource listed in, or formally determined to be eligible for listing in, the NRHP is, by definition, included in the CRHR (Public Resources Code Section 5024[d][1]).

A historic resource generally must be greater than 50 years old and must be significant at the local, state, or national level under one or more of the following four criteria (California Code of Regulation Section 4852(b) and Public Resources Code Section 5024.1):

- 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;
- It is associated with the lives of persons important to local, California, or national history;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Assembly Bill 52

Assembly Bill (AB) 52 requires lead agencies to participate in formal consultations with California Native American tribes during the preparation of an EIR, negative declaration or mitigated negative declaration, if requested by any tribe, to identify tribal cultural resources²¹ that may be subject to significant impacts by a project. Where a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss the impact and whether feasible alternatives or mitigation measures could avoid or substantially lessen the impact. Consultation is required until the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource or when it is concluded that mutual agreement cannot be reached.

Senate Bill 18

The intent of Senate SB 18 is to aid in the protection of traditional tribal cultural places through local land use planning by requiring city governments to consult with California Native American tribes on projects which include adoption or amendment of general plans (defined in Government Code Section 65300 et seq.) and specific plans (defined in Government Code Section 65450 et seq.). SB 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process.

California Public Resources Code

Applicable California Public Resources Code sections regarding cultural resources include, but are not limited to, the following:

- Section 5097.5, which specifies that unauthorized removal of a paleontological resource is a misdemeanor.
- Sections 5097.9 through 5097.991, which require notification of discoveries of Native American remains and provides for the treatment and disposition of human remains and associated grave goods.

Local

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to cultural resources and are applicable to the proposed project.

Policy	Description
Community Character Element	
CC-5.1	Preserve existing landmarks and cultural resources and their environmental settings.

²¹ A tribal cultural resource can be a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. It also must be either on or eligible for inclusion in the CRHR, a local historic register, or the lead agency, at its discretion, chooses to treat the resource as a tribal cultural resource.

Policy	Description
CC-5.3	Identify and work to resolve conflicts between the preservation of historic resources and alternative land uses.
CC-5.5	Archeological resources should be preserved.

Sunnyvale Municipal Code

Chapter 19.96 (Heritage Preservation) establishes the Heritage Preservation Commission to oversee the designation, preservation, restoration, rehabilitation, relocation, or reconstruction of qualified historic resources (e.g., buildings, properties, signs, features, and trees). The heritage preservation commission has the chance to review all permit applications regarding heritage resources, heritage resource districts, landmark site or landmark district designated structures that involve changing use, exterior alteration, or demolition; and approve, disapprove, or approve as modified said applications.

SMC 19.94.050 also stipulates a tree removal permit and landmark alteration permit is required in order to remove a designated heritage tree.

Heritage Resource Inventory

The City maintains its Heritage Resource Inventory, containing landmarks, trees, residential and commercial districts, and individual structures of local importance. There are two main types of protected structures in Sunnyvale: heritage resources and local landmarks. A local landmark is the highest level of protection afforded by the City under the SMC. Heritage resources have a somewhat lower level of protection that recognizes properties which have architectural or historic significance. The inventory was last updated in September 2018.²²

3.5.1.2 Existing Conditions

Historic Resources

The types of cultural resources that meet the definition of historical resources under CEQA generally consist of districts, sites, buildings, structures, and objects that are significant for their traditional, cultural, and/or historical associations.

On-Site

None of the structures on the six project sites are listed on NRHP, CRHR, or City's Heritage Resources Inventory.²³ All structures within the six project sites are under 50 years old with the exception of the United States Post Office on the 100 Altair Way site, constructed in 1964 (making the building 64 years old). A historic evaluation of the United States Post Office building was completed and found the architectural character and physical features of the building are not distinctive in a way to enable eligibility to CRHR or associated with significant historic patterns or

²² City of Sunnyvale. "Heritage Resources Inventory." Accessed: September 2018. Available at: <https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=25105>.

²³ Sources: (1) City of Sunnyvale. *Land Use and Transportation Element Draft Environmental Impact Report*. (SCH#2012032003). August 2016. (2) Archives & Architecture, LLC. *Taaffe Street Sunnyvale Post Office Historic Resource Evaluation*. May 2018.

events or with historic personages in a way that meets the CRHR criteria (refer to Appendix E for a copy of the evaluation). The United States Post Office building, therefore, is not considered a historic resource under CEQA.

While there are no historic structures on-site, the southern portion of the Macy's and Redwood site contains a grove of six redwood trees that is listed on the City's Heritage Resources Inventory. These six heritage trees were planted by various community leaders and groups and are known as the "Heritage Grove." When included on the Historic Resources Inventory in 1984, the Heritage Grove included seven trees (six redwood trees and one cedar tree). Since then, the cedar tree was removed. Heritage Grove is included on the City's Historic Resources Inventory but does not have a landmark designation.

In the Project Vicinity

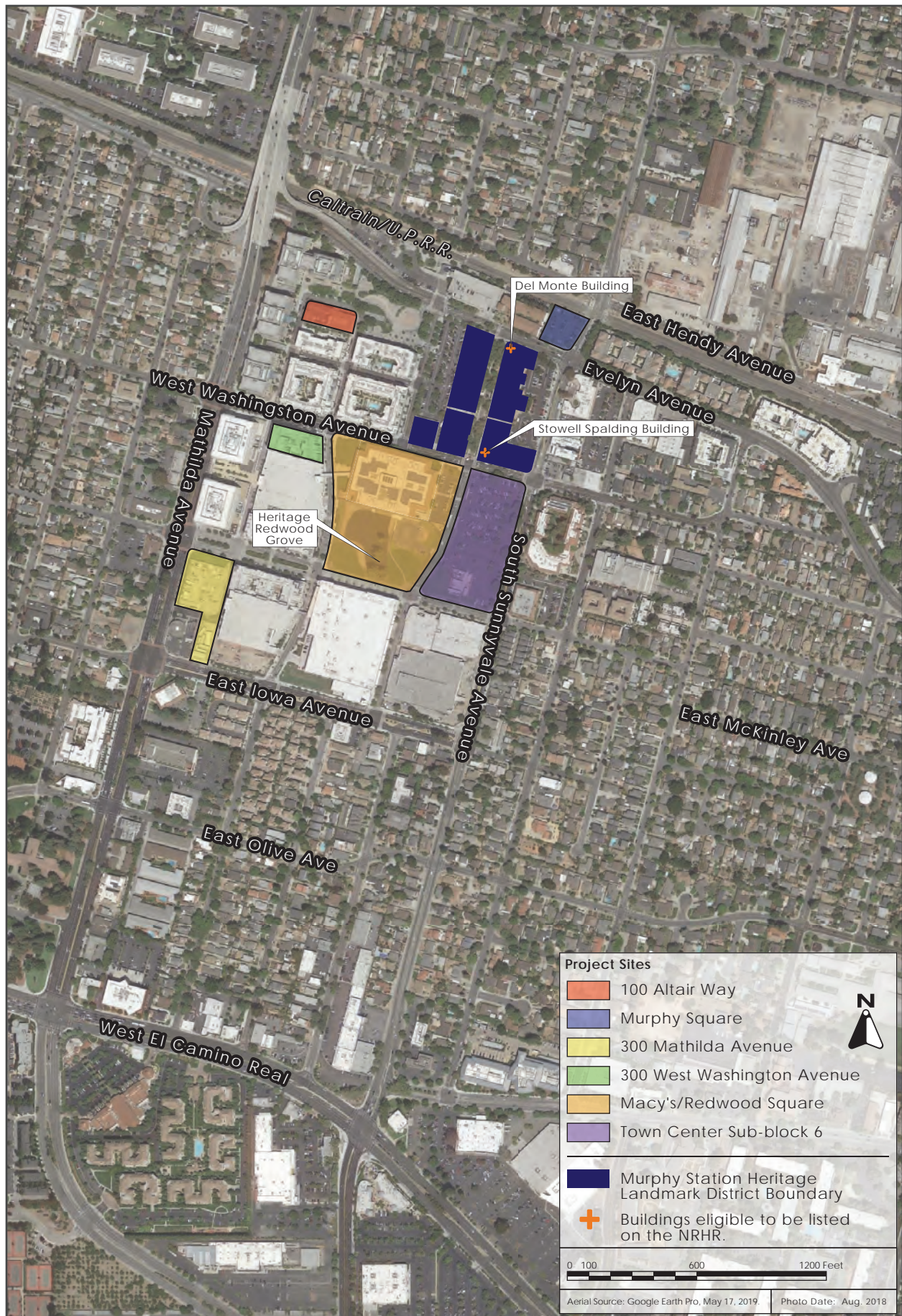
The buildings adjacent to the six project sites are not over 50 years old or of exceptional importance and, therefore, are not eligible for listing on CRHR.

There are three known historic resources in the project vicinity, none of which are located on the project sites, nor would they be physically affected: Murphy Station Heritage Landmark District, Madison and Bonner Company Packing House (commonly known as the Del Monte Building) at 114 South Murphy Avenue, and the Stowell Spalding building block at 186 to 198 South Murphy Avenue (refer to Figure 3.5-1). These historic resources are described briefly below.

- **Murphy Station Heritage Landmark District** – The Murphy Heritage Landmark District (P-43-3505) is a local heritage landmark district in the City, located along the 100 block of South Murphy Avenue. This district is southwest of the Murphy Square site and north of the Macy's, Redwood Square, and Town Center Sub-block 6 sites. The district contains one- to two-story commercial buildings, constructed between 1897 and the present. Many of the architecture styles are represented with most dating from the 1920s to 1930s. A previous historic report was completed in 1991 that encompassed the district. According to this report, more recent renovations might appear historic but were not historically accurate, and it is estimated that two-thirds of the buildings have lost half or more of their historic facade. This lack of integrity was concluded to negate the district's eligibility to the NRHP.²⁴
- **Del Monte Building** – The Madison and Bonner Company Packing House (more recently called Del Monte Building) (P-43-3480) is a local landmark in the City and listed on the NRHP with a 2S2 status.²⁵ It was previously located on the Murphy Square site. The Del Monte Building is currently occupied by restaurants. The structure was relocated across Evelyn Avenue to the northeast corner of the 100 block of South Murphy Avenue within the Murphy Station Heritage Landmark District to avoid its demolition.

²⁴ Brack, Mark. *Primary Record for P-43-3482*. 1991.

²⁵ Determined eligible for separate listing through a consensus determination by a federal agency and the State Historic Preservation Officer.



MURPHY STATION HERITAGE LANDMARK DISTRICT BOUNDARY

FIGURE 3.5-1

- **Stowell Spalding Building** – The Stowell Spalding building (P-43-3482) is located at 186 to 198 South Murphy Avenue, north of the Macy's, Redwood Square, and Town Center Sub-block 6 sites. The Stowell Spalding Building is listed on the NRHP with a 2S2 status and is currently occupied by commercial uses. This building is a two-story commercial building constructed in 1907 from textured concrete blocks. The building is not on the City's heritage resource inventory.

Archaeological Resources

An archaeological literature review was completed for the six project sites at the Sonoma State University Northwest Information Center on August 15, 2018. There are three archaeological sites recorded within an eighth of a mile of the project area, including two deeply buried graves and one hearth feature. No recorded archaeological sites are identified within the six project sites.

Paleontological Resources and Unique Geologic Features

Most of the City of Sunnyvale, including the six project sites, is on recent alluvial deposits of Holocene (11,700 years ago to present), which are typically too recent to contain fossils.²⁶ Alluvial soil thickness in the Sunnyvale area ranges from 400 to greater than 700 feet. There are no recorded paleontological resources in the project area. No unique geologic features, such as serpentine rock outcrops and boulders, pinnacles, or tafoni sandstone are located on-site.

Tribal Cultural Resources

Holman & Associates initiated Native American consultation for the project on behalf of the City of Sunnyvale on August 23, 2018. The Native American Heritage Commission (NAHC) was contacted to request a review of the Sacred Land files for any evidence of cultural resources or traditional properties of potential concern that might be known on lands within or adjacent to the six project sites. The search results were negative; no cultural resources or traditional properties of concern were identified within or adjacent to the six project sites.

The NAHC also provided contacts for six Native American individuals/organizations who may know of cultural resources in this area or have specific concerns about the project. Two contacts responded recommending presence/absence exploration and cultural sensitivity training for all those who would be doing ground disturbing construction activities. These recommendations are identified in mitigation measures MM CR-2.1 and MM CR-2.2. No other comments were received from the six contacted Native American individuals/organizations.

²⁶ Cornerstone Earth Group. *Downtown Specific Plan Amendments and Specific Development Project Geotechnical Feasibility Study*. October 3, 2018.

3.5.2 Cultural Resources Impacts

For the purposes 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 CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- Disturb any human remains, including those interred outside of dedicated cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or
 - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying this criteria, the significance of the resource to a California Native American tribe shall be considered.

Impact CR-1: The project would cause a substantial change in the significance of a historic resource. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Direct Impacts

A project could have a significant impact on a historic resource if it would cause a substantial adverse change in the historic significance of that resource. A “substantial adverse change” is defined as the physical demolition, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired.

As discussed above, the six project sites do not contain buildings that are historically significant and the historic buildings in the vicinity are not part of the project proposal. Heritage Grove, however, is located on the Macy’s and Redwood Square site. The City considers the loss or relocation of one or more of the heritage trees in Heritage Grove to be a significant historic impact.

Future development of the Macy’s and Redwood Square site could result in the removal or relocation of one or more of the heritage trees in Heritage Grove.

DSP Amendments and Six Development Projects Mitigation Measure:

MM CR-1.1: **Macy's and Redwood Square:** If a heritage tree is removed or relocated, the relocation of a heritage tree shall be done under the supervision of a certified arborist, in consultation with the City arborist. The new location for a relocated tree shall be approved by the City prior to the tree's removal.

MM CR-1.2: **Macy's and Redwood Square:** If a heritage tree is removed or relocated, the project applicant shall install a replacement plaque for the heritage tree with the same inscription as on the original plaques, which are noted in the 2006 Department of Parks and Recreation form. The final design of the plaque shall be approved by the City prior to its installation.

In addition, pursuant to SMC Chapter 19.94.050, a tree removal permit and a landmark alteration permit is required for the removal of a heritage tree. The removal of a heritage tree requires an approval by the Heritage Preservation Commission. Refer to the discussion under Impact BIO-4 in Section 3.4 Biological Resources regarding tree protection during construction.

The implementation of the above mitigation measures would reduce impacts to Heritage Grove by ensuring proper protection of existing trees to remain, requiring professional relocation and tree care for the relocated tree, and requiring a commemorative plaque for each heritage tree removed/relocated. The impact would not be reduced to a less than significant level because the successful relocation of a heritage tree cannot be guaranteed and the change in the number or location of the heritage trees within the grove alters the original context in which they were designated. For these reasons, the impact is considered significant and unavoidable with mitigation incorporated. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

Indirect Impacts

Future development under the proposed project could indirectly impact nearby historic resources if it impacts the cultural integrity, context, and/or function of the historic resource, such as blocking the light source of a stained glass window, or damaging its structural integrity during construction activity. For structural damage, a conservative vibration limit of 0.08 in/sec peak particle velocity (PPV) is used for ancient buildings to evaluate vibration impacts.²⁷

The proposed project would not interfere with the commercial (including restaurant) operation or use of the Del Monte Building or Stowell Spalding Building because they are separated from the proposed developments by roadways (West Evelyn Avenue and West Washington Avenue) that are at least 40 feet wide (refer to Figure 3.5-1) and the project does not propose any changes to the sites in which the historic buildings are located. Construction vibration impacts of the proposed projects to surrounding uses, including the Del Monte Building and Stowell Spalding Building, is discussed in Section 3.13 Noise and Vibration under Impact NOI-2, and are concluded to be less than significant. **(Less than Significant Impact)**

²⁷ California Department of Transportation. *Transportation and Construction Vibration Guidance Manual*. September 2013. Refer to Section 3.13 Noise and Vibration for a discussion of vibration fundamentals.

Impact CR-2: The project would not significantly impact archaeological resources, human remains, or tribal cultural resources. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

As discussed above, there were three archaeological resources documented within an eighth of a mile of the project area, and the Native American consultation process identified concerns with the potential archaeological sensitivity of the six project sites. In addition, based on the review of historical land use patterns and the construction of the buildings on the six project sites, there is a moderate to high potential for specific historic archaeological features associated with early Sunnyvale residences in all of the project sites, except for the Murphy Square site because it included below ground loading docks and associated modifications that would have destroyed archaeological features, if any previously present.

DSP Amendments and Six Development Projects Mitigation Measures:

MM CR-2.1: **All Project Sites (except for 300 West Washington Avenue):** Mechanical presence/absence exploration for Native American resources shall be completed prior to development related ground-disturbance or in conjunction with any remediation efforts. This work shall be conducted by an archaeologist who is trained in both local prehistoric and historical archaeology. Exploring for specific historic-era features shall consist of creating shallow wide trenches down to the historic surface based on areas identified from historic-era maps. If any archaeological resources or human remains are exposed, these shall be briefly documented, tarped for protection, and left in place. Deeper trenches should be placed beyond the areas considered sensitive for historical resources.

If archaeological deposits or features that appear potentially eligible to the CRHR are identified during exploration, an archaeological research design and work plan shall be prepared. The plan shall be designed to facilitate archaeological excavation and evaluate any cultural resources discovered to the CRHR to assess if any are historic properties.

The project applicant shall notify the City of Sunnyvale Community Development Director who shall notify the applicable Native American tribal representatives if any Native American resources are identified during presence/absence exploration.

MM CR-2.2: **All Project Sites (except for 300 West Washington Avenue):** Prior to ground-disturbing activities, the project applicants shall have a qualified archaeologist or qualified Native American tribal representative provide appropriate cultural sensitivity training to all contractors and employees involved in the trenching and excavation.

MM CR-2.3: **All Project Sites (except for 300 West Washington Avenue):** In the event that human remains are discovered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall notify the NAHC immediately. Once NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines.

The proposed project would not result in significant impacts to buried archaeological resources, human remains, or tribal cultural resources, with the implementation of the mitigation measures MM CR-2.1 through CR-2.3 by conducting a mechanical presence/absence exploration prior to ground-disturbance activities, preparing an archeological research design and work plan if potentially CRHR-eligible deposits or features are discovered, notifying applicable Native American tribal representatives if resources are discovered, providing cultural sensitivity training to all contractors, and halting ground-disturbing activities in the vicinity of a resource if discovered. **(Less than Significant Impact with Mitigation Incorporated)**

Impact CR-3: The project would not destroy a unique paleontological resource or site or unique geological feature. **(No Impact)**

DSP Amendments and Six Development Projects

The project area is located on Holocene deposits ranging from 400 to greater than 700 feet in thickness. Soils excavated for the below ground parking (up to 43 feet) would be of Holocene deposits, which are too recent to contain paleontological resources. Implementation of the proposed project, therefore, would not impact paleontological resources. As discussed previously, there are no unique geologic features on the sites. **(No Impact)**

Impact CR-C: The project would not result in a cumulatively considerable contribution to a significant cumulative cultural resources impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Historic, Paleontological, and Unique Geologic Resources Impacts

As discussed above, the project would not impact paleontological, or unique geologic resources. In addition, other than the proposed project, no other cumulative projects would impact Heritage Grove or other historic resources on the City's Heritage Resources Inventory. Therefore, there is no cumulative impact to historic resources. For this reason, the project would not have a cumulatively considerable contribution to a significant cumulative impact to historic, paleontological, or unique geologic resources. **(No Cumulative Impact)**

Archaeological Resources, Human Remains, and Tribal Cultural Resources Impacts

The geographic area for cumulative impacts to archaeological resources for the proposed project is the general project area because it is assumed the surrounding projects would affect similar cultural resources.

The development of cumulative projects in proximity to the project site, in conjunction with the development of the proposed project, could significantly impact unknown buried archaeological resources. Each development project is required to comply with federal, state, and local regulations (NRHP, CRHR, California Public Resources Code, California Code of Regulations [Title 14 Section 1427], California Health and Safety Code, California Public Resources Code [Section 5097.5], AB 52, SB 18, CEQA, and Sunnyvale General Plan policies and SMC) to protect cultural resources. The proposed project would comply with the regulations listed above and implement mitigation measures MM CR-2.1 through MM CR-2.3 to avoid and/or minimize impacts to buried cultural resources to a less than significant level.

Based on the above discussion, the cumulative projects (including the proposed project) would not result in a significant cumulative impact to buried cultural resources and the project would not have a cumulatively considerable contribution to a significant cumulative impact to those resources. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

3.6 ENERGY

3.6.1 Environmental Setting

3.6.1.1 *Regulatory Framework*

Federal and State

Energy Star and Fuel Efficiency

At the federal level, energy standards set by the EPA apply to numerous consumer products and appliances (e.g., the EnergyStar™ program). The EPA also sets fuel efficiency standards for automobiles and other modes of transportation.

Renewables Portfolio Standard Program

In 2002, California established its Renewables Portfolio Standard Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2010. In 2008, Executive Order S-14-08 was signed into law, requiring retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. In October 2015, Governor Brown signed SB 350 to codify California's climate and clean energy goals. A key provision of SB 350 requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable sources by 2030. SB 100, passed in 2018, requires 100 percent of electricity in California to be provided by 100 percent renewable and carbon-free sources by 2045.

California Building Standards Code

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years, and the 2016 Title 24 updates went into effect on January 1, 2017.²⁸ Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.²⁹

California Green Building Standards Code

CALGreen establishes mandatory green building standards for buildings in California. CALGreen was developed to reduce GHG emissions from buildings, promote environmentally responsible and healthier places to live and work, reduce energy and water consumption, and respond to state environmental directives. The most recent update to CALGreen went into effect on January 1, 2017, and covers five categories: planning and design, energy efficiency, water efficiency and conservation, material and resource efficiency, and indoor environmental quality.

²⁸ California Building Standards Commission. "Welcome to the California Building Standards Commission." Accessed February 6, 2018. <http://www.bsc.ca.gov/>.

²⁹ California Energy Commission (CEC). "2016 Building Energy Efficiency Standards." Accessed February 6, 2018. <http://www.energy.ca.gov/title24/2016standards/index.html>.

Advanced Clean Cars Program

CARB adopted the Advanced Clean Cars program in 2012 in coordination with the EPA and National Highway Traffic Safety Administration. The program combines the control of smog-causing pollutants and GHG emissions into a single coordinated set of requirements for vehicle model years 2015 through 2025. The program promotes development of environmentally superior passenger cars and other vehicles, as well as saving the consumer money through fuel savings.³⁰

Local

City of Sunnyvale Climate Action Playbook

The City of Sunnyvale Climate Action Playbook (August 2019) sets a vision for the City to reduce carbon emissions by 2050. The playbook includes six strategies with “plays” that identify areas for action to reduce GHG emissions (including energy consumption). The following plays from the plan are related to energy and are applicable to the proposed project.

Play	Description
Strategy 2: Decarbonizing Buildings	
2.3	Achieve all-electric new construction
Strategy 3: Decarbonizing Transportation & Sustainable Land Use	
3.1	Increase opportunities for and encourage development of mixed-use sites to reduce vehicle miles per person
3.2	Increase transportation options and support shared mobility

Sunnyvale Green Building Program

In May 2019, the City revised the green building standards for new construction, additions, and remodels of buildings.³¹ The green building standards increase energy efficiency for heating and cooling and promote reduced vehicle travel. Incentives are offered for projects that exceed the minimum green building standards to encourage project applicants and developers to provide additional green building features. Mixed use projects are required to meet the appropriate BIG standard for the residential portion and LEED for the non-residential portion. Alternatively, LEED may be applied to the entire project. At a minimum, new multi-family residential development is required to meet CALGreen Mandatory Measures and GreenPoint Rated Checklist with at least 90 points with BIG Certification. At minimum, new non-residential projects greater than 5,000 square feet are required to meet CALGreen Mandatory Measures and LEED Gold.

³⁰ California Air Resources Board. “The Advanced Clean Cars Program.” Accessed April 6, 2018.

<https://www.arb.ca.gov/msprog/acc/acc.htm>.

³¹ City of Sunnyvale. *Green Building Program*. May 2019.

Sunnyvale Construction and Demolition Waste Diversion

The City requires remodel or demolition projects where 50 percent or more of the exterior wall will be removed to recycle or reuse at least 65 percent of the project's nonhazardous waste.³² Recycling of nonhazardous waste reduces the energy use to produce new materials from raw, non-renewable resources.

3.6.1.2 *Existing Conditions*

Total energy usage in California was approximately 7,880 trillion British thermal units (Btu) in the year 2017, the most recent year for which this data was available.³³ Out of the 50 states, California is ranked second in total energy consumption but only 48th in energy consumption per capita. The breakdown by sector was approximately 18 percent (1,420 trillion Btu) for residential uses, 19 percent (1,470 trillion Btu) for commercial uses, 23 percent (1,820 trillion Btu) for industrial uses, and 40 percent (3,180 trillion Btu) for transportation.³⁴ This energy is primarily supplied by natural gas, petroleum, nuclear, hydro, solar, wind, and geo-thermal sources.

Electricity

In 2018, California produced approximately 70 percent of the electricity it consumed and the rest was imported from adjacent states. California's non carbon dioxide-emitting electric generation (from nuclear, large hydroelectric, solar, wind, and other renewable sources) accounted for more than 53 percent of total in-state generation for 2018, compared to 56 percent in 2017, and 50 percent in 2016.³⁵ Electricity from coal-fired power plants located out-of-state has continued to decrease since 2006 due to a state law limiting new long-term financial investments to power plants that meet California emissions standards.³⁶

California's total system electric generation in 2018 was approximately 285,660 gigawatt-hours (GWh), which was down 2.5 percent from 2017's total generation of approximately 292,080 GWh. California's in-state electric generation was down by approximately five percent at 195,010 GWh compared to approximately 206,380 GWh in 2017.³⁷ In 2018, natural gas represented the largest portion of the state's energy sources (at 47 percent). Solar and wind generation accounted for more than 40 percent of all renewable electricity generation.³⁸

Growth in annual electricity consumption increased between 2016 and 2017 reflecting increased electricity consumption by light-duty EV and high levels of manufacturing electricity consumption.

³² City of Sunnyvale. "Construction Waste." February 5, 2019. Accessed June 20, 2019.

<https://sunnyvale.ca.gov/business/environmental/waste.htm>.

³³ United States Energy Information Administration. "State Profile and Energy Estimates, 2017." Accessed August 1, 2019. <https://www.eia.gov/state/?sid=CA#tabs-2>.

³⁴ Ibid.

³⁵ CEC. "California Electrical Energy Generation." Accessed June 26, 2019.

https://ww2.energy.ca.gov/almanac/electricity_data/electricity_generation.html.

³⁶ EIA. "California State Profile and Energy Estimates Profile Analysis." Accessed February 13, 2018.

<https://www.eia.gov/state/analysis.php?sid=CA#40>.

³⁷ CEC. "California Electrical Energy Generation." Accessed June 26, 2019.

https://ww2.energy.ca.gov/almanac/electricity_data/electricity_generation.html.

³⁸ Ibid.

Per-capita electricity consumption, despite increasing EV use, is projected to be relatively flat due to small-scale residential and commercial photovoltaic generation.³⁹ In 2017, the state consumed approximately 288,610 GWh of electricity.⁴⁰ Due to population increases, however, it is estimated that future demand in California for electricity would grow at approximately 1.3 percent each year through 2030, and that approximately 339,160 GWh of electricity would be utilized in the state in 2030.⁴¹

Electricity in Santa Clara County in 2018 was consumed primarily by the commercial, industrial, and institutional sectors (77 percent), followed by the residential sector consuming 23 percent. In 2018, a total of approximately 16,670 GWh of electricity was consumed in Santa Clara County.⁴²

Community-owned SVCE is the electricity provider for the City of Sunnyvale.⁴³ SVCE sources the electricity and the Pacific Gas and Electric Company (PG&E) delivers it to customers over their existing utility lines. Customers are automatically enrolled in the GreenStart plan and can upgrade to the GreenPrime plan. Both options are 100 percent GHG-emission free.

The existing uses on the six project sites use approximately 2.2 GWh of electricity annually.⁴⁴

Natural Gas

PG&E provides natural gas services within the City of Sunnyvale. In 2017, approximately 1.4 percent of California's natural gas supply came from in-state production, while the remaining supply was imported from other western states and Canada.⁴⁵ In 2016, residential and commercial customers in California used 29 percent of the state's natural gas, power plants used 32 percent, and the industrial sector used 37 percent. Transportation accounted for one percent of natural gas use in California. Utility providers measure natural gas usage in Btu.

In 2017, California consumed approximately 2,167,821,400 million Btu (MMBtu) of natural gas; a slight decrease from 2016 when approximately 2,236,258,600 MMBtu were consumed.⁴⁶ In 2017, Santa Clara County used approximately 3.5 percent of the state's total consumption of natural gas.⁴⁷ Overall natural gas demand in California is anticipated to decrease slightly through 2028. This decline is due to on-site residential, commercial, and industrial electricity generation; aggressive

³⁹ CEC. *California Energy Demand 2018-2030 Revised Forecast*. *revised_Forecast.pdf*. February 2018.

⁴⁰ CEC. "Electricity Consumption by County". Accessed June 28, 2019.

<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>.

⁴¹ CEC. *California Energy Demand 2018-2030 Revised Forecast*. *revised_Forecast.pdf*. February 2018.

⁴² California Energy Commission. Energy Consumption Data Management System. "Electricity Consumption by County." Accessed March 15, 2019. <http://ecdms.energy.ca.gov/elecbycounty.aspx>.

⁴³ Silicon Valley Clean Energy. "Frequently Asked Questions." Accessed October 9, 2017.

<https://www.svcleanenergy.org/faqs>.

⁴⁴ Illingworth & Rodkin, Inc. *Downtown Sunnyvale Specific Plan Amendments Air Quality & Greenhouse Gas Assessment*. October 1, 2019.

⁴⁵ California Gas and Electric Utilities. 2018 *California Gas Report*. Accessed June 26, 2019.

https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf.

⁴⁶ EIA. "Natural Gas Delivered to Consumers in California". Accessed June 27, 2019.

https://www.eia.gov/dnav/ng/ng_sum_lsum_dcua_sca_a.htm.

⁴⁷ California Energy Commission. "Natural Gas Consumption by County." Accessed June 27, 2019.

<http://ecdms.energy.ca.gov/gasbycounty.aspx>.

energy efficiency programs; and a decrease in demand for electrical power generation as a result of state-mandated renewable portfolio standard (RPS) targets (as the state moves to power generation resources that result in less GHG emissions than natural gas).⁴⁸

The United States Energy Information Administration estimates that as of January 1, 2017, there were about 2,460 trillion cubic feet (Tcf) (or 2,460,000,000,000 MMBtu) of dry natural gas in the United States.⁴⁹ Assuming the same annual rate of United States dry natural gas production in 2018 of about 30.4 Tcf, the United States has enough dry natural gas to last about 80 years.⁵⁰

The existing uses on the six project sites use approximately 730 MMBtu of natural gas annually.⁵¹

Fuel for Motor Vehicles

In 2017, California was the fourth largest crude oil producer and third largest oil refiner in the United States.⁵² In 2017, California produced 174.1 million barrels of crude oil and 15 billion gallons of gasoline were sold in California.^{53,54} The average fuel economy for light-duty vehicles (autos, pickups, vans, and sport utility vehicles) in the United States has steadily increased from about 13.1 miles per gallon (mpg) in the mid-1970s to 24.9 mpg in 2018.⁵⁵ Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. That standard, which originally mandated a national fuel economy standard of 35 mpg by the year 2020, was subsequently revised to apply to cars and light trucks model years 2011 through 2020.^{56,57}

The existing VMT travelled for the uses on the six project sites is approximately 9.9 million miles.⁵⁸ Assuming an average fuel economy of 24.9 mpg, the existing uses require approximately 398,440 gallons of gasoline annually.

⁴⁸ California Gas and Electric Utilities. 2017 Natural Gas Market Trends and Outlook. Accessed April 3, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-04/TN222400_20180131T074538_STAFF_FINAL_REPORT_2017_Natural_Gas_Market_Trends_and_Outlook.pdf.

⁴⁹ EIA. “How much natural gas does the United States have, and how long will it last?” April 5, 2019. Accessed June 28, 2019. <https://www.eia.gov/tools/faqs/faq.php?id=58&t=8>.

⁵⁰ Ibid.

⁵¹ Illingworth & Rodkin, Inc. *Downtown Sunnyvale Specific Plan Amendments Air Quality & Greenhouse Gas Assessment*. October 1, 2019.

⁵² EIA. *California State Profile and Energy Estimates: Profile Analysis*. Accessed February 8, 2018. <http://www.eia.gov/beta/state/analysis.cfm?sid=CA>

⁵³ EIA. “California Field Production of Crude Oil”. May 31, 2019. Accessed June 27, 2019. <https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=p&s=mcrfpca1&f=a>.

⁵⁴ California Department of Tax and Fee Administration. “Net Taxable Gasoline Gallons.” Accessed February 16, 2018. http://www.cdfta.ca.gov/taxes-and-fees/MVF_10_Year_Report.pdf.

⁵⁵ United States Environmental Protection Agency. “The 2018 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975.” March 2019.

⁵⁶ United States Department of Energy. *Energy Independence & Security Act of 2007*. Accessed February 8, 2018. <http://www.afdc.energy.gov/laws/eisa>.

⁵⁷ Public Law 110–140—December 19, 2007. *Energy Independence & Security Act of 2007*. Accessed February 8, 2018. <http://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf>.

⁵⁸ Illingworth & Rodkin, Inc. *Downtown Sunnyvale Specific Plan Amendments Air Quality & Greenhouse Gas Assessment*. October 1, 2019.

3.6.2 Energy Impacts

For the purpose of determining the significance of the project's impact on energy, would the project:

- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?
- Result in a substantial increase in demand upon energy resources in relation to projected supplies?

3.6.2.1 *Project Impacts*

Impact EN-1:	The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation. (Less than Significant Impact with Mitigation Incorporated)
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DSP Amendments and Six Development Projects

Construction

Construction of the proposed six development projects would require energy for the manufacture and transportation of building materials, preparation of the sites (e.g., demolition and grading), and construction of buildings and other improvements.⁵⁹

Construction processes are generally designed to be efficient in order to avoid excess monetary costs. Further, project development in urbanized areas (such as the DSP) with proximity to roadways, construction supplies, and workers is already more efficient than construction occurring in outlying, undeveloped areas. For these reasons, the construction process is considered efficient.

Future development under the proposed project is required to implement BAAQMD Best Management Practices (see mitigation measures MM AQ-2.1 and MM AQ-2.2 in Section 3.2 Air Quality) to restrict equipment idling times and require signs be posted on the project site reminding workers to shut off idle equipment, thus reducing the potential for energy waste. In addition, consistent with mitigation measure MM AQ-2.3, equipment would be selected to reduce emissions during construction; therefore, energy would not be wasted or used inefficiently by construction equipment and waste from idling. Future development under the project would also comply with the City's requirements to recycle and/or salvage for reuse a minimum of 65 percent of nonhazardous construction and demolition waste, minimizing energy impacts from the creation of excessive waste. For these reasons, construction activities would not use fuel or energy in a wasteful manner. **(Less than Significant Impact with Mitigation Incorporated)**

⁵⁹ Project construction energy use is not quantified (i.e. there is no estimated diesel and gasoline consumption for vehicles, equipment, and generators; and electricity use for tools) because there is no currently acceptable standard model or accurate way to predict construction energy usage (in terms of fuel or electricity usage). Accordingly, the following analysis is qualitative and not quantitative.

Operation

Occupation and operation of the project would consume energy for multiple purposes, including building heating and cooling, lighting, and appliance use. Operational energy also includes gasoline consumption from vehicles traveling to and from the project sites. The net increase in energy use from the project as compared to the existing uses is shown below in Table 3.6-1.

Table 3.6-1: Estimated Existing and Project Energy Usage			
	Electricity (GWh)	Natural Gas (kBtu)	Gasoline (gallons)
A. Proposed Project	1.89	21,987,810	1,428,280
B. Existing Uses	0.22	732,720	398,440
<i>Project Net Increase (A – B)</i>	<i>1.67</i>	<i>21,255,090</i>	<i>1,029,840</i>
Note: The estimated gasoline demand is based on the estimated VMT of 9,921,170 for existing uses and 35,564,185 for the project, and an average fuel economy of 24.9 mpg. kWh = kilowatt per hour kBtu = kilo-British thermal unit			

As shown in Table 3.6-1, the project would result in a net increase in energy demand compared to existing conditions. The project would not represent a wasteful or inefficient use of energy resources because the project is required to comply with the City's Green Building Program, Title 24, and CALGreen requirements to reduce energy consumption.

As shown in Table 3.6-2, the project's estimated per capita electricity and natural gas use is 15.0 MBtu for the proposed residential uses and 6.6 MBtu for the commercial (including office) uses.⁶⁰ Compared to the state's electricity and natural gas use of 35.9 MBtu per capita for residential uses and 37.4 MBtu per capita for commercial and office uses, the project's electricity and natural gas use per capita is more efficient.⁶¹

Table 3.6-2: State and Project Per Capita Energy Use		
Land Use	State Per Capita Energy Use (MBtu)	Proposed Project Per Capita Energy Use (MBtu)
Residential	35.9	15.0
Commercial	37.4	6.6
Note: Energy use includes electricity and natural gas consumption.		

⁶⁰ The proposed project would result in 1,796 residents and 4,093 jobs. The net new jobs estimated include 197 retail jobs and 3,410 office jobs. Residents based on 2.13 residents per household in the DSP area (assuming no vacancies); jobs based on 400 square feet/retail employee and 250 square feet/office employee. (Source: Keyser Marston Associates. *Fiscal Impact Analysis of Requested Amendments to Downtown Specific Plan*. July 2018.)

⁶¹ EIA. "Table C13. Energy Consumption Estimates per Capita by End-Use Sector, Ranked by State, 2017". Accessed August 21, 2019.
https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/rank_use_capita.html&sid=US.

In addition, the design and location of the project would reduce gasoline usage given the project's proximity to existing transit, proposed mix of uses, placement of jobs near housing (and vice versa), and implementation of a TDM program (refer to mitigation measure MM AQ-2.4 in Section 3.3 Air Quality).

The project involves the construction of conventional building types. As a result, there is nothing atypical or unusual about the project's construction or operations that would result in wasteful, inefficient, or unnecessary consumption of energy. For reference, Table 3.6-3 shows energy use of the proposed project in comparison to the energy use of other large mixed-use projects in neighboring jurisdictions.

Table 3.6-3: Energy Usage of the Proposed Project and Other Large Mixed-Use Projects				
Project Name	Development	Electricity (GWh)	Natural Gas (kBtu)	Gasoline (gallons)
Proposed Project	<ul style="list-style-type: none"> 843 residential units 260,063 square feet of commercial uses 860,624 square feet of office uses 	1.67	21 million	1.0
Gateway Crossings, Santa Clara ¹	<ul style="list-style-type: none"> 1,565 residential units 225 hotel rooms 45,000 square feet of commercial uses 	15	28 million	474,118
Vallco Special Area Specific Plan, Cupertino ²	<ul style="list-style-type: none"> 2,923 residential units 339 hotel rooms 460,000 square feet of commercial uses 1.75 million square feet of office uses 35,000 square feet of civic space 30 acre green roof 	72	75 million	11,900
Broadway Plaza, Redwood City ⁴	<ul style="list-style-type: none"> 520 residential units 420,000 square feet of office uses 36,000 square feet of commercial uses 	12	12 million	660,612
¹ City of Santa Clara. <i>Supplemental Text Revisions to the Gateway Crossings Project Final Environmental Impact Report</i> . SCH#2017022066. June 26, 2019. Page 17. ² City of Cupertino. <i>Final Environmental Impact Report for the Vallco Special Area Specific Plan</i> . SCH#2018022021. August 2018. Page 20. ³ City of Redwood City. <i>Broadway Plaza Draft Environmental Impact Report</i> . SCH # 2017042023. November 2018. Page 4.14-42.				

Based on the above discussion, the project would be built and managed in order to maximize energy efficiency, and inefficient or wasteful use of energy is not expected to occur as part of any development under the DSP. **(Less than Significant Impact with Mitigation Incorporated)**

Impact EN-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

The project would obtain electricity from SVCE, which is 100 percent GHG-emission free energy from renewable and hydroelectric sources, consistent with the state's RPS program and SB 350.⁶² In addition, the project would meet or exceed state mandated Title 24 energy efficiency standards, CALGreen standards, and Sunnyvale Green Building standards.

The project's consistency with the City's Climate Action Playbook is discussed in detail in Section 3.8 Greenhouse Gas Emissions (see Table 3.8-3). As discussed in Table 3.8-3, the project is consistent with plays that promote energy reduction by creating high density housing near transit (Play 3.A), implementing a TDM program as required by mitigation measure MM AQ-2.4 in Section 3.3 Air Quality (Play 3.C), reducing landfilled waste (Play 4.C), and promoting urban forestry (Play 4.F).

Based on the above discussion, the proposed project would not obstruct a state or local plan for renewable energy or energy efficiency. **(Less than Significant Impact with Mitigation Incorporated)**

Impact EN-3: The project would not result in a substantial increase in demand upon energy resources in relation to projected supplies. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Electricity

As discussed previously, California's total system electric generation in 2018 was approximately 285,660 GWh (down 2.5 percent from 2017). Despite this decrease, consumption is still expected to increase one percent per year in the future. Efficiency and production capabilities would help meet increased electricity demand in the future, such as improving energy efficiency in existing and future buildings, establishing energy efficiency targets, inclusion of microgrids and zero-net energy buildings, and integrating renewable technologies.⁶³ The project would construct energy efficient buildings in accordance with Title 24, CALGreen, and the City's Green Building Program.

⁶² SVCE is the default electricity provider in the City. Building occupants/owners need to voluntarily opt-out of SVCE in order to obtain electricity directly from PGE.

⁶³ CEC. 2016 *Integrated Energy Policy Report*. February 2017.

Electricity supply and demand data and reporting is provided at the state level. The project would result in a net increase in approximately 1,678,030 kWh (or 1.7 GWh) of electricity use on the sites, which is a 0.006 percent increase in the state's annual use. Also refer to the discussion under Impact EN-1 of why the project would not result in wasteful, inefficient, or unnecessary consumption of energy. The project's increase in electricity usage is not considered to have a substantial effect on the state's supply. **(Less than Significant Impact)**

Natural Gas

It is assumed that energy efficiency technology and the RPS targets are likely to reduce demand for natural gas in the state in the future. Additionally, drilling improvements and system efficiencies will continue to enhance production and decrease the overall need for natural gas, respectively.⁶⁴

Natural gas supply and demand data and reporting is provided at the state level. Based on the relatively small increase in natural gas demand from the project (approximately 21,255,090 kBtu per year or 21,255 MMBtu, which is a 0.001 percent increase in the state's consumption), and compared to the growth trends in natural gas supply and the existing available supply in the country as discussed in Section 3.6.1.2, the proposed project would not result in a significant increase in natural gas demand relative to projected supply. Also refer to the discussion under Impact EN-1 of why the project would not result in wasteful, inefficient, or unnecessary consumption of energy. **(Less than Significant Impact)**

Fuel for Motor Vehicles

The project would result in a net increase in gasoline demand of approximately 1,029,840 gallons compared to existing conditions (see Table 3.6-1). This increase is not a substantial increase in the context of gasoline supply and demand for the State of California. New automobiles purchased by future occupants of the project would be subject to fuel economy and efficiency standards applied throughout the State of California, which means that over time the fuel efficiency of vehicles associated with the project would improve. In addition, the project is within walking distance of existing transit services (i.e., Caltrain and VTA bus service) and proposes to include a TDM program (refer to mitigation measure MM AQ-2.4 in Section 3.3 Air Quality) to vehicle trips. Reduction in vehicle trips reduces gasoline consumption. For these reasons, the proposed project would not result in a significant increase in gasoline demand relative to projected supply. Also refer to the discussion under Impact EN-1 of why the project would not result in wasteful, inefficient, or unnecessary consumption of energy. **(Less than Significant Impact with Mitigation Incorporated)**

⁶⁴ CEC. "2014 Natural Gas Issues Trends, and Outlook." Accessed February 16, 2018.
<https://ww2.energy.ca.gov/2014publications/CEC-200-2014-001/CEC-200-2014-001-SF.pdf>.

3.6.2.2 *Cumulative Impacts*

Impact EN-C: The project would not result in a cumulatively considerable contribution to a significant energy impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Energy is a cumulative resource. The geographic area for cumulative energy impacts is the state. Past, present, and future development projects contribute to the state's energy impacts. If the project is determined to have a significant energy impact, it is concluded that the impact is a cumulative impact. As discussed in more detail under Impact EN-1, Impact EN-2, and Impact EN-3, the project would not result in a significant energy impact because:

- The construction processes are designed to be efficient;
- The project site is located in an urban area proximate to roadways, construction supplies, and construction workers;
- The project shall implement measures (mitigation measures MM AQ-2.1, MM AQ-2.2, and MM AQ-2.3) that would reduce equipment idling;
- Most nonhazardous construction and demolition waste would be recycled and/or salvaged;
- The project would be constructed in accordance with the City's Green Building Program, Title 24, and CALGreen;
- The project would implement a TDM program (mitigation measure MM AQ-2.4);
- The project site is served by existing transit, bicycle, and pedestrian facilities; and
- The project facilitates lower VMT because of its proximate location to transit and the proposed complementary land uses.

Based on the above discussion, the project would not have a cumulatively considerable contribution to a significant cumulative energy impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

3.7 GEOLOGY AND SOILS

The discussion in this section is based on a Geotechnical Feasibility Study prepared for the project sites by Cornerstone Earth Group dated October 3, 2018. A copy of this study is included in Appendix F of this EIR.

3.7.1 Environmental Setting

3.7.1.1 *Regulatory Framework*

Federal and State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed into law following the destructive 1971 San Fernando earthquake. The Act ensures public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. Local agencies are responsible for regulating most development projects within designated fault zones. Alquist-Priolo maps are distributed to affected cities, counties, and state agencies for their use in planning and controlling new construction.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) was passed in 1990 following the 1989 Loma Prieta earthquake. The SHMA directs the California Geological Survey (CGS) to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. CGS has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, landslides, and ground shaking, including the central San Francisco Bay Area. The SHMA requires that agencies only approve projects in seismic hazard zones following site-specific geotechnical investigations to determine if the seismic hazard is present and identify measures to reduce earthquake-related hazards.

California Building Standards Code

The California Building Code (CBC) prescribes standards for constructing safe buildings. The CBC contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, ground strength, and distance to seismic sources. The CBC requires that a site-specific geotechnical investigation report be prepared for most development projects to evaluate seismic and geologic conditions such as surface fault ruptures, ground shaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. The CBC is updated every three years; the current version is the 2016 CBC.

Nonpoint Source Management Program

Stormwater runoff and soil erosion from project sites is regulated under the Nonpoint Source Management Program and National Pollutant Discharge Elimination System (NPDES) permits adopted by the State Water Resources Control Board and RWQCB, as required under the federal Clean Water Act. Permits include the NPDES General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit). Projects disturbing one acre or

more of soil must obtain permit coverage under the Construction General Permit by filing a Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) with the RWQCB prior to commencement of construction. The Construction General Permit includes requirements for training, inspections, record keeping, and for projects of certain risk levels, and monitoring to reduce soil erosion.

The San Francisco Bay RWQCB also has issued a Municipal Regional Stormwater NPDES Permit (MRP), which requires the use of Low Impact Development (LID) stormwater treatment controls (e.g., infiltration or bioretention-based facilities) to treat post-construction stormwater runoff. The City of Sunnyvale, as a permittee, reviews and enforces stormwater treatment controls on new and redevelopment sites to minimize pollutant discharge, as well as erosion and sedimentation.

Local

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to geology and soil resources and are applicable to the proposed project.

Policy	Description
Environmental Management Element	
EM-8.5	Prevent accelerated soil erosion. Continue implementation of a construction site inspection and control program to prevent discharges of sediment from erosion and discharges of other pollutants from new and redevelopment projects.

Sunnyvale Municipal Code

SMC Titles 16 (Building and Construction) and 12 (Water and Sewers) includes the CBC and requirements for soil erosion control. In accordance with the SMC, procedures for the issuance, administration, and enforcement of a building and grading permits are employed in order to protect health and safety, this includes the reduction or elimination of the hazards of undue settlement, erosion, siltation, and flooding, or other special conditions.

3.7.1.2 *Existing Conditions*

Site Geology

The six project sites are located in the southwestern alluvial plain of the Santa Clara Valley, at the southern end of the San Francisco Bay Area. The Santa Clara Valley is a broad alluvial plane between the Santa Cruz Mountains to the southwest and west, and the Diablo Range to the northeast. The six project sites are all flat and located in an urban environment. There are no nearby hills or steep slopes surrounding the six project sites.

Previous subsurface investigations of the six project sites have encountered alluvial soils, consisting mostly of stiff to hard clays and medium dense to dense sands with varying amounts of clay and silt. The six project sites are underlain by alluvial fan and stream deposits composed of sand, gravel, silt, and clay.⁶⁵

Based on previous surveys of the project area and CGS maps, the depth of groundwater is anticipated to be approximately 25 to 35 feet below grade.

Seismicity

The San Francisco Bay Area is one of the most seismically active areas in the country. Historically, this area has been subjected to very strong ground shaking from major earthquakes. The six project sites will continue to experience very strong ground shaking in the future. The significant active faults located closest to the sites include the San Andreas fault (located 8.1 miles to the west), Hayward fault (located 12 miles to the east), Calaveras Fault (located 12.8 miles to the east), and Monta Vista/Shannon fault (located 5.9 miles to the west). The sites are not located within a state mapped Alquist-Priolo fault zone, or an Earthquake-Induced Landslide or Liquefaction Hazard Zone.⁶⁶

3.7.2 Geology and Soils Impacts

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

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42); strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides;
- Result in substantial soil erosion or the loss of topsoil; or
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code (2016), creating substantial risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

⁶⁵ Cornerstone Earth Group. *Geotechnical Feasibility Study Downtown Specific Plan Amendments and Specific Development Project*. October 3, 2018.

⁶⁶ Ibid.

Impact GEO-1: The project would not expose people or structures to substantial adverse effects from rupture of a known fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), and/or landslides. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

As previously discussed in Section 3.0, in 2015 the California Supreme Court ruled that CEQA does not generally require an analysis of the impacts of locating development in areas subject to environmental hazards unless the project would exacerbate those existing environmental hazards or the hazards at issue are subject to certain specified exceptions to this general rule.⁶⁷ However, the City has policies and regulations (including those identified in Section 3.7.1.1) that address existing conditions affecting a proposed project.

Fault Rupture

As discussed above, the six project sites are not located within an Alquist-Priolo fault zone. No active faults have been recognized on, or mapped through, the six project sites. Thus, the potential for surface faulting and ground rupture from faulting at the six project sites is low.

Seismic Ground Shaking

Seismic ground shaking associated with a large earthquake on the San Andreas fault or one of the closer faults should be expected during the design life of future developments. With prudent design, in accordance with the most up-to-date building codes, the risk from seismic ground shaking can be reduced to acceptable levels.

Liquefaction

As discussed in Section 3.7.1.2, the six project sites are not within a state-designated Liquefaction Hazard Zone. Liquefaction occurs during seismic, cyclic ground shaking when saturated, loose to medium dense soil experiences increased pore water pressure and loses its cohesion which transforms the previously solid ground to near-liquid state. Land deformations may result, as well as settlement. Stiff to hard clays and medium dense to dense sands are anticipated to be encountered at the six project sites. Based on these soil types and the anticipated depth of groundwater, the liquefaction risk at the six project sites is low.

Landslides

The six project sites are located on relatively flat ground. Due to the relatively flat topography at the sites, the risk of seismically induced landsliding is low.

As required by CBC Section 1803, future development would complete site-specific geotechnical investigations, which would include specific recommendations for design and construction to minimize seismic, seismic-related, and soil hazards to acceptable levels.

⁶⁷ *California Building Industry Association v. BAAQMD*, 62 Cal. 4th 369, filed December 17, 2015.

The existing seismic and seismic hazards on-site discussed above would not be exacerbated by the project such that it would impact (or worsen) on- or off-site conditions given future development compliance with CBC Section 1803. **(Less than Significant Impact)**

Impact GEO-2: The project would not result in substantial soil erosion or loss of topsoil or create substantial risks to life or property due to expansive soil. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Soil Erosion and Loss of Topsoil

The proposed project would not lead to substantial soil erosion or loss of topsoil. The soil characteristics of the project sites combined with the requirements for a SWPPP under the NPDES General Construction Permit and conformance with City grading and excavation requirements (refer to Section 3.10 Hydrology and Water Quality for more details) prevent any significant impact from soil erosion.

Expansive Soils

Expansive soils are clay rich soils that have the ability to undergo large volume changes with changes in moisture content. Fluctuations in volume, often referred to as shrink/swell potential, can adversely impact foundations. The plasticity of the surficial soils encountered during previous investigations in the project area indicated low to moderate expansion potential. Thus, based on nearby testing, and the presence of alluvial surficial soils, it is likely that expansive soils exist at the site. With prudent design, the risk from building in potentially expansive soils can be reduced to acceptable levels. As required by CBC Section 1803, future development under the proposed project shall complete site-specific geotechnical investigations and implement the identified recommendations for design and construction to minimize seismic, seismic-related, and soil hazards to acceptable levels.

As discussed above, the project would not result in substantial soil erosion or loss of topsoil or create substantial risks to life or property due to expansive soil. The existing expansive soils condition on-site would not be exacerbated by the project such that it would impact (or worsen) on- or off-site conditions given future development compliance with CBC Section 1803. **(Less than Significant Impact)**

Impact GEO-3: The project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading or subsidence. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Undocumented Fill

It is likely that undocumented fill is present at the six project sites due to the previous development from the former regional mall and the existing developments that has occurred. Undocumented fill could potentially settle and cause distress to new structures and other improvements. Although any existing fills would likely be removed during excavation for below ground parking garages, any remaining fill should be removed. If the fill materials meet the requirements for engineered fill, they could be re-used on the sites as engineered fill or used in landscaping or non-structural fill areas.

Lateral Spreading

Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. There are no open faces within 200 feet of the six project sites where lateral spreading could occur; therefore, the potential for lateral spreading to affect the site is considered low.

Subsidence

In 1933, the Santa Clara Valley became the first area in the United States where subsidence due to groundwater withdrawal was observed.^{68,69} Subsidence was primarily caused by the region's seasonal groundwater demand for agricultural uses. Between 1915 and 1965, groundwater levels in the Santa Clara Valley declined by up to 60 meters, leading to subsidence of up to 3.8 meters and flooding of large areas. From 1965 to 1990, water-intensive agricultural uses were replaced with urban and suburban development. Additionally, water suppliers began importing surface water from Sierra Nevada watersheds, further reducing groundwater demand and limiting subsidence. Local groundwater currently provides 40 percent of the Bay Area's water supply.

The Santa Clara Valley Water District (Valley Water) actively monitors for land subsidence through surveying, groundwater elevation monitoring, and data from compaction wells. Valley Water reduces the potential for land subsidence throughout the Santa Clara Valley by recharging groundwater basins with local and imported surface water. Valley Water also manages "in-lieu" recharge programs, including treated water deliveries, water conservation, and water recycling that reduce groundwater demand.

⁶⁸ Poland, J. F., and R. L. Ireland. *Land subsidence in the Santa Clara Valley, California, as of 1982*. 1988.

⁶⁹ Galloway, D. L., and J. Hoffmann. *The application of satellite differential SAR interferometry-derived ground displacements in hydrogeology*. 2006.

The proposed project would develop urban uses connected to the City's water system, and would not require groundwater extraction wells on-site. Consistent with CALGreen, the project would implement water efficiency measures including low flow fixtures and recycled water, to reduce regional groundwater demand.

The below grade parking garages could be below the groundwater table and would require dewatering during construction (see Section 3.10 Hydrology and Water Quality for a detailed discussion). Removal of groundwater could result in subsidence of the above ground; however, with prudent design, in accordance with the most up-to-date building codes, the risk from hydrostatic pressure can be reduced to acceptable levels and the project would not result in subsidence.⁷⁰

Landslides

The risk from landslides is discussed under Impact GEO-1.

As required by the CBC Section 1803, future development under the proposed DSP amendments and the six development projects shall complete design-level geotechnical investigations and implement the identified recommendations for design and construction to minimize seismic, seismic-related, and soil (including undocumented fill) hazards to acceptable levels. **(Less than Significant Impact)**

Impact GEO-4: The project would not be located on soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water. **(No Impact)**

DSP Amendments and Six Development Projects

The proposed project would connect to the existing sewer sanitary system. No septic tanks or alternative waste water disposal systems are proposed for the project. **(No Impact)**

Impact GEO-C: The project would not have a cumulatively considerable contribution to a significant cumulative geology and soil impact. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

As discussed in Impacts GEO-1 through GEO-4, the existing geology and soils conditions would not be exacerbated by the proposed project such that it would impact (or worsen) on- or off-site geology and soils conditions. For this reason, the proposed project would not contribute to a cumulatively significant geology and soils impact. **(Less than Significant Cumulative Impact)**

⁷⁰ Cornerstone Earth Group. *Geotechnical Feasibility Study Downtown Specific Plan Amendments and Specific Development Project*. October 3, 2019.

3.8 GREENHOUSE GAS EMISSIONS

This section is based on the Air Quality and GHG Assessment prepared for the project by Illingworth & Rodkin, Inc. dated October 1, 2019. This report is included in Appendix C of this EIR.

3.8.1 Environmental Setting

Gases that trap heat in the atmosphere are commonly referred to as GHGs. The most common GHGs are carbon dioxide (CO₂) and water vapor but there are also several others, most importantly methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These are released into the earth's atmosphere through a variety of natural processes and human activities. In GHG emission inventories, the weight of each gas is multiplied by its global warming potential and is measured in units of CO₂ equivalents (CO₂e). Sources of GHGs are generally as follows:

- CO₂ and N₂O are byproducts of fossil fuel combustion
- N₂O is associated with agricultural operations such as fertilization of crops
- CH₄ is commonly created by off-gassing from agricultural practices (e.g., keeping livestock); leaks from natural gas wells, pipelines, and related infrastructure; and landfill operations
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents, but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and SF₆ emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

An expanding body of scientific research supports the theory that global climate change is currently causing changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

As the result of the extent of human sources of GHG worldwide, the stability of many of these compounds in the atmosphere, and the mixing that occurs in the atmosphere (and oceans), the effects of GHG emissions on climate are considered global, cumulative impacts.

3.8.1.1 *Regulatory Framework*

State

Assembly Bill 32

Under the California Global Warming Solutions Act, also known as AB 32, CARB established a statewide GHG emissions target for 2020, adopted mandatory reporting rules for significant sources of GHGs, and adopted a comprehensive plan, known as the Climate Change Scoping Plan, identifying how emission reductions would be achieved from significant GHG sources.

In 2016, SB 32 was signed into law, amending the California Global Warming Solution Act. SB 32, and accompanying Executive Order B-30-15, require CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. CARB updated its Climate Change Scoping Plan in December of 2017 to express the 2030 statewide target in terms of million metric tons of CO₂E (MMTCO₂e). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 MMTCO₂e.

Senate Bill 375

SB 375, known as the Sustainable Communities Strategy and Climate Protection Act, was signed into law in September 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GHG reduction targets for automobile and light truck sectors for 2020 and 2035. The per-capita GHG emissions reduction targets for passenger vehicles in the San Francisco Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.

Consistent with the requirements of SB 375, the Metropolitan Transportation Commission (MTC) partnered with the Association of Bay Area Governments (ABAG), BAAQMD, and the Bay Conservation and Development Commission to prepare the region's Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan process. The SCS is referred to as Plan Bay Area 2040. Plan Bay Area 2040 establishes a course for reducing per-capita GHG emissions through the promotion of compact, high-density, mixed-use neighborhoods near transit, particularly within identified Priority Development Areas (PDAs).⁷¹

Regional and Local

2017 Clean Air Plan

To protect the climate, the 2017 Clean Air Plan (CAP) (prepared by BAAQMD) includes control measures designed to reduce emissions of methane and other super-GHGs (i.e., N₂O, HFCs, PFCs, and SF₆) that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

⁷¹ Plan Bay Area 2050 is currently in development and would build upon the GHG emission reduction strategies in Plan Bay Area 2040.

CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. The jurisdictions in the San Francisco Bay Area Air Basin, including the City of Sunnyvale, utilize the thresholds and methodology for assessing GHG impacts developed by BAAQMD within the CEQA Air Quality Guidelines. The guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to greenhouse gas reduction and are applicable to the proposed project.

Policy	Description
Land Use and Transportation Element	
LT-2.1	Enhance the public's health and welfare by promoting the city's environmental and economic health through sustainable practices for the design, construction, maintenance, operation, and deconstruction of buildings, including measures in the Climate Action Plan.
LT-2.2	Reduce greenhouse gas emissions that affect climate and the environment through land use and transportation planning and development.

City of Sunnyvale Climate Action Playbook

The City of Sunnyvale Climate Action Playbook (August 2019) sets a vision for the City to reduce carbon emissions by 2050. The playbook includes six strategies with "plays" that identify areas for action to reduce GHG emissions. The following plays are most directly applicable to the proposed project.

Play	Description
Strategy 1: Promoting Clean Electricity	
1.2	Increase local solar photovoltaics
Strategy 2: Decarbonizing Buildings	
2.3	Achieve all-electric new construction
Strategy 3: Decarbonizing Transportation & Sustainable Land Use	
3.1	Increase opportunities for and encourage development of mixed-use sites to reduce vehicle miles per person
3.2	Increase transportation options and support shared mobility
Strategy 4: Managing Resources Sustainably	
4.1	Achieve zero waste goals for solid waste

Play	Description
4.2	Ensure resilience of water supply
4.3	Enhance natural carbon sequestration capacity

3.8.1.2 *Existing Conditions*

The six project sites are located within a designated PDA.⁷² The existing uses on the six project sites (residential, commercial, and office uses) generate GHG emissions as a result of energy consumption, vehicle trips to and from the sites, solid waste generation, and water usage. It is estimated the existing uses generate 3,777 MTCO₂e annually.⁷³

3.8.2 Impact Discussion

For the purpose of determining the significance of the project's impact on greenhouse gas emissions, would the project:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the determinations.

As described in Section 3.8.1.1, BAAQMD adopted GHG thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD has determined that GHG emissions would cause significant environmental impacts. The GHG emission thresholds identified by BAAQMD are 1,100 net MT CO₂e per year or 4.6 MTCO₂e per service population per year.

The numeric thresholds set by BAAQMD were calculated to achieve a 56 percent reduction in GHG emissions levels below 1990 levels, exceeding the SB 32 specified 2030 target of 40 percent below the 1990 GHG emissions level. The project would not be fully constructed and occupied until after 2020; therefore, a threshold that addresses a future (post 2020) target is appropriate.

CARB has completed a Scoping Plan, which will be utilized by BAAQMD to establish the 2030 efficiency threshold. The efficiency threshold would need to be met by individual projects in order for state and local governments to comply with the SB 32 2030 reduction target. BAAQMD has not published a quantified threshold for 2030. For the purposes of this analysis, an efficiency metric of 2.8 MTCO₂e per year per service population and a bright-line threshold of 660 net MTCO₂e per year has been calculated for 2030 based on the GHG reduction goals of SB 32 and EO B-30-15. The service population metric of 2.8 MTCO₂e per year is calculated for 2030 based on the 1990 inventory

⁷² Association of Bay Area Governments. "PDA – Priority Development Areas." Accessed June 20, 2019. <https://abag.ca.gov/our-work/land-use/pda-priority-development-areas>.

⁷³ Illingworth & Rodkin, Inc. *Downtown Sunnyvale Specific Plan Amendments Air Quality & Greenhouse Gas Assessment*. October 1, 2019. Table 13, page 57.

and the projected 2030 statewide population and employment levels. The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MTCO_{2e} per year threshold.

3.8.2.1 *Project Impacts*

Impact GHG-1: The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Construction

It is estimated that construction of the project would generate a total of approximately 9,575 MTCO_{2e} of GHG emissions.⁷⁴ These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. The construction GHG emissions for the project in comparison to construction GHG emissions for other large mixed-use projects is shown in Table 3.8-1. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions.

Table 3.8-1: Estimated Construction GHG Emissions for the Proposed Project and Other Large Mixed-Use Development Projects		
Project Name	Development Summary	Estimated Construction GHG Emissions (MTCO_{2e})
Proposed Project	<ul style="list-style-type: none"> 843 residential units 260,063 square feet of commercial uses 860,624 square feet of office uses 	9,575
Gateway Crossings, Santa Clara ¹	<ul style="list-style-type: none"> 1,565 residential units 225 hotel rooms 45,000 square feet of commercial uses 	5,620
Vallco Special Area Specific Plan, Cupertino ²	<ul style="list-style-type: none"> 2,923 residential units 339 hotel rooms 460,000 square feet of commercial uses 1.75 million square feet of office uses 35,000 square feet of civic space 30 acre green roof 	90,215

⁷⁴ Illingworth & Rodkin, Inc. *Downtown Sunnyvale Specific Plan Amendments Air Quality & Greenhouse Gas Assessment*. October 1, 2019. Page 57.

Table 3.8-1: Estimated Construction GHG Emissions for the Proposed Project and Other Large Mixed-Use Development Projects		
Project Name	Development Summary	Estimated Construction GHG Emissions (MTCO₂e)
Broadway Plaza, Redwood City ³	<ul style="list-style-type: none"> • 520 residential units • 420,000 square feet of office uses • 36,000 square feet of commercial uses 	9,619
¹ City of Santa Clara. <i>Supplemental Text Revisions to the Gateway Crossings Project Final Environmental Impact Report</i> . SCH#2017022066. June 26, 2019. Page 89. ² City of Cupertino. <i>Final Environmental Impact Report for the Vallco Special Area Specific Plan</i> . SCH# 2018022021. August 2018. Page 22. ³ City of Redwood City. <i>Broadway Plaza Draft Environmental Impact Report</i> . SCH # 2017042023. November 2018. Page 4.6-22.		

There is nothing atypical or unusual about the project's construction. In addition, the project would implement mitigation measure MM AQ-2.3 to restrict idling of construction equipment, which would in turn reduce GHG emissions. For these reasons, the project's construction GHG emissions are less than significant. **(Less than Significant Impact with Mitigation Incorporated)**

Operation

It is estimated that the project would be built out and fully occupied by 2024. Table 3.8-2 shows the project's estimated operational year 2024 and 2030 emissions and includes area emissions, energy-related emissions, mobile emissions from vehicles traveling to and from the sites, and emissions from solid waste generation and water usage. Refer to Appendix C for modeling details, data inputs, and assumptions.

Generally, new development result in new GHG emissions. Assessing a project on the bright line threshold alone is not adequate and the bright line threshold does not consider a project's density.⁷⁵ Promoting dense development in urban, infill locations is key to reducing GHG emissions. For this reason, to be considered significant, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold. As shown in Table 3.8-2, the operational year 2024 and 2030 GHG emissions do not exceed the efficiency metric of 2.8 MT CO₂e/year/service population. The project does not exceed the service population significance threshold; therefore, the project would have a less than significant operational GHG emissions impact. **(Less than Significant Impact)**

⁷⁵ The bright line threshold establishes an exact threshold that applies to all projects and does not take into account project specifics, such as density.

Table 3.8-2: Annual Existing and Project GHG Emissions (MTCO₂e)				
Source Category	Year 2024		Year 2030	
	Existing Land Uses	Proposed Project	Existing Land Use	Proposed Project
Area (heating and cooling equipment or other individual appliances)	1	44	1	44
Energy Consumption	102	1,506	102	1,506
Mobile	3,546	12,087	3,045	10,364
Solid Waste Generation	104	735	104	735
Water Usage	46	335	46	335
Total (MTCO ₂ e)	3,799	14,707	3,298	12,984
Net Emissions (Project Emissions – Existing Emissions)		10,908		9,685
Metric Ton Significance Threshold	660			
Service Population Emissions (MTCO ₂ e/year/service population)		2.5		2.2
Per Capita Significance Threshold	2.8			
<i>Exceed Both Thresholds?</i>		<i>No</i>		<i>No</i>
Note: Assumes SVCE carbon-free electricity with 10 percent opt out for PG&E provided electricity. The service population emissions were calculated assuming a service population of 5,889 individuals (1,796 residents, 650 commercial employees, and 3,443 office employees, refer to Section 4.0).				

Impact GHG-2: The project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

As discussed in Section 3.8.1.2 Existing Conditions, the six project sites are located within a designated PDA established by Plan Bay Area 2040. The project would support the Plan Bay Area 2040 goal of building compact, high-density, mixed-use near transit discussed in Section 3.8.1.1 Regulatory Framework, which reduces GHG emissions. In addition, the project would implement a TDM program to reduce single-occupancy vehicle trips (refer to mitigation measure MM AQ-2.4). As discussed under Impact AIR-1 (see Section 3.3 Air Quality), the project is consistent with the 2017 CAP. In addition, the project would comply with CALGreen and the Title 24 Building Code, which require energy conservation measures and water conservation measures such as energy efficient lighting, high-efficiency water fixtures, water-efficient irrigation systems. Reducing energy and water use reduces the GHG emissions associated with conveying those resources.

The project's consistency with relevant Climate Action Playbook plays is shown in Table 3.8-3. For each Playbook play, "moves" are identified to achieve the play. The moves primarily are to be implemented by the City through policy decisions, and are not intended to be implemented by private development. The plays, therefore, are not directly applicable to the project. Given that the Playbook was recently adopted, the City has not yet implemented the moves to achieve the plays. As summarized in Table 3.8-3, the project does not prohibit the implementation of the plays.

Table 3.8-3: Project Consistency with Applicable Climate Action Playbook Plays		
Play	Description	Consistency
1.2	Increase local solar photovoltaics	Per the Playbook, the City is to research a mandatory solar roof ordinance for new commercial developments (Move 1.C). The City recently adopted the Playbook and has not yet adopted an ordinance requiring solar roofs on commercial developments. The project does not prohibit the installation of photovoltaics.
2.3	Achieve all-electric new construction	<p>Per the Playbook, the City would achieve this play by evaluating code and permit processes to streamline building electrification (Move 2.E), investigating the use of a differential Utility Use Tax where local taxes on electricity are lower than on natural gas (Move 2.F), and incentivizing energy efficient and high performance buildings through updates to the Green Building Program.</p> <p>The City recently adopted the Playbook and has not yet updated code or permit processes to streamline building electrification, implemented a Utility Use Tax as described above, or updated its Green Building Program. Future development is subject to the current code and permitting processes at the time the development is proposed.</p>
3.1	Increase opportunities for and encourage development of mixed-use sites to reduce vehicle miles per person	<p>Per the Playbook, the City would achieve this play by planning for additional, diverse housing to reduce long-distance commutes (Move 3.A) and implementing parking strategies to discourage vehicle use (Move 3.B).</p> <p>The project proposes a compact, higher density, mixed-use development, which facilitates lower VMT given its proximate location to transit and other destinations. The DSP amendments includes changing the current DSP parking requirements to match the SMC parking requirements, which has lower parking requirements. The project is consistent with the intent of this play.</p>
3.2	Increase transportation options and support shared mobility	Per the Playbook, the City would achieve this play by enhancing the implementation of TDM programs (Move 3.C), advocating for regional service providers for high quality transit service (Move 3.D), updating the Active Transportation Plan (Move 3.E), piloting shared bicycle and scooter programs (Move 3.F), piloting shuttle service in Peery Park and other areas (Move 3.G), developing design standards for streets and parking lots to accommodate for rideshare services (Move 3.H), and monitoring autonomous vehicle testing and deployment (Move 3.I).

Table 3.8-3: Project Consistency with Applicable Climate Action Playbook Plays		
Play	Description	Consistency
		As required by mitigation measure MM AQ-2.4, the project shall implement TDM measures to promote alternatives to single-occupancy vehicle trips. Shuttle service for the DSP area is not currently proposed as part of the project. The other moves for this play are not applicable to this project.
4.1	Achieve zero waste goals for solid waste	<p>Per the Playbook, the City would achieve this play by implementing and expanding the food scraps diversion programs (Move 4.A), considering improvements to solid waste collection and processing to increase waste diversion (Move 4.B), and implementing campaigns for waste prevention (Move 4.C).</p> <p>The project would provide on-site recycling services, and recycle and/or salvage for reuse a minimum of 65 percent of nonhazardous construction and demolition waste. The project is consistent with the intent of this play.</p>
4.2	Ensure resilience of water supply	<p>Per the Playbook, the City would achieve this play by promoting and seeking incentives for making water conservation a way of life (Move 4.D) and partnering with Valley Water to expand water reuse (Move 4.E).</p> <p>Future development under the DSP amendments would be required to be consistent with General Plan policy EM-2.1 of lowering overall water demand through water conservation programs and subject to the water-efficiency design, planting, and irrigation requirements in SMC 19.37. The six development projects would incorporate green building measures, including water conservation measures. The project, therefore, is consistent with the intent of this play.</p>
4.3	Enhance natural carbon sequestration capacity	<p>Per the Playbook, the City would achieve this play by implementing the City's UFMP and continuing to protect and expand the tree canopy (Move 4.F) and implementing the City's Green Stormwater Infrastructure Plan and other regulations to prevent stormwater pollution (Move 4.G).</p> <p>As discussed in Section 3.4 under Impact BIO-4, the project would be consistent with SMC Chapters 13.16 and 19.94 to protect trees. The six development projects would plant at least 190 new trees. In addition, as discussed under Impact HYD-1 in Section 3.10 Hydrology and Water Quality, future development under the project would comply with the MRP and other regulations to reduce water quality impacts. The project, therefore, is consistent with the intent of this play.</p>

Based on the discussion above, the project would not conflict with Plan Bay Area 2040, 2014 CAP, CALGreen, Title 24, and the City's Climate Action Playbook. In addition, as discussed under Impact GHG-1, the project would not result in GHG emissions above the per service population threshold of significance. **(Less than Significant Impact with Mitigation Incorporated)**

3.8.2.2 *Cumulative Impacts*

Impact GHG-C: The project would not result in a cumulatively considerable contribution to a GHG emissions impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

As discussed in Section 3.8.1, GHG emissions have a broader, global impact; therefore, if a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable. As discussed under Impact GHG-1 and Impact GHG-2, the project would not result in significant GHG impacts due to the density of development, proximity to public transit, and compliance with the City's Climate Action Playbook (which includes the implementation of mitigation measure MM AQ-2.4). Therefore, the project would not have a cumulatively considerable contribution to a significant cumulative GHG emissions impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

3.9 HAZARDS AND HAZARDOUS MATERIALS

The following discussion in this section is based, in part, on a Phase I Environmental Site Assessment (ESA) prepared for the project sites by Cornerstone Earth Group dated September 24, 2018. Previous hazardous materials reports completed for the sites were reviewed as part of the current Phase I ESA. A copy of the current Phase I ESA can be found in Appendix G of this EIR.

3.9.1 Environmental Setting

3.9.1.1 *Regulatory Framework*

Federal and State

Hazardous Materials Overview

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. Key federal regulations and policies related to development include the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, and the Resource Conservation and Recovery Act (RCRA). In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). In turn, local agencies including the Santa Clara County Department of Environmental Health (SCCDEH) have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program.

Other regional agencies are responsible for programs regulating emissions to the air, surface water, and groundwater include BAAQMD, which has oversight over air emissions, and the Regional Water Quality Control Board RWQCB which regulates discharges and releases to surface waters and groundwater.

Oversight over investigation and remediation of sites impacted by hazardous materials releases can be completed by state agencies, such as the Department of Toxic Substances Control [(DTSC) a division of CalEPA)], regional agencies, such as the RWQCB, or local agencies, such as SCCDEH. SCCDEH oversees investigation and remediation Leaking Underground Storage Tank (LUST) sites in the City of Sunnyvale. Other agencies that regulate hazardous materials include the California Department of Transportation and California Highway Patrol (transportation safety) and California Occupational Safety and Health Administration (Cal/OSHA).

Cortese List (Government Code Section 65962.5)

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by the state, local agencies, and developers to comply with CEQA requirements. The Cortese List includes hazardous substance release sites identified by DTSC and State Water Resources Control Board (SWRCB).

Federal Aviation Administration Regulations

Federal Aviation Regulations, Title 14 of the Code of Federal Aviation Regulations, “Objects Affecting Navigable Airspace” (referred to as FAR Part 77), requires that the Federal Aviation Administration (FAA) be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport’s runways, or which would otherwise stand at least 200 feet in height above ground.

Regional and Local

Comprehensive Land Use Plan for Moffett Federal Airfield

The project site is approximately two miles southwest of the Moffett Federal Airfield; which is the closest airport to the site. The Moffett Federal Airfield Comprehensive Land Use Plan (CLUP), adopted by the Santa Clara County Airport Land Use Commission, is intended to safeguard the general welfare of the inhabitants within the vicinity of the airport, as well as aircraft occupants.⁷⁶ The CLUP is also intended to ensure that surrounding new land uses do not affect airfield operations. The CLUP identifies the Airfield’s Airport Influence Area (AIA). The AIA is a composite of areas surrounding the Airfield that are affected by noise, height, and safety considerations. Within the AIA, the CLUP establishes a (1) noise restriction area, (2) height restriction area, and (3) safety restriction area.

Association of Bay Area Governments Local Hazard Mitigation Plan

The City’s Local Hazard Mitigation Plan (2011), an annex to ABAG’s regional Hazard Mitigation Plan, focuses on nine hazards likely to occur in the Bay Area. The nine hazards comprise five earthquake-related hazards (faulting, shaking, landslides, liquefaction, and tsunamis) and four weather-related hazards (flooding, landslides, wildfires, and drought).

In the event of a fire, geologic, or other hazardous occurrence, the City’s Emergency Plan provides comprehensive, detailed instructions and procedures regarding the responsibilities of City personnel and coordination with other agencies to ensure the safety of Sunnyvale citizens. US Highway 101 (US 101) and Central Expressway are major evacuation routes for the City.

City of Sunnyvale General Plan

The City’s General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to hazards and hazardous materials and are applicable to the proposed project.

⁷⁶ Santa Clara County Airport Land Use Commission. *Moffett Federal Airfield Comprehensive Land Use Plan*. November 2, 2016.

Policy	Description
Safety and Noise Element	
SN-1.1	Evaluate and consider existing and potential hazards in developing land use policies. Make land use decisions based on an awareness of the hazardous and potential hazards for the specific parcel of land.
SN-1.5	Promote a living and working environment safe from exposure to hazardous materials.

Certified Unified Program Agency

Approved by CalEPA, the City of Sunnyvale serves as the CUPA within its jurisdiction and is responsible for the unified hazardous waste and hazardous materials management regulatory program established by Health and Safety Code, Division 20, Chapter 6.11, Section 25404, et seq. This program consolidates the administration and enforcement of six hazardous materials management programs and ensures the coordination and consistency of any regulations adopted pursuant to such program requirements. The six locally implemented programs are:

1. Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Program;
2. Aboveground Petroleum Storage Act;
3. Underground Storage Tank Program;
4. Hazardous Materials Release Response Plans and Inventories (Business Plans);
5. California Accidental Release Prevention (CalARP) Program; and
6. California Fire Code: Hazardous Material Management Plans and Inventory Statements.

3.9.1.2 *Existing Conditions*

Database Search

A review of federal, state, and local regulatory agency databases was completed to evaluate the likelihood of contamination incidents at and near the six project sites. Existing and previous tenants of the six project sites were listed on various regulatory agency databases for hazardous materials storage, generation, and disposal.

On-Site

Sunnyvale Town Center Mall (STCM) property in DSP Block 18, which includes the Macy's and Redwood Square and Town Center Sub-block 6 project sites and other Sub-blocks 1, 2, 4, and 5, is listed as an open case on SWRCB's Spills, Leaks, Investigation and Cleanup (SLIC) database. Three dry cleaning facilities formerly located on Sub-blocks 5 and 6 were identified as tetrachloroethylene (PCE) source areas. The release of PCE and related breakdown products have impacted soil, soil vapor, and groundwater on the Macy's and Redwood Square site and Town Center Sub-blocks 5 and 6. The release of PCE may have also impacted the Murphy Square site and other off-site areas. Numerous investigations and remedial measures have occurred at the STCM property. A Remedial Action Plan (RAP) and Soil Management Plan (SMP) were prepared and approved by the Regional Water Quality Control Board (RWQCB) in 2012 for the STCM property.

The 2012 RAP proposed the cleanup of PCE contaminated groundwater by reductive dechlorination and cleanup of PCE contaminated soil vapor by continued Soil Vapor Extraction (SVE) systems on Town Center Sub-blocks 5 and 6. These SVE systems were first installed in late 2007 and operated through January 2009, and were later in continuous operation since December 2012. The Sub-block 5 system was removed in December 2018 following approval by RWQCB. The groundwater remediation field implementation took place in 2008. Recent data collected in 2017 show a reduction in PCE concentrations in both groundwater and soil vapor since remedial measures were initiated. Refer to Appendix G (including Figures 4 through 7 in Appendix G) for additional details about the estimated location and concentration of PCE at the time remedial measures were initiated, and in 2017.

The 2012 RAP also proposed a conceptual Vapor Intrusion Mitigation Systems (VIMS), to the extent necessary, to further prevent the intrusion of any residual soil vapors into future buildings constructed on the STCM property. The SMP was included as an appendix to the RAP and was approved by the RWQCB for use during previously approved redevelopment activities (which were not completed). The SMP was completed to permit the effective identification and management of any residual soil and other contamination, in the event such contamination was discovered or encountered during redevelopment activities. The areas covered by the SMP include Town Center Sub-blocks 5 and 6, and the eastern portion of the Redwood Square site. The SMP was not applicable to the Macy's or other project sites.

In 2011, the RWQCB issued no further action letters for Block 18 (Town Center) Sub-blocks 1, 2, 3, 4, and the northern portion of Sub-block 5. These No Further Action letters include the 300 Mathilda Avenue site and the Macy's and Redwood Square sites. In the No Further Action letter for the Macy's and Redwood Square site (Sub-block 3), the RWQCB included the following statements:

- It is believed that the continued operation of the SVE system on Sub-Blocks 5 and 6 will mitigate the migration of PCE in soil vapor beneath Sub-Block 3 and ultimately reduce levels to below established Environmental Screening Levels (ESLs).
- It is expected that the continued dechlorination related to the Zero Valent Iron (ZVI) injections will continue to remediate groundwater impacts beneath the eastern portion of Sub-Block 3.
- Based upon available information, including the current and contemplated land use,⁷⁷ and with the provision that the information provided to the RWQCB was accurate and representative of site conditions, no further action is required at Sub-block 3 with respect to pollutant releases at the STCM property.

The City's hazardous materials consultant (Cornerstone Earth Group) generally concurs with the above statements in the No Further Action letter for the Macy's and Redwood Square site. Cornerstone Earth Group noted, however, that PCE concentrations for Sub-block 3 have not yet been reduced to levels below ESLs and, depending on the timing of the planned future development, mitigation measures similar to those identified within the RAP may be warranted to reduce potential

⁷⁷ The current and contemplated land use referenced in the 2011 No Further Action letter were commercial and residential uses, respectively. Source: California Regional Water Quality Control Board San Francisco Bay Region. *No Further Action, Former Sunnyvale Town Center Mall, Block 3 Sunnyvale, Santa Clara County*. June 10, 2011. Page 5. (included in Appendix G of this EIR)

vapor intrusion concerns. In addition, new guidance issued in 2019 by the RWQCB identifies more conservative (i.e., lower) residential and commercial ESLs for PCE in soil vapor than were used by the RWQCB when the RAP was prepared in 2012. This new guidance supersedes the 2008 guidance used in the RAP. The applicability of the new guidance is discussed under Impact HAZ-1. Due to changes in regulatory guidance subsequent to the 2011 No Further Action letter for Sub-block 3 and the continued presence of elevated PCE concentrations, Cornerstone Earth Group recommended that RWQCB (or similar oversight agency) approval of development on Sub-block 3 be obtained prior to the start of construction, and indicated that vapor mitigation systems and related risk management provisions of the RAP should be incorporated into the planned development on Sub-block 3 unless it can be demonstrated to the satisfaction of the RWQCB (or similar oversight agency) that these measures are not required.

In an email dated October 23, 2019, also uploaded to Geotracker, the RWQCB discussed a planned mixed-use development on the southern portion of Sub-block 3 that was described in a September 13, 2019 letter by Geosyntec. The RWQCB stated that “The source of contaminants in the soil, soil vapor, and groundwater at Block 3 are likely from source areas at Block 6 that have undergone remedial action. The concentrations of contaminants at Block 3 are below thresholds of concern for risks to human health for the proposed future land uses. Based on this information, the Regional Water Board will not require any additional investigation or remedial action at the portions[sic] of Block 3 that is proposed to be developed” (i.e., the southern portion of Sub-block 3 on which the development described the September 13, 2019 letter by Geosyntec is planned). As described by Geosyntec, this planned development includes two levels of below grade parking, commercial uses on the 1st floor and residential space on the 2nd floor and above. Geosyntec stated that the basement garage and non-residential space on the first floor will have independent heating, ventilation, and air conditioning (HVAC) systems, ensuring that the residential units will not draw in vapor from the floors below. No changes were proposed for the northeast portion of Sub-block 3 in the area of the greatest PCE impacts.

In the Project Vicinity

Several spill incidents in the general project vicinity were identified within the database search. The reported off-site spill incidents appear unlikely to have significantly impacted the six project sites based on groundwater sampling reports, type of incidents, locations of the reported incidents in relation to the sites, and groundwater flow direction.

Refer to Appendix G for additional details about the database search and SLIC case.

100 Altair Way

The 100 Altair Way site was occupied by a dwelling unit and associated outbuildings by 1908. The site was later occupied by a vehicle repair building on the northeast corner of the site and a commercial building in the 1930s. The vehicle repair shop and commercial building were removed in the mid-1950s for the construction of the existing United States Post Office building. The existing mixed-use building on-site was later constructed in the 1980s. A portion of the United States Post Office building was also converted for other uses such as retail flower sales, Jazzercise business, a sports bar, and office uses. The site is current occupied with commercial (including the United States Post Office) and residential uses.

Hazardous Materials Storage and Use

Prior hazardous materials use and storage at the site was predominantly associated with the vehicle repair shop. A hydraulic powered elevator was observed within the mixed-use building. The property owner was not aware of any maintenance issue that would indicate the release of hydraulic fluids. The Sunnyvale Department of Public Safety (DPS), Bureau of Fire Services division indicated they have no files pertaining to hazardous materials on the project site, and no storage of hazardous materials were observed during the site reconnaissance.

Underground Storage Tanks

No evidence of underground storage tanks was present on this site.

Lead-Based Paint and Termite Control Pesticides

The Consumer Product Safety Commission banned the use of lead paint additive in 1978. Based on the age of the United States Post Office building, lead-based paint may be present.

Additionally, soil adjacent to structures that are painted with lead-containing paint can contain lead as a result of the weathering and/or peeling of painted surfaces. Soil near wood framed structures can also contain pesticides historically used to control termites. No information was identified in the Phase I ESA that documented the use of lead-based paint or termite control pesticides. Lead and/or pesticides often are identified in soil near old residences and associated outbuildings, such as the previous dwelling unit and associated outbuildings on-site.

Asbestos Containing Building Materials

Due to the age of the United States Post Office, building materials may contain asbestos. Friable asbestos is any asbestos containing material (ACM) that, when dry, can be crumbled or pulverized to a powder by hand, allowing asbestos particles to become airborne. Many asbestos-containing products were banned by various regulations enacted between 1973 and 1990. ACMs are of concern because exposure to ACMs have been linked to cancer.

Groundwater Monitoring Wells

A groundwater monitoring well is present on the site. The property owner indicated this well was installed to monitor groundwater depths during construction of below ground parking structures on nearby properties and evaluate potential ground settlement concerns. No sampling to evaluate groundwater quality was conducted.

Soil, Soil Vapor and Groundwater Quality

The site is developed with an office and residential building. No soil, soil vapor, or groundwater sampling has been completed at this site.

300 Mathilda Avenue

The 300 Mathilda Avenue site was historically occupied by several dwellings and associated outbuildings. By 1959, a gasoline service station, a building labeled “greasing,” and two additional commercial buildings were constructed. The commercial buildings were occupied by Winchell’s Donut House, and several markets and grocery stores. The gasoline service station was demolished in 1970 and was replaced by a commercial building. A parking garage associated with the former STCM was constructed and covered part of this project site. The commercial buildings and parking garage were removed by mid-2000s. The site is currently used as a staging area for the nearby construction sites.

Hazardous Materials Storage and Use

Prior hazardous materials use and storage was predominantly associated with vehicle fuels and other automobile related materials. No hazardous materials use or storage was observed during the site reconnaissance.

Underground Storage Tanks

Gasoline and diesel fuel are commonly stored in underground storage tanks (USTs) at gasoline service stations. Previous sampling conducted on-site did not identify impacts to soil or groundwater quality associated with the former gasoline service station. During the data search, the Phase I ESA did not identify documentation for the removal of USTs that were presumably present on-site; therefore, it is possible that USTs are still present on-site.

Lead-Based Paint and Termite Control Pesticide

While there are no buildings on-site, soils near the location of previous structures on-site could contain lead and pesticides historically used to control termites.

Asbestos Containing Building Materials

No buildings are present on this site; therefore, there is no concern about asbestos containing building materials on this site.

Groundwater Monitoring Wells

No evidence of groundwater monitoring wells were present on this site.

Soil, Soil Vapor and Groundwater Quality

Two hydropunch soil borings, one groundwater monitoring well (MW-10⁷⁸) and three soil borings previously were located on the 300 Mathilda Avenue site. The sampling did not identify significant impacts to soil or groundwater quality associated with the former gasoline service station.

⁷⁸ In the RWQCB’s 2011 Case Closure Summary for Block 1, well MW-10 was noted to have been destroyed in August 2007 in preparation for site redevelopment.

300 West Washington Avenue

The 300 West Washington Avenue site is the site of a newly constructed mixed-use residential and commercial development. Environmental review and clearance for this development was included in the certified 2003 Downtown EIR and subsequent addenda and adopted 2004 Mitigated Negative Declaration/Initial Study for the Town Center Mall Redevelopment Special Development Permit.

Macy's and Redwood Square, and Town Center Sub-block 6

By 1908, a public school, church, blacksmith and few other commercial buildings, as well as several dwellings and associated outbuildings were constructed on the Macy's and Redwood Square and Town Center Sub-block 6 sites. By 1930, the school was expanded, and City Hall (which included offices, a library, and an auditorium) was constructed on these sites. Several commercial businesses were constructed as well and included auto sales and service facilities, a gasoline service station, printing and sheet metal works business, and a tailor and cleaning business. A second dry cleaning business was added in 1959. Both dry cleaners were located on the Town Center Sub-block 6 site. The gasoline service station was located on the Macy's site.

In the late 1970's, the STCM (including the existing Macy's building) was constructed on the Macy's and Redwood Square and Town Center Sub-block 6 sites, and extended onto Town Center Sub-blocks 1, 2, 4, and 5. The mall, except for the Macy's building, was demolished in 2007. Subsequent construction of several buildings on the Redwood Square site began after demolition of the mall and was halted in 2009. The partially constructed buildings subsequently were removed and replaced with the existing landscaping and surface parking.

A fenced area on the southwest portion of Town Center Sub-block 6 was observed to be used for construction staging and contains soil vapor extraction equipment.

Hazardous Materials Storage and Use

The previous dry cleaning businesses located on the Town Center Sub-block 6 site used materials that contained PCE. A previous hazardous materials report identified the presence of a release of PCE from these businesses.

The previous gasoline service station and vehicle repair businesses located on the Macy's and Town Center Sub-block 6 sites likely included hazardous materials use and storage predominantly associated with vehicle fuels, lubricants, and other automobile related materials. Operations of the former printing business on the Macy's site and blacksmith and sheet metal works on the Town Center Sub-block 6 site may also have involved the use and storage of hazardous materials.

The previous mall included business tenants that appeared to have photo (or x-ray) developing activities that utilized photo processing chemicals and generated associated hazardous waste. No spills from these businesses were reported.

The existing Macy's building currently operates an emergency diesel generator with a 27-gallon aboveground storage tank (AST). Other hazardous materials including shoe cleaning products, building maintenance products, and paint related products were observed stored within flammable materials storage cabinets inside the building. Hydraulic fluid is also present within the building's

elevators, cardboard bailer, and trash compactor. Hydraulic fluid for the equipment is stored within ASTs. No evidence of spills at the Macy's building was observed. No hazardous materials were observed on the Redwood Square portion or Town Center Sub-block 6 during site reconnaissance.

Underground Storage Tanks

No sampling has been completed to identify soil or groundwater quality impacts from the previous gasoline service station on the Macy's site. During the data search, the Phase I ESA also did not identify documentation for the removal of USTs that presumably were present on-site; therefore, it is possible that USTs are still present on-site.

Lead-Based Paint and Termite Control Pesticide

Based on the age of the Macy's building, lead-based paint may be present in the building. Soils near the location of previous structures on-site could contain lead and pesticides historically used to control termites.

Asbestos Containing Building Materials

Due to the age of the Macy's building, building materials may contain asbestos.

Groundwater Monitoring Wells

Several groundwater monitoring and soil vapor monitoring and/or extraction wells are present on the Town Center Sub-block 6 and Redwood Square sites.

Soil, Soil Vapor, and Groundwater Quality

Elevated PCE concentrations in groundwater and soil vapor from the previous dry cleaning businesses remain on the Town Center Sub-block 6 site. The site is listed as an open SLIC case on the SWRCB database and is being remediated under the oversight of the SWRCB, as described previously. Elevated PCE concentrations in groundwater and soil vapor have also been detected beneath the Macy's and Redwood Square site. The extent to which the Macy's site has been impacted has not been well defined due to the lack of sampling locations within the footprint of the existing department store building.

Murphy Square

The Del Monte building was previously constructed on this site and used as a receiving station and warehouse, and later a seed processing and germinating facility until 1986. Files from the DPS Bureau of Fire Services included a chemical inventory for the Del Monte building that included storage of several fungicides and insecticides. The building remained vacant until it was relocated to the current location at the northeast corner of the 100 block of South Murphy Avenue within the Murphy Station Heritage Landmark District. The site has since been developed with paved parking. Two railroad track spurs historically traversed the site.

Hazardous Materials Storage and Use

Assorted chemicals historically may have been used for dust suppression and weed control along rail lines. Contaminants commonly found along rail lines include metals, petroleum, hydrocarbons, PAHs, PCBs, and pesticides. In addition, the previous building stored fungicides and insecticides. No hazardous materials were observed during the site reconnaissance.

Lead-Based Paint and Termite Control Pesticide

While there are no buildings on-site, soils near the location of previous structures on-site could contain lead and pesticides historically used to control termites.

Soil, Soil Vapor and Groundwater Quality

PCE impacted groundwater from the Town Center Sub-block 6 site has migrated north and appears to extend below the Murphy Square site. Due to the former presence of up-gradient, off-site, gasoline service stations, there also is a potential for petroleum hydrocarbon impacted groundwater to have extended beneath the Murphy Square site.

Refer to Appendix G for additional details and descriptions of the six project sites, including on-site observations.

3.9.1.3 *Other Hazards*

Transformers

Electrical transformers owned by PG&E were observed on concrete pads at the 100 Altair Way, 300 Mathilda Avenue, and Macy's and Redwood Square sites. No evidence of transformer oil leaks was readily apparent.

Airports

The six project sites are approximately two miles south of the Moffett Federal Airfield. The Murphy Square site located in Block 22, is within the AIA.⁷⁹ The rest of the project sites are outside of the AIA. All six project sites, including the Murphy Square site, are outside of the Airfield's 65 dBA noise contour area.

All six project sites are within the Airfield's FAR Part 77 Notification Surface Area.⁸⁰ A summary of the FAA imaginary surface area for notification for each site is provided in Table 3.9-1.

⁷⁹ Santa Clara County Airport Land Use Commission. *Moffett Federal Airfield Comprehensive Land Use Plan*. November 2, 2012. Figure 8.

⁸⁰ Ibid. Figure 6.

Table 3.9-1: Summary of FAA Part 77 Surface by Development Site		
Project Site	Part 77 Imaginary Flight Surfaces	
	Approximate feet above mean sea level*	Approximate feet above ground level based on site plans
100 Altair Way	207	118
300 West Washington Avenue	232	132
300 Mathilda Avenue	257-282	147-172
Macy's and Redwood Square	232	137
Town Center Sub-block 6	232	137
Murphy Square	207	118
Notes: * Santa Clara County Airport Land Use Commission. <i>Moffett Federal Airfield Comprehensive Land Use Plan</i> . November 2, 2012. Figure 6.		

Wildfire Hazard

The six project sites are located in an infill, urbanized location and not in or adjacent to a wildland urban interface fire area.⁸¹ The six project sites, therefore, are not subject to wildland fires.

3.9.2 Hazards and Hazardous Materials Impacts

For the purposes of this EIR, a hazards and hazardous materials impact is considered significant if the project would:

- Create a significant hazard to the public or the environment through 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;

⁸¹ California Department of Forestry & Fire Protection. *Santa Clara County Very High Fire Hazard Severity Zones*. October 8, 2008.

- 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.

Impact HAZ-1: The project would not create a significant hazard to the public or the environment through routine transport, use, disposal, or foreseeable upset of hazardous materials. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Proposed Uses

The project does not propose any land uses that would produce, store, or emit hazardous materials other than small quantities of herbicides and pesticides for landscaping maintenance. No other routine use, storage, transportation, or disposal of hazardous materials is anticipated as part of the project. For this reason, the proposed uses would not create a significant hazard to the public or environment through routine transport, use, disposal, or foreseeable upset of hazardous materials. **(Less than Significant Impact)**

Hazardous Materials Storage and Use

As described in Section 3.9.1.2 (and discussed in more detail in Appendix G), hazardous materials storage and use are associated with historic and existing uses on the sites. Impacts associated with historic storage and use on the six project sites are discussed below under Soil, Soil Vapor, and Groundwater Quality.

As described in Section 3.9.1.2, existing chemical storage and use occurs on 100 Altair Way (i.e., hydraulic fluid associated with the existing elevator) and Macy's site (i.e., diesel generator, hazardous materials associated with the operation of Macy's, and hydraulic fluid associated with the building's elevators, cardboard bailer, trash compactor, shoes cleaning products, building maintenance products, and paint-related products). If the existing hazardous materials stored and used on the sites are not removed and properly disposed, the redevelopment of the six project sites could create a hazard to the public or the environment.

DSP Amendments and Six Development Projects Mitigation Measure:

MM HAZ-1.1: 100 Altair Way and Macy's: All remaining hazardous materials at the 100 Altair Way site (e.g., the hydraulic fluids from the elevator) and the Macy's building (e.g., emergency diesel generator with a 27-gallon AST, hydraulic fluids within the elevator equipment, cardboard bailer, trash compactor, shoe cleaning products, building maintenance products, and paint related products,) shall be removed and properly disposed of prior to demolition.

During removal of the equipment with hydraulic fluids, contractors shall observe for staining and spilled oil. If stains and/or spills are observed, an Environmental Professional shall be retained to collect soil samples for laboratory analysis in accordance with commonly accepted environmental protocols. If contaminants are identified at concentrations exceeding applicable screening levels published by the RWQCB, DTSC and/or EPA⁸², appropriate mitigation measures shall be incorporated into the demolition permit. Approval by an appropriate regulatory agency (i.e., RWQCB, DTSC or DEH) shall be obtained prior to conducting earthwork activities in the vicinity of the impacted soil.

Future development under the proposed project, with the implementation of mitigation measure MM HAZ-1.1, would reduce impacts associated with existing hazardous materials storage and use on the 100 Altair Way and Macy's sites by requiring proper removal and disposal of the hazardous materials and mitigation of contamination, if found. **(Less than Significant Impact with Mitigation Incorporated)**

Soil, Soil Vapor, and Groundwater Quality

Two prior dry cleaning businesses were historically located on Town Center Sub-block 6 and releases of PCE from these facilities have impacted groundwater in the area. PCE has been detected at concentrations exceeding RWQCB's environmental ESLs in groundwater and soil vapor on Town Center Sub-block 6 and Macy's and Redwood Square sites, and possibly the Murphy Square site.

Two gasoline stations, which use and store vehicle fuels and other automotive related hazardous materials, were previously located on the Macy's and 300 Mathilda Avenue sites. Automotive related hazardous materials were presumably also used and stored at former vehicle repair businesses located on the 100 Altair Way, Macy's and Redwood Square, and Town Center Sub-block 6 sites. Groundwater under the Murphy Square site could be impacted by petroleum hydrocarbons due to the former presence of up-gradient gasoline service stations.

Photo processing chemicals and hazardous waste associated with photo (or x-ray) developing activities occurred previously on the Macy's and Redwood Square and Town Center Sub-block 6 sites.

⁸² Note that naturally occurring background concentrations of metals, such as arsenic, amongst others, in soil may exceed their respective screening levels. Regulatory agencies generally do not require cleanup of soil to below background concentrations. Thus, concentrations of metals are compared to regional published background concentrations to establish if regulatory agency approval is warranted.

Given that railroad track spurs historically traversed the Murphy Square site, shallow soil at the Murphy Square site could be impacted with contaminants commonly found along rail lines, including metals, petroleum hydrocarbons, PAHs, PCBs, and pesticides. Shallow soils at the Murphy Square site could also be contaminated with fungicides and insecticides, which are reported to have been historically stored on the site.

The six project sites historically were developed with numerous residential and commercial buildings. As discussed in Section 3.9.1.2, there is a potential for residual lead and pesticide concentrations in on-site soil resulting from prior on-site structures.

If hazardous materials contamination is not removed or mitigated appropriately, future redevelopment of the six project sites could create a significant hazard to the public or environment.

DSP Amendments and Six Development Projects Mitigation Measures:

MM HAZ-1.2: **All Project Sites (except 300 West Washington Avenue):** A SMP and Health Safety Plan (HSP) shall be prepared and implemented for construction-related earthwork activities under the proposed project at each of the project sites (except for 300 West Washington Avenue). The purpose of the SMP and HSP is to establish appropriate management practices for handling impacted soil, soil vapor, and groundwater or other materials that may potentially be encountered during construction activities. The SMPs shall provide the protocols for accepting imported fill materials and protocols for sampling of in-place soil to facilitate profiling of the soil for appropriate off-site disposal or reuse.

To evaluate potential impacts associated with prior on-site structures, the soil profiling shall include (but not be limited to) the collection of shallow soil samples (upper one-foot) and analyses for lead and organochlorine pesticides.

Because contaminants are known to be present on the Macy's and Redwood Square and Town Center Sub-block 6 sites, the SMPs for these sites shall address currently proposed uses and currently applicable screening levels (including current guidance on PCE), and shall be reviewed and approved by an appropriate regulatory agency (i.e., RWQCB, DTSC or DEH) and the HSPs and approved SMPs shall be submitted to the City prior to the issuance of a permit for grading and excavation.

If there are no contaminants identified on the other project sites (i.e., 100 Altair Way, 300 Mathilda Avenue, and Murphy Square) that exceed applicable screening levels published by the RWQCB, DTSC and/or EPA⁸³, their respective SMPs do not need to be submitted to an oversight agency and only submitted to the City prior to construction earthwork activities. If contaminants are identified at concentrations exceeding applicable screening levels at the other project sites (i.e., 100 Altair Way, 300 Mathilda Avenue, and Murphy Square), the respective SMPs and planned remedial measures shall be reviewed and approved by an

⁸³ Ibid.

appropriate regulatory agency (i.e., RWQCB, DTSC or DEH), and the HSPs and approved SMPs shall be submitted to the City prior to the issuance of a permit for grading and excavation.

MM HAZ-1.3: Town Center Sub-block 6: Future development shall implement the provisions in the RWQCB approved May 4, 2012 RAP prepared by Ground Zero Analysis, Inc., as may be amended or updated, which includes completing soil vapor sampling prior to construction to determine if VOC levels exceed the most recently adopted ESLs for the currently proposed uses. If VOC levels exceed their respective ESLs, the project shall install vapor mitigation systems in proposed building(s), unless it can be demonstrated to the satisfaction of RWQCB (or similar oversight agency) that these measures are not required for the currently proposed development. The vapor mitigation systems shall consist of impermeable vapor barriers installed beneath building foundations, passive or active sub-foundation venting systems, or other equivalent measures, and regular monitoring programs, and be approved by the overseeing regulatory agency. Other provisions of the RAP are summarized in Appendix G. Final approval that the site is suitable for the proposed land uses and development with the implementation of mitigation measures (including vapor mitigation systems) shall be issued by RWQCB and copied to the City prior to commencement of new construction activities.

MM HAZ-1.4: Macy's and Redwood Square: A vapor mitigation system design shall be incorporated in proposed building(s), unless it can be demonstrated to the satisfaction of RWQCB (or similar oversight agency) that these measures are not required for the currently proposed development. The vapor mitigation systems shall consist of impermeable vapor barriers installed beneath building foundations, passive or active sub-foundation venting systems, or other equivalent measures, and regular monitoring programs, and be approved by the overseeing regulatory agency. Due to (1) changes in regulatory guidance subsequent to the RWQCB's 2011 no further action letter for Block 3, (2) the continued presence of elevated PCE concentrations, and (3) changes in the proposed development, the RWQCB's 2011 no further action letter for Sub-block 3 is not considered adequate to fulfill the requirements of MM HAZ-1.4.

MM HAZ-1.5: Murphy Square: Soil, soil vapor, and groundwater sampling shall be completed prior to construction earthwork activities to evaluate the extent of impact from up-gradient VOC releases at Town Center Sub-block 6. Groundwater shall also be analyzed for petroleum hydrocarbons due to the reported former presence of up-gradient gasoline service stations.

The evaluation of soil quality at the Murphy Square parcel shall include an evaluation of shallow soil (upper one-foot) for contaminants commonly found along rail lines, such as metals, petroleum hydrocarbons, PAHs, PCBs and pesticides. Sampling of shallow soil on the parcel also shall include testing for constituents within the fungicides and insecticides reported to have been stored

by Del Monte Corporation if they are typically considered to be persistent within the environment.

All soil, soil vapor, and groundwater sampling and laboratory analyses shall be conducted in accordance with commonly accepted environmental protocols.

If contaminants are identified at concentrations exceeding applicable screening levels published by the RWQCB, DTSC and/or EPA, appropriate mitigation measures shall be incorporated into the proposed development and approved by an appropriate regulatory agency (i.e., RWQCB, DTSC or DEH)⁸⁴. Approval that the site is suitable for the proposed land uses and development with the implementation of the mitigation measures shall be issued by the overseeing regulatory agency and copied to the City prior to the issuance of a permit for grading and excavation.

Future development under the proposed project, with the implementation of mitigation measures MM HAZ-1.2 through MM HAZ-1.5, would reduce soil, soil vapor, and groundwater quality impacts to a less than significant level by requiring soil, soil vapor, and groundwater sampling for contaminants, proper handling of hazardous materials contamination, and mitigation of contamination under regulatory agency oversight. **(Less than Significant Impact with Mitigation Incorporated)**

Underground Storage Tanks

Two gasoline stations were historically located on the Macy's and 300 Mathilda Avenue sites. Gasoline and diesel fuel are commonly stored in USTs at gasoline service stations. Sampling previously conducted at the 300 Mathilda Avenue site did not identify impacts to soil or groundwater quality associated with the former gasoline service station on that site. No soil or groundwater sampling has been completed for the Macy's site to determine if the site was impacted from the former gasoline service station. No records documenting the removal of USTs from the former gasoline stations have been identified. As a result, mitigation measure MM HAZ-1.6 has been developed to evaluate if USTs remain on these sites.

DSP Amendments and Six Development Projects Mitigation Measure:

MM HAZ-1.6: Macy's and 300 Mathilda Avenue: Prior to commencement of earthwork activities, geophysical surveys shall be completed of both former gasoline service station locations to evaluate if USTs remain on these sites. If identified, the USTs shall be removed under permit from the Sunnyvale Bureau of Fire Services and underlying soil and groundwater shall be sampled and evaluated for potential contaminants of concern.

Future development under the proposed project, with the implementation of mitigation measure MM HAZ-1.6, would reduce impacts from underground storage tanks to less than significant by requiring

⁸⁴ Note that naturally occurring background concentrations of metals, such as arsenic, amongst others, in soil may exceed their respective screening levels. Regulatory agencies generally do not require cleanup of soil to below background concentrations. Thus, concentrations of metals are compared to regional published background concentrations to establish if regulatory agency approval is warranted.

a survey be completed to identify locations of USTs on the sites and removing any USTs under the oversight of the Sunnyvale Bureau of Fire Services. **(Less than Significant Impact with Mitigation Incorporated)**

Groundwater Monitoring and Soil Vapor Wells

Several groundwater monitoring and soil vapor monitoring and/or extraction wells are present on Town Center Sub-block 6 and Redwood Square sites. A groundwater monitoring well is also present on the 100 Altair Way site. These wells should be protected during redevelopment or properly destroyed.

DSP Amendments and Six Development Projects Mitigation Measure:

MM HAZ-1.7: Redwood Square, Town Center Sub-block 6, and 100 Altair Way: All wells shall be protected during construction activities or properly destroyed prior to construction. This work shall be coordinated with RWQCB and Valley Water. Wells to be destroyed shall be destroyed in accordance with Valley Water requirements (Ordinance 90-1, as may be subsequently amended) prior to any work that could potentially damage or obscure the wells, such as demolition or earthwork activities. Destroyed wells may be required to be replaced by the oversight regulatory agency after project construction is completed.

Future development under the proposed project, with the implementation of mitigation measure MM HAZ-1.7, would reduce impacts from groundwater monitoring and soil vapor wells to less than significant by protecting or properly destroying the wells in coordination with the RWQCB and Valley Water. **(Less than Significant Impact with Mitigation Incorporated)**

Asbestos Containing Building Materials and Lead-Based Paint

Due to the age of the existing structures on the 100 Altair Way and Macy's sites, building materials may contain asbestos and/or lead-based paint.⁸⁵

DSP Amendments and Six Development Projects Mitigation Measures:

MM HAZ-1.8: 100 Altair Way and Macy's: Prior to the issuance of a demolition permit, an asbestos survey shall be completed for existing buildings on the 100 Altair Way and Macy's sites prior to demolition in accordance with the National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines. NESHAP guidelines require the removal of potentially friable ACMs prior to building demolition or renovation that may disturb the ACM.

MM HAZ-1.9: 100 Altair Way and Macy's: Prior to the issuance of a demolition permit, a lead-based paint survey shall be completed for the existing buildings on the 100 Altair Way and Macy's sites in accordance with the Cal/OSHA guidelines. If lead-based paint is bonded to the building materials, the removal of lead-based

⁸⁵ There are no existing building on the other project sites.

paint is not required. If the lead-based paint is flaking, peeling, or blistering, it shall be removed prior to demolition. In either case, applicable OSHA regulations shall be followed; these include requirements for worker training and air monitoring and dust control. Any debris containing lead shall be disposed appropriately.

Future development under the proposed project, with the implementation of the above mitigation measures MM HAZ-1.8 and MM HAZ-1.9, would reduce impacts from asbestos containing building materials and lead-based paint to less than significant by requiring a survey for asbestos and its removal in accordance with NESHAP guidelines to control asbestos emissions and removal and disposal of lead-based paint in accordance with OSHA regulations to protect worker health and safety. **(Less than Significant Impact with Mitigation Incorporated)**

Impact HAZ-2: The project would not emit hazardous emissions or hazardous materials within one-quarter mile of an existing or proposed school. **(No Impact)**

DSP Amendments and Six Development Projects

None of the six project sites are within one-quarter mile of an existing or proposed school; therefore, implementation of the project would not result in hazardous materials impacts to schools. **(No Impact)**

Impact HAZ-3: The project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.. **(No Impact)**

DSP Amendments and Six Development Projects

A review of the Cortese List database compiled by CalEPA shows none of the project sites are on the list of (1) Hazardous Waste and Substances Sites from DTSC's Envirostor database; (2) Open Active LUST Sites on the SWRCB Geotracker database; (3) solid waste disposal site identified by the SWRCB; (4) "Active" Cease and Desist Orders or Cleanup and Abatement Orders from SWRCB; and (5) hazardous waste facility subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.⁸⁶ Refer to Impact HAZ-2 for hazardous materials conditions that do not meet the Cortese List requirement. **(No Impact)**

⁸⁶ California Environmental Protection Agency. "Cortese List Data Resources". Accessed October 22, 2019. Available at: <https://calepa.ca.gov/sitecleanup/corteselist/>.

Impact HAZ-4: The project is not located within the vicinity of a private airstrip and is located within two miles of a public airport. The project would not result in a safety hazard for people residing or working in the project area. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

The six project sites are not located within the vicinity of a private airstrip. The six project sites are located approximately two miles south of the Moffett Federal Airfield.

Moffett Federal Airfield Comprehensive Land Use Plan

All of the project sites, except for Murphy Square, are located outside the Airfield's AIA. Development proposals outside the AIA do not require review by the ALUC.

The Murphy Square site, the only project site within the Airfield's AIA, is subject to review by the ALUC. The CLUP focuses on the three areas of ALUC's responsibility: (1) aircraft noise, (2) the safety of persons on the ground and in aircraft, and (3) the control of objects in navigable airspace. The project's relationship to these three areas are described below.

- **Aircraft Noise** – The Murphy Square site is not located within the Airfield's 65 dBA noise contour. The noise and land use compatibility of the project is discussed in greater detail in Section 4.12 Noise and Vibration.
- **Safety of Persons on the Ground and in Aircraft** – The CLUP has safety restriction areas categorized in six safety restriction zones to minimize the number of people exposed to potential aircraft accidents in the vicinity of the Airfield by imposing density and use limitations within these zones. These zones include the (1) Runway Protection Zone, (2) Inner Safety Zone, (3) Turning Safety Zone, (4) Outer Safety Zone, (5) Sideline Safety Zone, and (6) Traffic Safety Zone. The Murphy Square site is not located within any of the safety restriction zones identified by the CLUP.
- **Objects in Navigable Airspace** – Maximum structure heights in the vicinity of the Airfield are identified in the CLUP to protect the public safety, health, and welfare by ensuring that aircraft can safely fly in the airspace around an airport. The CLUP uses the FAR Part 77 Surfaces to enforce height limitations. The project's consistency with FAR Part 77 is discussed below.

Federal Aviation Regulations Part 77

FAR Part 77 of the FAA establishes imaginary surfaces for Moffett Federal Airfield and its runways as a means to identify objects that are obstructions to air navigation (see Table 3.9-1). Future development under the proposed project can introduce potential sources of hazards to airfield operations with equipment or structures that exceed FAR Part 77 surfaces. FAA issuance of a "Determination of No Hazard" for future development exceeding FAR Part 77 surfaces, and compliance with any conditions set forth by the FAA in its determinations, would ensure the future development would not be a potential aviation hazard.

Future development could require tall construction equipment, such as cranes. The six development projects anticipate use of cranes of approximately 221 feet in height measured from the base to the tallest point of the equipment. The anticipated crane height for the six development projects and FAA Part 77 Surface of each site is summarized in Table 3.9-2 below. As shown in Table 3.9-2, the cranes needed to construct the six development projects would exceed the FAA Part 77 surface on all project sites.

Table 3.9-2: Summary of Maximum Construction Equipment Height and FAA Part 77 Surface		
Project Site	Maximum Construction Equipment Height* (feet above ground level)	FAA Part 77 Surface (approximate feet above ground level)
100 Altair Way	221	118
300 West Washington Avenue		132
300 Mathilda Avenue		147-172
Macy’s and Redwood Square		137
Town Center Sub-block 6		137
Murphy Square		118
*The maximum building height is measured from the ground to the top of the mechanical screening or elevator shaft, whichever is the tallest.		

In addition to construction equipment, future buildings could exceed FAA Part 77 Surfaces. As shown in Table 3.9-3, under the six development projects, the proposed building on the Redwood Square site may exceed the FAA Part 77 Surface and the remaining proposed buildings are below their sites' respective FAA Part 77 Surface. The proposed development for the Redwood Square site, therefore, could cause a potential aviation hazard.

Table 3.9-3: Summary of Maximum Proposed Building Height and FAA Part 77 Surface		
Project Site	Maximum Proposed Building Height* (feet above ground level)	FAA Part 77 Surface (approximate feet above ground level)
100 Altair Way	116	118
300 West Washington Avenue	75	132
300 Mathilda Avenue	108	147-172
Macy's and Redwood Square	124 (Macy's) 152 (Redwood Square)	137
Town Center Sub-block 6	94	137
Murphy Square	76	118
*The maximum building height is measured from the ground to the top of the mechanical screening or elevator shaft, whichever is the tallest.		

DSP Amendments and Six Development Projects Mitigation Measures:

MM HAZ-4.1: **All Project Sites (except 300 West Washington Avenue):** Prior to the issuance of a building permit for above ground construction, if proposed structures exceed the FAA Part 77 Surface, the project applicant shall submit an FAA Form 7460-1 for the permanent structure prior to submittal for the temporary construction equipment (outlined in mitigation measure MM HAZ-4.2 below). A “Determination of No Hazard” or “Determination of No Hazard with Conditions” shall be obtained prior to permit issuance for any above ground improvements. If a “Determination of No Hazard with Conditions” is issued, the conditions shall be included on the approved plan set and implemented.

MM HAZ-4.2: **All Project Sites (except 300 West Washington Avenue):** Prior to the issuance of a building permit, if construction equipment has the potential to exceed the FAA Part 77 Surface, the project applicant shall submit an FAA Form 7460-1, “Notice of Proposed Construction or Alteration” to the FAA at least 45 days (60 to 90 days recommended) prior to construction of the project, which shall specify the equipment type (e.g., crane) and duration to be used. An Aeronautical Study Number for the permanent structure shall be included in the submittal form. A “Determination of No Hazard” or “Determination of No Hazard with Conditions” shall be obtained prior to permit issuance for above ground activities.. If a “Determination of No Hazard with Conditions” is issued, all conditions shall be included on the approved plan set and implemented.

With the implementation of mitigation measures MM HAZ-4.1 and MM HAZ-4.2, future development projects (including the six development projects) would not result in a significant safety hazard to airport operations by obtaining a “Determination of No Hazard” or “Determination of No

Hazard with Conditions” (and complying with any conditions set forth by the FAA in its determination) to ensure the development (including construction equipment) would not result in an aviation hazard.⁸⁷ **(Less than Significant Impact with Mitigation Incorporated)**

Impact HAZ-5: The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

As discussed in Section 3.7 Geology and Soils, future development under the proposed project would be constructed in accordance with current Building and Fire Codes to ensure structural stability and safety in the event of a seismic or seismic-related hazard. In addition, the Sunnyvale Bureau of Fire Services would also review site development plans to ensure fire protection design features are incorporated and adequate emergency access is provided. For these reasons, the proposed project would not impair implementation of or physically interfere with the City’s Local Hazard Mitigation Plan or Emergency Plan. **(Less than Significant Impact)**

Impact HAZ-6: The project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. **(No Impact)**

DSP Amendments and Six Development Projects

As described in Section 3.9.1.3, the six project sites are located in an infill, urbanized location and not in a wildland fire hazard zone. The six project sites, therefore, are not subject to wildland fires. **(No Impact)**

Impact HAZ-C: The project would not have a cumulatively considerable contribution to a significant cumulative hazardous materials impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

The geographic area for cumulative hazards and hazardous materials impacts includes the six project sites and the surrounding area. Some of the projects included in the cumulative analysis are proposed on properties (including STCM) previously developed with industrial or commercial uses that stored, generated, or disposed of hazardous materials. It is likely that hazardous materials may have been stored and used on, and/or transported to and from, some of the cumulative project sites as part of activities on the sites. In addition, soils on cumulative project sites with existing older buildings or previously developed with buildings in the past may contain lead and/or pesticides. Further,

⁸⁷ The proposed 100 Altair Way development is within eight feet of the FAA imaginary surface for the site. The development project was referred to the FAA as a precaution and the FAA issued a “Determination of No Hazard” for the project (Source: Federal Aviation Administration. *Determination of No Hazard to Air Navigation*. February 1, 2019.). A Determination of No Hazard was issued for the buildings on Redwood Square on August 21, 2019 (Source: Source: Federal Aviation Administration. *Determination of No Hazard to Air Navigation*. August 21, 2019.)

development and redevelopment of some of the cumulative projects sites would require demolition of existing buildings that may contain lead-based paint and/or ACMs. Demolition of these structures could expose construction workers or other persons in the vicinity to harmful levels of lead and/or ACMs.

Based on the above-described conditions, which are present on most sites in Sunnyvale to varying degrees, significant cumulative environmental impacts could occur because such conditions can lead to the exposure of people and the environment to hazardous materials. For each of the cumulative development projects, mitigation measures would be implemented as a condition of development approval for the risks associated with exposure to hazardous materials. Measures would include incorporating the requirements of applicable existing local, state, and federal laws, regulations, and agencies such as the DTSC and Cal/OSHA, during development.

All cumulative projects within the Airfield's AIA or FAR Part 77 Surfaces would be subject to applicable CLUP and FAA regulations and review to prevent aviation-related hazards. For this reason, cumulative projects would not result in significant safety hazards related to the Airfield and Airfield operations.

Future development under the proposed project, with the implementation of the above mitigation measures MM HAZ-1.1 through -1.10, MM HAZ-4.1, and MM HAZ-4.2, would reduce the project's significant hazards and hazardous materials impacts to a less than significant level, as discussed under Impact HAZ-1 and Impact HAZ-4. With the inclusion of development-specific mitigation and compliance with existing statutes and regulations, the cumulative projects (including the proposed project), would not result in significant cumulative hazardous materials impacts. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

3.10 HYDROLOGY AND WATER QUALITY

3.10.1 Environmental Setting

3.10.1.1 *Regulatory Framework*

Federal, State, and Regional

Water Quality Overview

The Federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality. Regulations set forth by the EPA and the SWRCB have been developed to fulfill the requirements of this legislation. EPA regulations include the NPDES permit program, which controls sources that discharge pollutants into the waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by the regional water quality control boards. The project site are within the jurisdiction of the RWQCB.

Basin Plan

The San Francisco Bay RWQCB regulates water quality in accordance with the Water Quality Control Plan or "Basin Plan." The Basin Plan lists the beneficial uses that the RWQCB has identified for local aquifers, streams, marshes, rivers, and the San Francisco Bay, as well as the water quality objectives and criteria that must be met to protect these uses. The RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements, including permits for nonpoint sources such as the urban runoff discharged by a City's stormwater drainage system. The Basin Plan also describes watershed management programs and water quality attainment strategies.

Statewide Construction General Permit

The SWRCB has implemented a NPDES General Construction Permit for the State of California. For projects disturbing one acre or more of soil, a NOI and SWPPP must be prepared by a qualified professional prior to commencement of construction. The Construction General Permit includes requirements for training, inspections, record keeping, and for projects of certain risk levels, monitoring. The general purpose of the requirements are to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related stormwater discharges.

Municipal Regional Stormwater NPDES Permit/C.3 Requirement

The San Francisco Bay RWQCB has issued an MRP that covers the project area. Under provisions of the NPDES Municipal Permit, redevelopment projects that disturb more than 10,000 square feet are required to design and construct stormwater treatment controls to treat post-construction stormwater runoff. The MRP requires regulated projects to include LID practices, such as pollutant source control measures and stormwater treatment features aimed to maintain or restore the site's natural hydrologic functions. The MRP also requires that stormwater treatment measures are properly installed, operated, and maintained.

In addition to water quality controls, the MRP 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 Valley Permittees Hydromodification Management Applicability Map).

Municipal Regional Permit Provision C.12.f

Polychlorinated biphenyls (PCBs) were produced in the United States between 1955 and 1978 and used in hundreds of industrial and commercial applications, including building and structure materials such as plasticizers, paints, sealants, caulk, and wood floor finishes. In 1979, the EPA banned the production and use of PCBs due to their potential harmful health effects and persistence in the environment. PCBs can still be released to the environment today during demolition of buildings that contain legacy caulks, sealants, or other PCB-containing materials.

With the adoption of the MRP by the San Francisco Bay RWQCB on November 19, 2015, Provision C.12.f requires that permittees develop an assessment protocol methodology for managing materials with PCBs in applicable structures planned for demolition to ensure PCBs do not enter municipal storm drain systems.⁸⁸ Municipalities throughout the Bay Area are currently modifying demolition permit processes and implementing PCB screening protocols to comply with Provision C.12.f. As of July 1, 2019, buildings constructed between 1955 and 1978 that are proposed for demolition must be screened for the presence of PCBs prior to the issuance of a demolition permit.

To comply with Municipal Regional Permit Provision C.12.f, on July 1, 2019, the City adopted a PCB screening process that requires all projects complete a PCBs Screening Assessment form prior to approval of a building demolition permit. Projects will be required to fill out the assessment form if the building slated for demolition meets the following requirements:

1. Was constructed or remodeled between January 1, 1950 and December 31, 1980; and
2. Will be completely destroyed

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) established the National Flood Insurance Program (NFIP) in order to reduce impacts of flooding on private and public properties. The program provides subsidized flood insurance to communities that comply with FEMA regulations protecting development in floodplains. As part of the program, FEMA publishes Flood Insurance Rate Maps (FIRM) that identify Special Flood Hazard Areas (SFHA). An SFHA is an area that will be inundated by the one-percent annual chance flood, which is also referred to as the base flood or 100-year flood. The SFHA is the area where the NFIP floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.

⁸⁸ California Regional Water Quality Control Board. *San Francisco Bay Region Municipal Regional Stormwater NPDES Permit*. November 2015.

Dam Safety Act and Dam Safety Program

Dam failure is the uncontrolled release of impounded water behind a dam. Flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation, poor construction, vandalism, and terrorism can all cause a dam to fail.⁸⁹ Because dam failure that results in downstream flooding may affect life and property, dam safety is regulated at both the federal and state level. Dams under the jurisdiction of the California Division of Safety of Dams are identified in California Water Code Sections 6002, 6003, and 6004 and regulations for dams and reservoirs are included in the California Code of Regulations. In accordance with the state Dam Safety Act, dams are inspected regularly and detailed evacuation procedures have been prepared for each dam.

As part of its comprehensive dam safety program, Valley Water routinely monitors and studies the condition of each of its 10 dams. Valley Water also has its own Emergency Operations Center and a response team that inspects dams after significant earthquakes. These regulatory inspection programs reduce the potential for dam failure.

Santa Clara Valley Water District

Valley Water operates as the flood control agency for Santa Clara County. Their stewardship also includes creek restoration, pollution prevention efforts, and groundwater recharge. Permits for well construction and destruction work, most exploratory boring for groundwater exploration, and projects within Valley Water property or easements are required under Valley Water's Water Resources Protection Ordinance and District Well Ordinance.

Local

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to hydrology and water quality and are applicable to the proposed project.

Policy	Description
Environmental Management Element	
EM-8.3	Ensure that stormwater control measures and best management practices are implemented to reduce the discharge of pollutants in stormwater to the maximum extent practicable.
EM-8.5	Prevent accelerated soil erosion. Continue implementation of a construction site inspection and control program to prevent discharges of sediment from erosion and discharges of other pollutants from new and redevelopment projects.
EM-8.6	Minimize the impacts from stormwater and urban runoff on the biological integrity of natural drainage systems and water bodies.
EM-10.1	Consider the impacts of surface runoff as part of land use and development decisions and implement BMPs to minimize the total volume and rate of runoff of waste quality and

⁸⁹ State of California. *2013 State Hazards Mitigation Plan*. 2013. Accessed: January 24, 2018. http://hazardmitigation.calema.ca.gov/plan/state_multi-hazard_mitigation_plan_shmp.

Policy	Description
	quantity (hydro modification) of surface runoff as part of land use and development decisions.
EM-10.2	Consider the ability of a land parcel to detain excess stormwater runoff in flood prone areas and require incorporation of appropriate controls. Require the incorporation of appropriate stormwater treatment and control measures for new and redevelopment regulated projects and/or any sites that may reasonably be considered to cause or contribute to the pollution of stormwater and urban runoff as defined in the current version of the stormwater Municipal Regional Permit.
EM-10.3	Require the incorporation of appropriate stormwater treatment and control measures for industrial and commercial facilities as identified in the stormwater Municipal Regional Permit.
Safety and Noise Element	
SN-1.2	Take measures to protect life and property from the effects of a 1% (100-year) flood.
SN-1.3	Operate and maintain the storm drainage system at a level to minimize damages and ensure public safety.

Sunnyvale Wastewater Collection System Master Plan

The City's 2015 Wastewater Collection System Master Plan (WWMP) evaluated the capacity and condition of the sanitary sewer and storm drain collection system in order to recommend a long-term Capital Improvement Program with Capital Improvement Projects (CIPs).⁹⁰ Based on the findings, the WWMP identifies CIPs to be implemented to ensure the sanitary sewer and storm drain systems can accommodate the existing development and projected growth in the City through 2035 General Plan buildout conditions. The following storm drain system CIP is identified for the DSP area:

- Line C – From Evelyn Avenue across Caltrain tracks to North Frances Street, add new 42-inch diameter reinforced concrete pipe⁹¹

The above CIP has not yet been implemented. The City plans to update the WWMP in the near future. As part of the update, updated data would be collected and updated modeling would be completed, and the existing, identified CIPs in the WWMP may be updated as a result.

Sunnyvale Municipal Code

Chapter 12.60 (Stormwater Management) in Title 12 of the SMC include the currently adopted water quality, wastewater, and stormwater management regulations. This includes regulations for compliance with NPDES permits, best management practices, project design, and water quality.

Chapter 16.62 of the SMC provides regulations to prevent flood damage in Sunnyvale. This chapter establishes provisions for reducing flood hazards, including standards for construction, utilities, subdivisions, manufactured homes, floodways, and coastal high hazard areas.

⁹⁰ The 2015 WWMP evaluated 12-inch or larger pipelines.]

⁹¹ City of Sunnyvale. *Wastewater Collection System Master Plan. December 2015.* Table 5-5.

3.10.1.2 Existing Conditions

Water Quality

The water quality of streams, creeks, ponds, and other surface water bodies can be greatly affected by pollution carried in contaminated surface runoff. Pollutants from dispersed or areawide sources, known as non-point source pollutants, are washed from streets, construction sites, parking lots, and other exposed surfaces into storm drains. Urban stormwater runoff often contains contaminants such as oil and grease, plant and animal debris (e.g., leaves, dust, animal feces, etc.), pesticides, litter, and heavy metals. In sufficient concentration, these pollutants have been found to adversely affect the aquatic habitats to which they drain.

The United States Postal Office and mixed-use building at 100 Altair Way were constructed in 1960's and 1980's, respectively. In addition, the Macy's building was constructed in the 1970's. Based on the age and construction period for these buildings, building materials on the 100 Altair Way and Macy's sites may contain PCBs.

Groundwater

The City of Sunnyvale is located within the Santa Clara Valley Groundwater Basin.⁹² Hydrologically, the groundwater basin is separated into recharge and confined zones. Geological conditions in the recharge areas allow precipitation, stream flow, and water diverted into percolation areas to recharge the deeper aquifers. The confined zones include areas of the valley where low permeability clays and silts overlie the major groundwater aquifers which impedes the vertical flow of groundwater into the deeper aquifers. The City of Sunnyvale (including the six project sites) lies entirely within the area of the confined zone.⁹³

The depth of groundwater can vary seasonally, and can be influenced by underground drainage patterns, regional fluctuations, and other factors. Groundwater in the project area is reported at depths of approximately 25 to 35 feet below grade.

Storm Drainage System

The City of Sunnyvale owns and maintains the municipal storm drainage system that serves the project area. Currently, as summarized in Table 3.10-1, approximately 13 acres (or 89 percent) of the six project sites are impervious. The remaining approximately two acres (or 11 percent) are pervious. Runoff from the six project sites flow into 12- to 36-inch storm drain lines in the surrounding project site streets to the Sunnyvale East Channel and eventually to the San Francisco Bay.⁹⁴

⁹² USGS. "Groundwater Quality in the San Francisco Bay Groundwater Basins, California". March 2013. Accessed September 25, 2018. <https://pubs.usgs.gov/fs/2012/3111/pdf/fs20123111.pdf>.

⁹³ Santa Clara Valley Water District. 2016 Groundwater Management Plan. Accessed September 14, 2018. <https://s3.us-west-2.amazonaws.com/assets.valleywater.org/2016%20Groundwater%20Management%20Plan.pdf>.

⁹⁴ City of Sunnyvale. "Utility Maps." Accessed September 25, 2018. <https://sunnyvale.ca.gov/services/map/utility.htm>.

Table 3.10-1: Six Project Sites Existing Impervious and Pervious Surfaces		
Six Project Sites	Impervious Surfaces	Pervious Surfaces
	(acres)	
100 Altair Way	0.54	0.00
300 Mathilda Avenue	1.07	0.76
300 West Washington Avenue	0.64	0.00
Macy's & Redwood Square	6.90	0.45
Town Center Sub-block 6	3.61	0.27
Murphy Square	0.34	0.11
<i>TOTAL</i>	<i>13.10</i>	<i>1.59</i>

Flooding

The six project sites are not located within a 100-year flood hazard area. According to the FEMA, the six project sites are located in Zone X with 0.2 percent annual chance of flood.⁹⁵

Other Inundation Hazards

Based on the Valley Water dam failure inundation hazard maps, the DSP area (including the six project sites) are located within the dam failure inundation area for Stevens Creek dam.⁹⁶

There are no landlocked bodies of water near the six project sites that would affect the sites in the event of a seiche. There are no bodies of water near the six project sites that would affect the sites in the event of a tsunami.⁹⁷ The project area is flat and there are no mountains near the sites that would affect the site in the event of a mudflow.

⁹⁵ FEMA. "FEMA Flood Map Service Center". Accessed September 14, 2018. <https://msc.fema.gov/portal/search?AddressQuery=200%20W%20Washington%20Ave%2C%20Sunnyvale%2C%20CA%2094086#searchresultsanchor>.

⁹⁶ SCVWD. *Inundation Map for the Hypothetical Fair Weather Failure of Stevens Creek Dam*. Map. August 2019.

⁹⁷ Association of Bay Area Governments. *Tsunami Inundation Emergency Planning Map for the San Francisco Bay Region*. Accessed September 14, 2018. <http://quake.abag.ca.gov/tsunamis>.

3.10.2 Hydrology and Water Quality Impacts

For the purposes of this EIR, a hydrology and water quality 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 pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- 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 impeded 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 by seiche, tsunami, or mudflow.

Impact HYD-1: The project would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade water quality. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Due to the age of the existing structures on the 100 Altair Way and Macy's sites, building materials may contain PCBs.⁹⁸ During demolition, building materials containing PCBs would impact stormwater quality if not properly abated.

DSP Amendments and Six Development Projects Mitigation Measure:

MM HYD-1.1: **100 Altair Way and Macy's:** Prior to issuance of a demolition permit the project shall comply with MRP Provision C.12.f and the City's adopted PCB screening process. Sampling of priority building materials (i.e., calk, fiberglass insulation, thermal insulation, adhesive mastics, and rubber

window gaskets) shall be collected to test for PCBs per BASMAA's Protocol for Evaluating Priority PCBs-Containing Materials before Building Demolition. If collected samples contain PCBs concentrations are equal to or greater than 50 parts per million (ppm) in one or more priority materials, abatement procedures shall be completed in accordance with federal and state regulations.

Future development under the proposed project, with the implementation of the above mitigation measure, would reduce impacts from PCBs in stormwater to less than significant by requiring sampling and abatement of the contaminated materials accordance with federal and state regulations. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments

Implementation of the proposed project would impact surface water quality during and post construction. Future development implementing the DSP amendments would require demolition, grading, and paving of the six project sites, activities that temporarily increase the amount of unconsolidated materials on the site. Construction of the below grade parking garages, new buildings, and other improvements (including utility connections) would require excavation. Grading and excavation activities could increase erosion and sedimentation, resulting in sediment, soil, and associated pollutants that could be carried by runoff into natural waterways and possibly increasing sedimentation impacts to local creeks or the San Francisco Bay.

Future development under the project would disturb approximately 15 acres. Future developments implementing the proposed DSP amendments are required to comply with the applicable NPDES permit to control the discharge of stormwater pollutants including sediments associated with construction activities to a less than significant level.

To reduce water quality impacts post-construction, future development is required to comply with the MRP and SMC Section 12.60.155 regarding LID site design. LID features for future development could include self-treating and self-retaining areas to allow on-site retention, percolation, and evaporation of stormwater runoff.

Future development under the proposed project, in compliance with existing regulations (including the NPDES and SMC), would not result in significant water quality impacts. **(Less than Significant Impact)**

Six Development Projects

Macy's and Redwood Square

The Macy's and Redwood Square project would disturb approximately seven acres of land during construction and would be required to comply with the State of California General Construction Permit, NPDES General Permit for Construction Activities, and submit a SWPPP and NOI to the SWRCB. In addition, the project would also comply with the MRP and SMC Section 12.60.155. Compliance with these regulations would result in less than significant impacts to water quality. **(Less than Significant Impact)**

Town Center Sub-block 6

The Town Center Sub-block 6 project would disturb approximately four acres of land during construction and would be required to comply with the State of California General Construction Permit, NPDES General Permit for Construction Activities, and submit a SWPP and NOI to the SWRCB. In addition, the project would also comply with the MRP and SMC Section 12.60.155. Compliance with these regulations would result in less than significant impacts to water quality. **(Less than Significant Impact)**

300 Mathilda Avenue

The 300 Mathilda Avenue project would disturb approximately two acres of land during construction and would be required to comply with the State of California General Construction Permit, NPDES General Permit for Construction Activities, and submit a SWPPP and NOI to the SWRCB. In addition, the project would also comply with the MRP and SMC Section 12.60.155. Compliance with these regulations would result in less than significant impacts to water quality. **(Less than Significant Impact)**

100 Altair Way

The 100 Altair Way project would disturb approximately 0.5 acre of land during construction. Since the project would disturb less than one acre of land, the project would not be subject to the NPDES General Permit for Construction Activities. However, the project would still be required to meet the MRP and SMC Section 12.60.155 requirements. Compliance with these regulations would result in less than significant impacts to water quality. **(Less than Significant Impact)**

Murphy Square

The Murphy Square project would disturb approximately 0.5 acre of land during construction. Since the project would disturb less than one acre of land, the project would not be subject to the NPDES General Permit for Construction Activities. However, the project would still be required to meet the MRP and SMC Section 12.60.155 requirements. Compliance with these regulations would result in less than significant impacts to water quality. **(Less than Significant Impact)**

Impact HYD-2: The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

The percolation of surface water recharges groundwater aquifers. As discussed under Impact HYD-3, implementation of the project could result in a decrease in pervious surfaces compared to existing conditions. A decrease in pervious surfaces would result in a decrease in the percolation of surface water. Valley Water manages groundwater supply by using local and imported surface water to replenish groundwater through district recharge facilities, including recharge ponds and creeks. The project sites do not contain groundwater recharge ponds or creeks, nor would the implementation of the project result in impacts to groundwater recharge ponds or creeks. For these reasons, the implementation of the project would not substantially interfere with groundwater recharge.

The implementation of the project would not require pumping of groundwater underneath the project sites. Development of the proposed below grade parking garages would require excavations of between 24 and 43 feet below the ground surface. Given the depth to groundwater of 25 to 35 feet below grade, groundwater may be encountered in deeper excavations during construction and a dewatering system would likely be required. Dewatering would be required to follow all NPDES and LID site design identified above. Refer to Section 3.18 Utilities and Service Systems for a discussion of the project's impact on water supply, which includes groundwater.

Based on the above discussion, implementation of the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. **(Less than Significant Impact)**

Impact HYD-3: The project would not substantially alter the existing drainage pattern of the site or area which would result in substantial erosion, siltation, or flooding on or off-site; or 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. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments

There are no waterways present on the six project sites; therefore, future development on the six sites implementing the DSP amendments would not alter the course of a stream or river. Currently, approximately 13 acres (or 89 percent) of the six project sites are impervious. It is possible that future development implementing the DSP amendments could result in an increase in impervious surfaces compared to existing conditions. An increase in impervious surfaces would result in a corresponding increase in surface runoff from the six project sites. If there is not sufficient capacity in the storm drain system to accommodate stormwater runoff from the site, off-site flooding could occur.

Conformance with applicable regulations, including the statewide Construction General Permit, MRP (including Provisions C.3), and SMC requirements for controlling pollutants, would reduce water quality impacts to less than significant levels (refer to Section 3.10.1.1 for a description of the requirements and refer to the discussion under Impact HYD-1).

DSP Amendments Mitigation Measure:

MM HYD-3.1: All Project Sites (except 300 West Washington Avenue): If future development implementing the proposed DSP amendments would result in an increase in impervious surfaces compared to existing conditions, the developer(s) shall complete additional analysis to determine if the existing and planned storm drain system has sufficient capacity to accommodate development runoff flows. Future development shall be responsible for completing improvements to the storm drain system to ensure there is sufficient storm drains system capacity to serve the proposed development and not result in off-site flooding, or the development shall provide adequate facilities on-site to offset peak flows from the development, thereby removing any capacity issues.

Future development implementing the proposed DSP amendments, in conformance with applicable regulations and with the implementation of mitigation measure MM HYD-3.1, would not result in substantial erosion, siltation, or flooding or significant water quality impacts. Also, the anticipated improvements to the storm drain system (if needed) would occur within the existing right-of-way and would not result in significant impacts, and any facilities to offset peak flows would occur on-site and would not result in significant impacts. **(Less than Significant Impact with Mitigation Incorporated)**

Six Development Projects

There are no waterways present on the six project sites; therefore, development of the six development projects would not alter the course of a stream or river. Implementation of the projects would result in a net increase of 0.36 acres of impervious surfaces compared to existing conditions (see Table 3.10-2). As a result, surface runoff from the six development projects would increase compared to existing conditions.

Table 3.10-2: Existing and Proposed Impervious and Pervious Area of the Six Project Sites				
Six Project Sites	Existing		Proposed	
	Impervious	Pervious	Impervious	Pervious
	(acres)			
100 Altair Way	0.54	0.00	0.54	0.00
300 Mathilda Avenue	1.07	0.76	1.53	0.30
300 West Washington Avenue	0.64	0.00	0.64	0.00
Macy's & Redwood Square	6.90	0.45	6.81	0.54
Town Center Sub-block 6	3.61	0.27	3.49	0.39
Murphy Square	0.34	0.11	0.45	0.00
<i>TOTAL</i>	<i>13.10</i>	<i>1.59</i>	<i>13.46</i>	<i>1.23</i>
<i>Percentage</i>	<i>89</i>	<i>11</i>	<i>92</i>	<i>8</i>

Based on review of the existing storm drain system and planned improvements identified in the City's 2015 WWMP, the existing and planned storm drain system capacity is sufficient to accommodate runoff flows from existing and planned development and the six development projects.⁹⁹ The planned improvements identified in the WWMP include Line C, which is a new 42-inch diameter storm drain line approximately 800 feet in length from Evelyn Avenue across the tracks to North Francis Street. With Line C, there would be adequate storm drain system capacity for the six development projects. Line C is identified as a high priority improvement in the WWMP¹⁰⁰ and is an identified CIP in the City's Capital Improvement Program.¹⁰¹

Conformance with applicable regulations, including the statewide Construction General Permit, MRP (including Provisions C.3), and City requirements for controlling pollutants would reduce water quality impacts to less than significant levels (refer to Section 3.10.1.1 for a description of the requirements and refer to the discussion under Impact HYD-1).

Based on the above discussion, the six development projects would not result in would not result in substantial erosion, siltation, or flooding on- or off-site; exceed the capacity of the existing and planned storm drain system; or provide substantial additional sources of polluted runoff. **(Less than Significant Impact)**

⁹⁹ BKF Engineers. *Cityline Sunnyvale*. August 30, 2019.

¹⁰⁰ Infrastructure Engineering Corporation and Balance Hydrologics, Inc. *Wastewater Collection System Master Plan*. December 2015. Table 5-5 Recommended Improvements to Storm Drain Conduit, Page 68.

¹⁰¹ The CIPs are subject to separate environmental review. At the time the design and construction details of the CIPs are known, the City shall complete environmental review. Based on previous analyses for utility improvements located within existing rights-of-way in developed South Bay locations, the primary environmental effects are associated with construction. Mitigation measures for construction-related impacts (such as the ones identified in Sections 3.3 Air Quality, 3.4 Biological Resources, 3.5 Cultural Resources, 3.10 Hydrology and Water Quality, 3.13 Noise and Vibration in this EIR), are available to reduce construction-related impacts to a less than significant level. Storm drain system improvements, therefore, would not result in significant and unavoidable impacts.

Impact HYD-4: The project would not place housing within a 100-year flood hazard area; impede or redirect flood flows; expose people or structures to significant risk involving flooding; or be inundated by seiche, tsunami, or mudflow. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

As discussed previously, the six project sites are not located within a 100-year flood hazard area. Implementation of the project, therefore, would not place housing within a 100-year flood hazard area. Development in the six project sites would not expose people or structures to flooding risks. The six project sites are inland from San Francisco Bay, and are not subject to sea-level rise, seiche, tsunami, or other coastal hazards. The six project sites are located in the dam inundation area for Stevens Creek Dam; however, as discussed in Section 3.10.1.1 Regulatory Framework, Valley Water operates a comprehensive dam safety program to ensure public safety through routine monitoring and studying of its dams. For this reason, the project would not be subject to significant risk from flooding due to failure of a dam. The proposed project, therefore, would not result in flooding or other inundation impacts. **(Less than Significant Impact)**

Impact HYD-C: The project would not have a cumulatively considerable contribution to a significant cumulative hydrology and water quality impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Water Quality, Groundwater, and Drainage Impacts

The geographic area for cumulative hydrology and water quality impacts includes the six project sites and the surrounding area. Buildout of the cumulative projects would involve redevelopment of existing or previously developed sites that contain substantial impervious surfaces, and these projects would be required to conform to applicable General Plan goals, policies, and strategies regarding stormwater runoff, infrastructure, and flooding. Cumulative projects would also be required to comply with applicable requirements in the statewide Construction General Permit, MRP (including Provisions C.3 and C.12.f), City requirements and mitigation, and NPDES permits standards to avoid hydrology and water quality impacts or reduce them to a less than significant level.

Future development implementing the proposed DSP amendments, in conformance with applicable regulations and with the implementation of mitigation measures MM HYD-1.1 and MM HYD-3.1, and with the City's implementation of planned CIPs (including Line C), would not have a cumulatively considerable contribution to significant cumulative water quality, groundwater, or drainage impacts. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

Flooding and Inundation Impacts

As discussed under Impact HYD-3 and Impact HYD-4, the six project sites are not subject to significant flood or inundation hazards. While the project sites are located within the inundation area for Stevens Creek Dam, Valley Water operates a comprehensive dam safety program to ensure public safety through routine monitoring and studying of its dams. The project, therefore, would not have a cumulatively considerable contribution to significant cumulative flooding and inundation impacts.

(No Cumulative Impact)

3.11 LAND USE AND PLANNING

3.11.1 Environmental Setting

3.11.1.1 *Regulatory Framework*

Regional and Local

Comprehensive Land Use Plan for Moffett Federal Airfield

The six project sites are approximately two miles southwest of the Moffett Federal Airfield; which is the closest airport to the sites. The Moffett Federal Airfield CLUP is intended to safeguard the general welfare of the inhabitants within the vicinity of the airport, as well as aircraft occupants.¹⁰² The CLUP is also intended to ensure that surrounding new land uses do not affect the airport's continued operation.

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The six project sites are within the DSP area, which has a General Plan land use designation of Transit Mixed-Use (TMU). The TMU designation allows for a mix of residential uses at various densities, high-intensity commercial uses, regional commercial uses, and office uses located near rail stops or other mass transit. The following policies are specific to land use and planning and are applicable to the proposed project.

Policy	Description
Land Use and Transportation Element	
LT-1.2	Minimize regional sprawl by endorsing strategically placed development density in Sunnyvale and by utilizing a regional approach to providing and preserving open space for the broader community.
LT-4.2	Encourage nodes of interest and activity, public open spaces, well-planned development, mixed-use projects, signature commercial uses, and buildings and other desirable uses, locations, and physical attractions.
LT-4.3	Enforce design review guidelines and zoning standards that ensure the mass and scale of new structures are compatible with adjacent structures, and also recognize the City's vision of the future for transition areas such as neighborhood Village Centers and El Camino Real nodes.
LT-12.5	Encourage land uses that generate revenue while preserving a balance with other community needs, such as housing.
Housing Element	
D.3	Require new development to build to at least 75 percent of the maximum zoning density, unless an exception is granted by the City Council.

¹⁰² Santa Clara County Airport Land Use Commission. *Moffett Federal Airfield – Comprehensive Land Use Plan*. Amended November 2016.

Policy	Description
F.7	Continue to permit and encourage a mix of residential and job-producing land uses, as long as there is neighborhood compatibility and no unavoidable environmental impacts.

Sunnyvale Municipal Code

The Zoning Code, Title 19, defines the various zoning districts and allowable land uses within the City and provides development standards (i.e., building height limits, building density, sign regulations, etc.) to enhance the visual appeal of new development. The six project sites are within the DSP area, which is zoned Downtown Specific Plan and is subject to the development standards in SMC Chapter 19.28 and the DSP.

Downtown Specific Plan

The DSP contains specific land use and design standards for new development in downtown Sunnyvale that envisions more intense development in the Commercial Core. Under the adopted DSP, the six project sites are allowed to be developed with a variety of residential units, commercial (including hotel) uses, and office uses.

3.11.1.2 *Existing Conditions*

The DSP area includes a mix of land uses including residential, commercial, office, and civic uses. The six project sites are within the DSP area and a description of the existing land uses on and surrounding the sites are provided below.

- **100 Altair Way:** The 100 Altair Way site is currently developed with a commercial building (occupied by the United States Post Office) and a residential mixed use building with ground floor commercial uses. The site is bound by a two-lane roadway (Altair Way) and civic space to the north; a two-lane roadway (Taaffe Street) and a mixed-use residential building with ground floor commercial uses to the east; a residential development to the south; and a two-lane roadway (Aries Way) and office uses to the west.
- **300 Mathilda Avenue:** The 300 Mathilda Avenue site is currently undeveloped and is being used for construction staging. The site is bound by a two-lane roadway (West McKinley Avenue) and office building to the north; an under construction mixed mix residential building with ground floor commercial uses and parking garage to the east; a two-lane roadway (West Iowa Avenue) and commercial building to the south; and a seven-lane roadway (South Mathilda Avenue) and commercial buildings to the west.
- **300 West Washington Avenue:** The 300 West Washington Avenue site is currently under construction to develop a residential mixed-use building with ground floor commercial uses. The site is bound by a two-lane roadway (West Washington Avenue) and a mixed-use residential building with ground floor commercial uses to the north; a two-lane roadway (South Taaffe Street) and commercial building (Macy's) to the east; a parking garage to the south; and an office building to the west.
- **Macy's and Redwood Square:** The Macy's and Redwood Square site is currently developed with a commercial building (Macy's), two small surface parking lots, and a landscaped area (Redwood Square). The site is bound by a two-lane roadway (West Washington Avenue), a mixed-use residential building with ground floor commercial uses, and commercial buildings

to the north; a two-lane roadway (Murphy Avenue) the Town Center Sub-block 6 project site to the east; a two-lane roadway (West McKinley Avenue) and commercial building (Target) to the south; and a two-lane roadway (South Taaffe Street), a parking garage, and a mixed-use residential building with ground floor commercial uses to the west.

- **Town Center Sub-block 6:** The Town Center Sub-block 6 site is currently developed with a large surface parking lot and turf-based landscaping. The site is bound by a two-lane roadway (West Washington Avenue) and commercial buildings to the north; a two-lane roadway (South Sunnyvale Avenue) and commercial buildings to the east; a two-lane roadway (West McKinley Avenue) and an under construction commercial building to the south; and a two-lane roadway (Murphy Avenue) and the Macy's and Redwood Square project site to the west.
- **Murphy Square:** The Murphy Square site is currently developed with a surface parking lot serving the adjacent mixed-use building. The site is bound by Caltrain tracks to the north; a two-lane roadway (South Sunnyvale Avenue) and residential buildings to the east; a two-lane roadway (West Evelyn Avenue) and commercial buildings to the south; and a mixed-use building to the west.

3.11.2 Land Use and Planning Impacts

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

- 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; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Impact LU-1:	The project would not physically divide an established community. (Less than Significant Impact)
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DSP Amendments and Six Development Projects

A physical division of an established community typically refers to the construction of a physical feature (such as a wall, roadway, or railroad tracks) or the removal of a means of access (such as a local roadway or bridge) that would impair mobility within an existing community or between communities. Implementation of the project would result in the redevelopment of the six project sites with residential, commercial, and office uses. The project does not include construction of physical features that would impair mobility or propose the closure of an existing street.

Implementation of the project would include right-of-way and pedestrian and bicycle improvements that would promote mobility in the DSP area. The Macy's and Redwood Square development project includes extending South Frances Street south through the northern portion of the site toward the location of the proposed Redwood Square. The project, therefore, would improve mobility in the

DSP area. For these reasons, the proposed project would not divide an existing community. **(Less than Significant Impact)**

Impact LU-2: The project would not conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

General Plan

The six project sites are all designated TMU in the General Plan. The project proposes residential, commercial, and office uses. These proposed land uses are allowed in the TMU designation. The TMU designation allows for residential densities of 65 dwelling units per acre (du/ac) or greater and buildings up to eight stories in height. Implementation of the project would result in residential densities of 100 to 137 du/ac and buildings between four and 10 stories in height. The development projects, therefore, would be consistent with the TMU designation. As shown in Table 3.11-1, the project is consistent with applicable General Plan policies adopted for the purposes of avoiding or mitigating environmental effects. **(Less than Significant Impact)**

Table 3.11-1: Summary of Project Consistency with Applicable General Plan Policies	
General Plan Policy	Project
Policy LT-1.2: Minimize regional sprawl by endorsing strategically placed development density in Sunnyvale and by utilizing a regional approach to providing and preserving open space for the broader community.	Consistent: The proposed project would develop dense mixed-use development in the City's downtown and would not result in the loss of open space.
Policy LT-4.2: Encourage nodes of interest and activity, public open spaces, well-planned development, mixed-use projects, signature commercial uses, and buildings and other desirable uses, locations, and physical attractions.	Consistent: The proposed project would result in the development of a mix of uses, including an outdoor plaza on the Macy's and Redwood Square site in the City's downtown area.
Policy LT-4.3: Enforce design review guidelines and zoning standards that ensure the mass and scale of new structures are compatible with adjacent structures, and also recognize the City's vision of the future for transition areas such as neighborhood Village Centers and El Camino Real nodes.	Consistent: The project includes amendments to the DSP to ensure design and zoning standard consistency.
Policy LT-12.5: Encourage land uses that generate revenue while preserving a balance with other community needs, such as housing.	Consistent: The proposed project includes residential, commercial, and office uses that would generate revenue (sales tax, property tax).

Table 3.11-1: Summary of Project Consistency with Applicable General Plan Policies	
General Plan Policy	Project
Policy D.3: Require new development to build to at least 75 percent of the maximum zoning density, unless an exception is granted by the City Council.	Consistent: The proposed development projects would be built to at least 75 percent of the maximum zoning capacity.
Policy F.7: Continue to permit and encourage a mix of residential and job-producing land uses, as long as there is neighborhood compatibility and no unavoidable environmental impacts.	Consistent: The proposed development projects would include a mix of residential and job producing land uses consistent with the characteristics of the DSP area.

Downtown Specific Plan

The DSP has allocated land uses and development intensities for each block within the DSP area. Table 2.3-1 lists what is currently allowed by the DSP on each of the project sites and the proposed amendments to allow for the development projects. The adopted DSP does not include policies to mitigate or avoid environmental effects. With the proposed amendments, the project would be consistent with the DSP. **(Less than Significant Impact)**

Impact LU-3: The project would not conflict with applicable habitat conservation plan or natural community conservation plan. **(No Impact)**

DSP Amendments and Six Development Projects

As discussed in Section 3.4.2.6, the six project sites are not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The proposed project, therefore, would not conflict with a habitat conservation plan or natural community conservation plan. **(No Impact)**

Impact LU-C: The project would not have a cumulatively considerable contribution to a significant cumulative land use impact. **(Less than Significant Cumulative Impact)**

DSP Amendments and Six Development Projects

The cumulative impact of the development projects on applicable land use plans is evaluated in conjunction with all past, present, and pending land uses in the City. All development (including the proposed project) in the City of Sunnyvale is subject to conformance with applicable land use plans for the purposes of avoiding or mitigating environmental effects.

As discussed in Impacts LU-1 and LU-2, the project would not divide an established community and is consistent with the General Plan land use designation for the site and applicable General Plan and DSP policies. For these reasons, the project would not contribute to a significant cumulative conflict with applicable land use plans. **(Less than Significant Cumulative Impact)**

3.12 MINERAL RESOURCES

3.12.1 Environmental Setting

3.12.1.1 *Regulatory Framework*

State

The Surface Mining and Reclamation Act (SMARA) was enacted by the California Legislature in 1975 to address the need for a continuing supply of mineral resources, and to prevent or minimize the negative impacts of surface mining to public health, property and the environment. SMARA mandated the initiation by the State Geologist of mineral land classification in order to help identify and protect mineral resources in areas within the state subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board, after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance.

3.12.1.2 *Existing Conditions*

The Santa Clara Valley was formed when sediments derived from the Santa Cruz Mountains and the Mt. Hamilton-Diablo Range were exposed by continued tectonic uplift and regression of the inland sea that had previously inundated the project area. As a result of this process, the topography of the project area is relatively flat and there are no mapped mineral resources.¹⁰³

3.12.2 Mineral Resources Impacts

3.12.2.1 *Thresholds of Significance*

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

- Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state; or
- Result in the loss of availability of locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Impact MIN-1: The project would not result in the loss of availability of a known mineral resource or locally-important mineral resource recovery site. **(No Impact)**

DSP Amendments and Six Development Projects

The six project sites are not identified as a natural resource area containing mineral resources in the City's General Plan, nor are there any known mineral resources on the sites. The proposed project, therefore, would not result in impacts to mineral resources. **(No Impact)**

¹⁰³ Stanley, R. G., R. C. Jachens, P. G. Lillis, R. J. McLaughlin, K. A. Kvenvolden, F. D. Hostettler, K. A. McDougall, and L. B. Magoon. 2002. *Subsurface and petroleum geology of the southwestern Santa Clara Valley ("Silicon Valley"), California*. (Professional Paper 1663) Washington, DC: U. S. Government Printing Office.

Impact MIN-C: The project would not contribute to a significant cumulative mineral resources impact. **(No Cumulative Impact)**

DSP Amendments and Six Development Projects

As discussed above, the six project sites are not designated as a mineral resource recovery site in the City's General Plan, nor do the sites contain any known mineral resource. The proposed project, therefore, would not contribute to a significant cumulative impact on mineral resources. **(No Cumulative Impact)**

3.13 NOISE AND VIBRATION

The discussion in this section is based on a Noise and Vibration Assessment and memo prepared by Illingworth & Rodkin, Inc. dated June 3, 2019 and April 22, 2019, respectively. Copies of these reports can be found in Appendix H of this EIR.

3.13.1 Environmental Setting

3.13.1.1 *Background Information*

Noise

Several factors influence sound as it is perceived by the human ear, including the actual level of sound, the period of exposure to the sound, the frequencies involved, and the fluctuation in the noise level during exposure. Noise is measured on a “decibel” scale which serves as an index of loudness. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Because the human ear cannot hear all pitches or frequencies, sound levels are frequently adjusted or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or (dBA).

Since excessive noise levels can adversely affect human activities and human health, federal, state, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. Noise guidelines are almost always expressed using one of several noise averaging methods, such as L_{eq} , DNL, or CNEL.¹⁰⁴ Using one of these descriptors is a way for a location’s overall noise exposure to be measured, given that there are specific moments when noise levels are higher (e.g., when a jet is taking off from an airport or when a leaf blower is operating) and specific moments when noise levels are lower (e.g., during lulls in traffic flows on freeways or in the middle of the night). The maximum A-weighted noise level during a measurement period is expressed in (L_{max}).

Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Vibration amplitude can be quantified using Peak Particle Velocity (PPV), which is defined as the maximum instantaneous positive or negative peak of the vibration wave. Because of the impulsive nature of construction activities, the use of the PPV descriptor has been routinely used to measure and assess ground-borne vibration. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 inches per second (in/sec) PPV.

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 ground-borne vibration levels. The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life,

¹⁰⁴ Equivalent Noise Level (L_{eq}) is a measurement of average energy level intensity of noise over a given period of time. Day-Night Level (DNL) is a 24-hour average of noise levels, with a 10 dB penalty applied to noise occurring between 10:00 PM and 7:00 AM. Community Noise Equivalent Level (CNEL) includes an additional five dB applied to noise occurring between 7:00 PM and 10:00 PM. As a general rule of thumb where traffic noise predominates, the CNEL and DNL are typically within two dBA of the peak-hour L_{eq} .

are evaluated against different vibration limits. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as paint flaking or minimal extension of cracks in building surfaces; minor, including limited surface cracking; or major, that may threaten the structural integrity of the building.

Railroad and light-rail operations are also potential sources of substantial ground vibration depending on distance, the type and the speed of trains, and the type of railroad track. People's response to ground vibration from rail vehicles has been correlated best with the average, root mean square (RMS) velocity of the ground. The velocity of the ground is expressed on the decibel scale.¹⁰⁵ The abbreviation "VdB" is used in this document for vibration decibels to reduce the potential for confusion with sound decibels. Typical background vibration levels in residential areas are usually 50 VdB or lower, well below the threshold of perception for most humans. Perceptible vibration levels inside residences are attributed to the operation of heating and air conditioning systems, door slams and foot traffic. Construction activities, train operations, and street traffic are some of the most common external sources of vibration that can be perceptible inside residences.

Additional details about fundamentals of noise and vibration are described in Appendix H.

3.13.1.2 *Regulatory Framework*

Federal

Federal Transit Administration Vibration Limits

The United States Department of Transportation's Federal Transit Administration (FTA) has developed vibration impact assessment criteria for evaluating vibration impacts associated with transit projects. The FTA has proposed vibration impact criteria based on maximum overall levels for a single event. The effect criteria for groundborne vibration are shown in Table 3.13-1, below. There are criteria for frequent events (more than 70 events of the same source per day), occasional events (30 to 70 vibration events of the same source per day), and infrequent events (less than 30 vibration events of the same source per day). Vibration limits are relevant for projects proposed near rail lines.

¹⁰⁵ The reference velocity is 1×10^{-6} in/sec RMS, which equals 0 VdB, and 1 in/sec equals 120 VdB.

Table 3.13-1: Groundborne Vibration Effect Criteria			
Land Use Category	Groundborne Vibration Effect Levels (VdB re 1 μinch/sec, RMS)		
	Frequent Events¹	Occasional Events²	Infrequent Events³
Category 1: Buildings where vibration would interfere with interior operations	65	65	65
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime use	75	78	83
Notes: VdB re 1 μ inch/sec, RMS = Root-mean-square vibration velocity in vibration decibel relative to 1 micro-inch per second ¹ . Frequent Events - More than 70 vibration events from the same source per day, most rapid transit projects fall into this category ² . Occasional Events - Between 30 and 70 vibration events from the same source per day, most commuter trunk lines have this many operations ³ . Infrequent Events – Fewer than 30 vibration events of the same kind per day, includes most commuter rail branch lines.			

State

California Building Standards Code

The CBC (Title 24, Part 2) establishes uniform minimum noise insulation performance standards to protect persons within new buildings housing people, including hotels, motels, dormitories, apartments, and dwellings other than single-family residences. Title 24 mandates that interior noise levels attributable to exterior sources not exceed 45 DNL/CNEL in any habitable room. Exterior windows must have a minimum Sound Transmission Class (STC) of 40 or Outdoor-Indoor Transmission Class (OITC) of 30 when the property falls within the 65 dBA DNL noise contour for a freeway or expressway, railroad, or industrial or stationary source.

California Green Building Standards Code

For commercial uses, CALGreen (Section 5.507.4.1 and 5.507.4.2) requires that wall and roof-ceiling assemblies exposed to adjacent roadways have a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 when the commercial property falls within the 65 dBA DNL or greater noise contour for a freeway or expressway, railroad, or industrial or stationary noise source. The state requires interior noise levels to be maintained at 50 dBA hourly equivalent noise level ($L_{eq(1-hr)}$) or less during hours of operation at a proposed commercial use.

Regional and Local

Comprehensive Land Use Plan for Moffett Federal Airfield

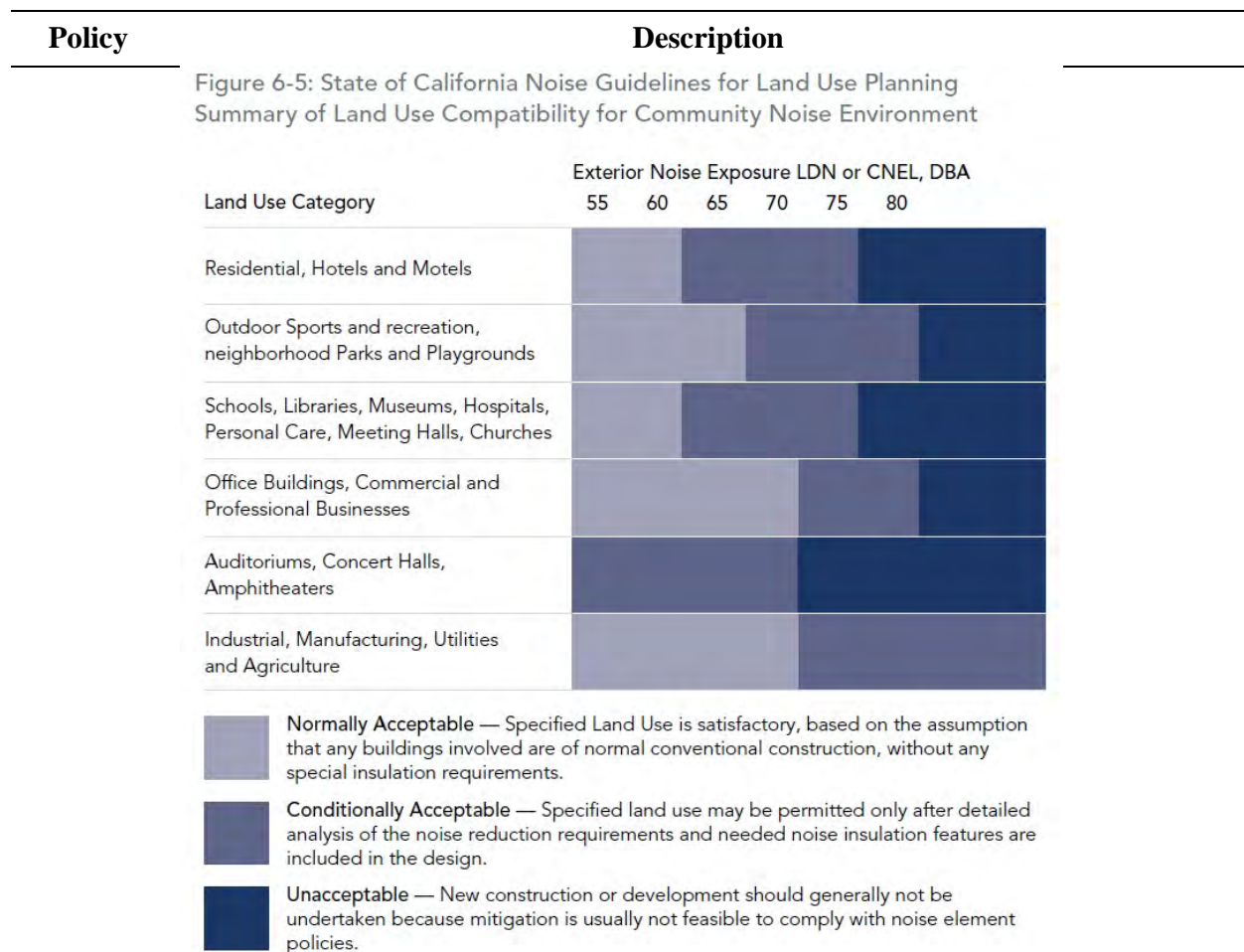
The six project sites are approximately two miles southwest of the Moffett Federal Airfield; which is the closest airport to the site. As described in Section 3.9 Hazards and Hazardous Materials, the Moffett Federal Airfield CLUP is intended to safeguard the general welfare of the inhabitants within the vicinity of the airport, as well as aircraft occupants.¹⁰⁶ The CLUP is also intended to ensure that surrounding new land uses do not affect airport operations. The CLUP establishes 65 dBA CNEL as the maximum allowable exterior noise level considered compatible with residential uses and 45 dBA CNEL as the maximum allowable interior for residences.

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to noise and vibration and are applicable to the proposed project.

Policy	Description
Safety and Noise Element	
SN-8.1	Enforce and supplement state laws regarding interior noise levels of residential units.
SN-8.4	Prevent significant noise impacts from new development by applying state noise guidelines and Sunnyvale Municipal Code noise regulations in the evaluation of land use issues and proposals.
SN-8.5	Comply with "State of California Noise Guidelines for Land Use Planning" (Figure 6-5 below) for the compatibility of land uses with their noise environments, except where the City determines that there are prevailing circumstances of a unique or special nature.

¹⁰⁶ Santa Clara County Airport Land Use Commission. *Moffett Federal Airfield – Comprehensive Land Use Plan*. Amended November 2016.



SN-8.6 Use Figure 6-6 below, “Significant Noise Impacts from new Development on Existing Land Use” to determine if proposed development results in a “significant noise impact” on existing development.

Figure 6-6: Significant Noise Impacts from New Development on Existing Land Use

Ldn Category of Existing Development Per Figure 6-4	Noise Increase Considered “Significant” over Existing Noise Levels
Normally Acceptable	An increase of more than 3 dBA and the total Ldn exceeds the “normally acceptable” category
Normally Acceptable	An increase of more than 5 dBA
Conditionally Acceptable	An increase of more than 3 dBA
Unacceptable	An increase of more than 3 dBA

SN-8.7 Supplement Figure 6-5, “State of California Noise Guidelines for Land Use Planning” for residential uses by attempting to achieve an outdoor DNL of no greater than 60 dBA for common recreational areas, backyards, patios and medium and large-size balconies. These guidelines should not apply where the noise source is railroad or an airport. If the noise source is a railroad, then an DNL of no greater than 70 dBA

Policy	Description
	should be achieved in common areas, backyards, patios and medium and large balconies. If the noise source is from aircraft, then preventing new residential uses within areas of high DNL from aircraft noise is recommended.
SN-8.8	Avoid construction of new residential uses where the outdoor DNL is greater than 70 dBA as a result from train noise
SN-9.3	Apply conditions to discretionary land use permits which limit hours of operation, hours of delivery and other factors which affect noise.

Sunnyvale Municipal Code

Chapter 19.42 of the SMC presents operational noise standards enforced on residential zoned property. Operational noise cannot exceed 75 dBA at any point on the property line of the premises upon which the noise or sound is generated or produced; provided, however, that the noise or sound level is not to exceed 50 dBA during nighttime or 60 dBA during daytime hours at any point on adjacent residentially zoned property. If the noise occurs during nighttime hours and the enforcing officer has determined that the noise involves a steady, audible tone such as a whine, screech, or hum, or is a staccato or intermittent noise (e.g., hammering), or includes music or speech, the allowable noise or sound level cannot exceed 45 dBA.

Specifically, Section 19.42.030, powered equipment used on a temporary, occasional or infrequent basis which produces a noise greater than the applicable operational noise limit shall be used only during daytime hours when used adjacent to a property with a residential zoning district. Powered equipment used on other than a temporary, occasional or infrequent basis shall comply with the operational noise requirements. This provision does not include the use of leaf blowers or construction activity.

Chapter 16.08 of the SMC limits construction activity to between 7:00 AM and 6:00 PM daily Monday through Friday. Construction operations on Saturday are limited to between 8:00 AM and 5:00 PM. No construction activities are allowed on Sunday or federal holidays when the city offices are closed. Exceptions to these hours may granted by the Chief Building Official when it is determined emergency construction activity is required or construction activity will not be a nuisance to surrounding properties.

While the SMC does not define the acoustical time descriptor such as L_{eq} or L_{max} that is associated with the above limits, a reasonable interpretation of the SMC would identify the ambient base noise level criteria as L_{eq} . Additional SMC sections pertaining to noise from landscape maintenance activities and nighttime deliveries are described in Appendix H.

3.13.1.3 *Existing Conditions*

As described in Section 3.9 Hazards and Hazardous Materials, the six project sites are located outside the airfield Airport Influence Area and outside the airfield's 65 dBA CNEL 2022 Aircraft Noise Contour. The six project sites, therefore, are not subject to excessive noise from airfield operations.

Noise

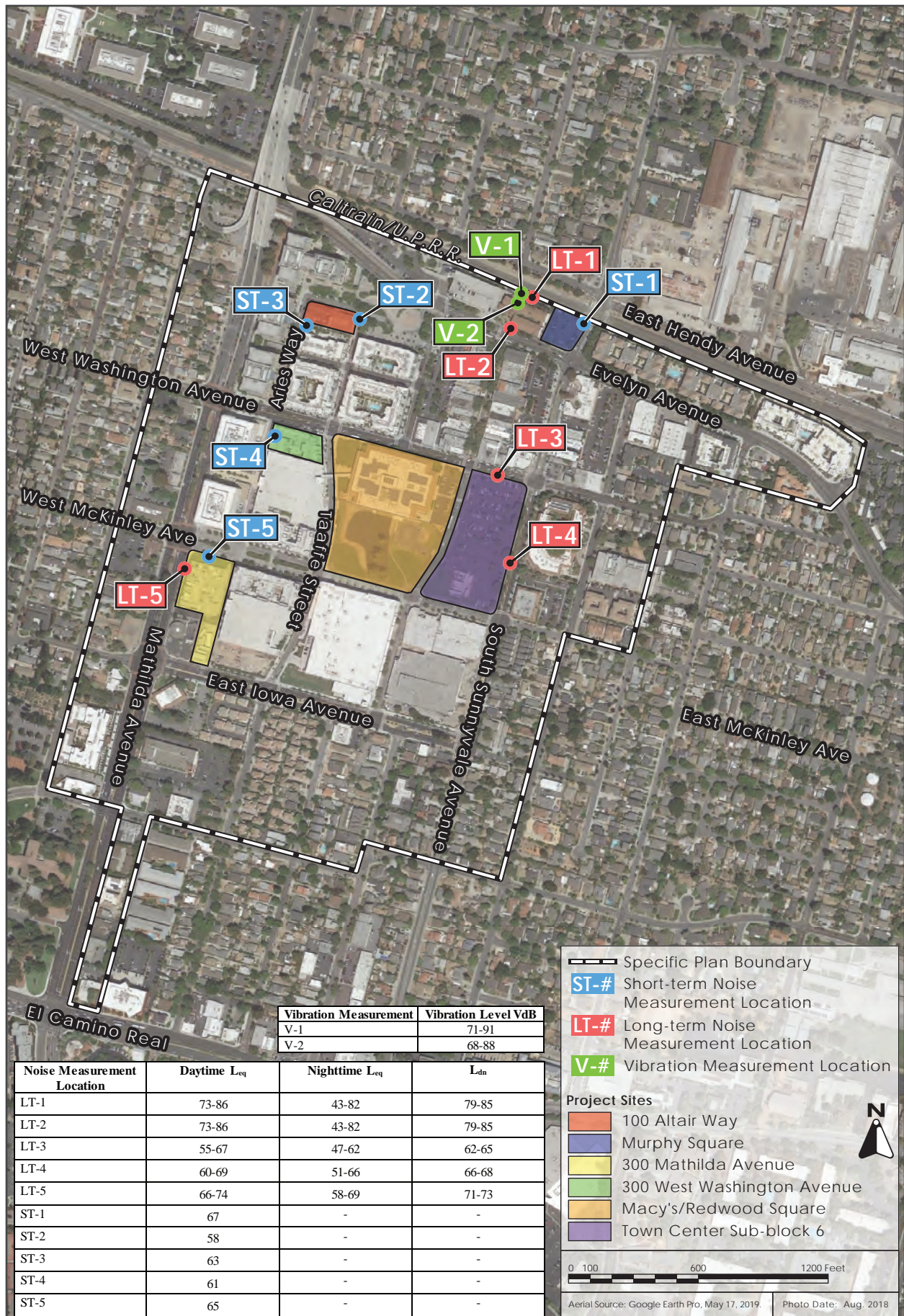
A noise monitoring survey was conducted to document existing noise conditions within and around the six project sites. The noise monitoring survey included five long-term noise measurements (LT-1 through LT-5), and five short-term noise measurements (ST-1 through ST-5).¹⁰⁷ Noise measurement locations are shown on Figure 3.13-1. The results of the noise measurements are summarized below and are shown in the table on Figure 3.13-1.

Long-Term

- LT-1 was made north of the Murphy Square Building, approximately 25 feet south of the center of the railroad/Caltrain tracks. The primary noise source at this location was frequent train passbys. Based on the Caltrain schedule, approximately 92 trains pass by the site each day between the hours of 4:00 AM and 1:30 AM. Hourly average noise levels ranged from 73 to 86 dBA L_{eq} during daytime hours, and from 43 to 82 dBA L_{eq} at night. The day-night average noise levels ranged from 79 to 85 dBA DNL, depending on the frequency of nighttime train events.
- LT-2 was made 30 feet from the centerline of West Evelyn Avenue. The primary noise source at this location was the traffic on West Evelyn Avenue. Typical hourly average noise levels at this location ranged from 60 to 70 dBA L_{eq} during the day and from 51 to 71 dBA L_{eq} at night.¹⁰⁸ The day-night average noise levels ranged from 67 to 71 dBA DNL.
- LT-3 was made 25 feet from the centerline of West Washington Avenue. The primary noise source at this location was the traffic on West Washington Avenue. Typical hourly average noise levels at this location ranged from 55 to 67 dBA L_{eq} during the day and from 47 to 62 dBA L_{eq} at night. The day-night average noise levels ranged from 62 to 65 dBA DNL.
- LT-4 was made 30 feet from the centerline of South Sunnyvale Avenue. The primary noise source at this location was the traffic on South Sunnyvale Avenue. Typical hourly average noise levels at this location ranged from 60 to 69 dBA L_{eq} during the day and from 51 to 66 dBA L_{eq} at night. The day-night average noise levels ranged from 66 to 68 dBA DNL.
- LT-5 was made 60 feet from the centerline of Mathilda Avenue, south of West McKinley Avenue. The primary noise source at this location was the vehicular traffic on Mathilda Avenue. Hourly average noise levels at this location ranged from 66 to 74 dBA L_{eq} during the day and from 58 to 69 dBA L_{eq} at night. The day-night average noise levels ranged from 71 to 73 dBA DNL.

¹⁰⁷ Short-term noise measurements were made during the day for 10 minutes. During each measurement, observations were made noting predominant noise sources and associated noise levels.

¹⁰⁸ The nighttime average hourly noise level at this location was slightly louder than the daytime average hourly noise level due to a loud noise source that occurred at 11 PM during the measurement.



NOISE MEASUREMENT LOCATIONS

FIGURE 3.13-1

Short-Term

- ST-1 was made 55 feet from the center of South Sunnyvale Avenue. The primary noise source at this location was traffic on South Sunnyvale Avenue as no train passed by during the 10-minute measurement period. The average noise level at this location was 67 L_{eq}.
- ST-2 was made 25 feet from center of Altair Way. The primary noise source at this location was distant traffic and trains. The 10-minute average noise level at this location was 58 L_{eq}.
- ST-3 was made at 160 Aries Way. The primary noise source at this location was distant traffic and train horn. The 10-minute average noise level at this location was 63 L_{eq}.
- ST-4 was made 100 feet south of West Washington Avenue, west of 320 West Washington Avenue. The primary noise source at this location was traffic on West Washington Avenue. The 10-minute average noise level at this location was 61 L_{eq}.
- ST-5 was made 60 feet south of West McKinley Avenue and 150 feet east of South Mathilda Avenue. The primary noise source at this location was traffic on Mathilda Avenue and West McKinley Avenue. The 10-minute average noise level at this location was 65 L_{eq}.

Vibration

The Murphy Square site is located adjacent to the railroad/Caltrain train tracks, a source of vibration. Vibration measurements of individual train passbys were conducted at setbacks of 40 feet (V-1) and 75 feet (V-2) from the center of northbound tracks and 25 feet (V-1) and 55 feet (V-2) from center of southbound tracks. The location of the vibration measurements are shown on Figure 3.13-1.

Vibration levels were measured at the ground level and were representative of the levels that would enter a building's foundation. A total of eight individual passbys, consisting of four northbound and four southbound trains were observed and recorded at each measurement setback. Train vibration levels ranged from approximately 71 to 91 VdB at V-1 and 68 to 88 VdB at V-2. Additional details about the vibration measurements are included in Appendix H.

3.13.2 Noise and Vibration Impacts

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

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

CEQA does not define what noise level increase would be considered substantial. The following criteria based on City practice, standards identified by the FTA, and standards in the CBC, CALGreen, and City General Plan and SMC were used to evaluate the significance of environmental noise resulting from the project:

- **Conflict with Established Standards:** A significant impact would be identified if project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the General Plan or SMC.
- **Groundborne Vibration from Construction:** A significant impact would be identified if the construction of the project would exceed 0.3 in/sec PPV at buildings of conventional construction or 0.25 in/sec PPV at historic buildings in the vicinity of the project.
- **Permanent Noise Increases:** A significant permanent noise increase would occur if the project resulted in an increase of three dBA DNL or greater at noise-sensitive land uses where existing or project noise levels would equal or exceed the noise level considered satisfactory for the affected land use (45 dBA DNL for residential interior land use, 60 dBA DNL for residential outdoor land use) and/or an increase of five dBA DNL or greater at noise-sensitive land uses where noise levels would continue to be below those considered satisfactory for the affected land use.
- **Temporary Noise Increases due to Construction:** Due to the temporary nature of construction activities, construction noise levels are treated differently than operational noise levels. A significant impact would be identified if the hourly average noise levels exceeds 60 dBA L_{eq} at residential land uses or 70 dBA L_{eq} at commercial land uses, and the ambient by at least five dBA L_{eq} , for a period of more than one year.
- **Exposure to Excessive Aircraft Noise:** The CLUP for Moffett Airfield establishes 65 dBA CNEL as the maximum allowable exterior noise level considered compatible with residential uses and 45 dBA CNEL as the maximum allowable interior level for residences.

Impact NOI-1: The project would not result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or local general plan or noise ordinance, or applicable standards of other agencies. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Operational Noise

Mechanical Equipment and Generators

Residential, commercial office, and retail buildings typically include various mechanical equipment such as air conditioners, exhaust fans, chillers, pumps, and air handling equipment. Generators may also be included, depending on the size of the development. The most substantial noise-generating equipment would be exhaust fans and building air conditioning units. Equipment, such as the air conditioning units, located inside or in a fully enclosed room with a roof would not be anticipated to be audible at off-site locations. Typical rooftop equipment is anticipated to generate noise levels of 50 to 60 dBA at 50 feet from the equipment, depending on the equipment selected. Shielding from equipment enclosures and surrounding structures would provide 10 to 15 dBA of reduction. Powered

equipment used on a temporary, occasional or infrequent basis, which produces noise levels greater than the applicable operational noise limit, such as an emergency generator use, would be exempt from the noise limits, provided that testing is conducted during daytime hours pursuant to SMC 19.42.030. Mechanical equipment located 150 feet or further from residential property lines or in shielded areas would likely meet the City's 50 dBA L_{eq} standard. Based on the distance to nearby receptors (i.e., within 150 feet), mechanical equipment associated with future development on the six sites could exceed the City's 50 dBA L_{eq} nighttime and/or 60 dBA L_{eq} daytime standards at adjacent residentially zoned properties.

Mechanical equipment and generators are proposed for the six development projects. The noise levels generated from these sources were estimated. Results confirm that mechanical equipment associated with future development (such as the six development projects) could exceed the City's 50 dBA L_{eq} nighttime and/or 60 dBA L_{eq} daytime standards at adjacent residentially zoned properties.¹⁰⁹

DSP Amendments and Six Development Projects Mitigation Measure:

MM NOI-1.1: **All Project Sites (except 300 West Washington Avenue):** Prior to the issuance of building permits, a qualified acoustical consultant shall prepare a report documenting the projected mechanical and emergency generator noise and identify specific noise reduction measures necessary to reduce noise to comply with the City's 50 dBA L_{eq} nighttime residential noise limit at the shared property lines. Noise reduction measures could include, but are not limited to, selection of equipment that emits low noise levels and/or installation of noise barriers such as enclosures and parapet walls to block the line of sight between the noise source and the nearest receptors. The specific equipment shall be included on the approved building permit plan set.

Future development, with the implementation of mitigation measure MM NOI-1.1, would reduce mechanical equipment noise impacts of the project to a less than significant level at surrounding receptors by selecting and designing mechanical equipment and generators to meet City standards. **(Less than Significant with Mitigation Incorporated Incorporated)**

Parking Facilities

Noise generated from underground parking lots and parking enclosed by building structures would not be audible outside the buildings. Noise sources associated with the use of the surface parking lots, however, would be audible outside, and include vehicular circulation, louder engines, car alarms, squealing tires, door slams, and human voices. The typical sound of a passing car at 15 miles per hour (mph) would be about 50 to 60 dBA L_{max} at a distance of 50 feet. The noise of an engine start is similar. Door slams typically produce noise levels lower than engine starts.

¹⁰⁹Illingworth & Rodkin, Inc. *Downtown Specific Plan Environmental Noise and Vibration Assessment*. June 3, 2019. Page 31.

The hourly average noise level resulting from all these noise-generating activities in a small parking lot would reach 40 dBA L_{eq} at a distance of 50 feet from the parking area. Within 50 feet of the project sites, there are residential zoned properties 20 feet from the 100 Altair Way site. Based on the size of the 100 Altair Way site (0.5 acres) and density of development proposed on the site, it is unlikely future development would include surface parking lots on this site. The rest of the project sites are at least 50 feet from residential zoned properties. Therefore, surface parking lots proposed by future development would not generate noise exceeding the City's 50 dBA L_{eq} nighttime standard at nearby residentially zoned properties.

Surface-level parking lots are also included in the proposed development at the 300 Mathilda Avenue site. The noise levels generated from this source was estimated. Results confirm that noise generated by parking facilities associated with future development (such as the six development projects) would not exceed the City's daytime or nighttime noise limits at surrounding residential uses.¹¹⁰
(Less than Significant Impact)

Impact NOI-2: The project would not result in the exposure of persons to or generation of excessive groundborne vibration. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Construction Vibration

Future development under the project may generate perceptible vibration in the immediate vicinity when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. Construction activities would include site demolition work, preparation work, excavation of below-grade levels, foundation work, and new building framing and finishing. Construction activities, such as the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), may generate substantial vibration in the immediate vicinity. Vibration levels would vary depending on soil conditions (e.g., rocks vs. soft soil), construction methods (e.g., pile driving vs. no pile driving), the equipment used (e.g., vibratory roller vs. small bulldozers and graders), and distance. The physical distance between the construction activities and the potentially affected building is the most important variable. Vibration levels at historical old structures within 25 feet from heavy construction and at conventionally built structures within 20 feet from heavy construction would exceed the appropriate threshold limits (refer to Appendix H for additional details on the vibration levels at different distances).

The project vicinity includes the Murphy Station Heritage Landmark District, which contains buildings that were built in the early 1890's to 1930's. The nearest building within the Murphy Station Heritage Landmark District is approximately 50 feet north of the Redwood Square site. At this distance, vibration levels would not exceed the threshold limits for historical buildings. The nearest modern/conventionally built structure is located approximately 35 feet from the 300 Mathilda Avenue site. At this distance, vibration levels would not exceed the threshold limits for buildings of conventional structure. Refer to Appendix H for additional details regarding the vibration levels of project construction. **(Less than Significant Impact)**

¹¹⁰Illingworth & Rodkin, Inc. *Downtown Specific Plan Environmental Noise and Vibration Assessment*. June 3, 2019. Page 31.

Operational Vibration

The project is not a railroad or light-rail operations project, which are sources of vibration. The project proposes residential, commercial, and office uses, which are not sources of ground vibration; therefore, the operation of the proposed land uses would not result in a significant vibration impact.

(No Impact)

Impact NOI-3: The project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
(Less than Significant Impact)

DSP Amendments and Six Development Projects

The existing noise levels in the project area are above 60 dBA DNL; therefore, a significant impact would occur if project-generated traffic increased ambient noise levels inside existing residences by three dBA or more.

Data from the traffic study (refer to Appendix H) was reviewed to calculate potential traffic noise level increases attributable to the project expected along roadways serving the sites. Traffic volumes under existing and existing plus project conditions were compared to calculate traffic noise increases from the project.

Based on this analysis, a project generated traffic noise increase of three to five dBA would be anticipated along West McKinley Avenue between South Mathilda Avenue and South Sunnyvale Avenue. While there are no existing noise sensitive uses along this roadway segment, future residences are currently under construction on both sides of West McKinley Avenue between South Taaffe Avenue and the extension of Aries Way. These residences would experience a three dBA traffic noise increase attributable to the project. Based on the results of the noise monitoring survey and cumulative plus project condition, the West McKinley Avenue facing façades of these buildings would be exposed to future exterior noise levels of 63 dBA DNL. These residences have been designed and constructed with forced-air mechanical ventilation, allowing occupants the option of keeping windows closed to control noise. As a result, interior noise levels in these residences would meet the state's interior noise limit of 45 dBA DNL. Project traffic-generated noise increases of zero to two dBA are anticipated along all other roadways in the network. These increases would not be noticeable and would be below the three dBA DNL thresholds of significance. **(Less than Significant Impact)**

Impact NOI-4: The project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. **(Significant and Unavoidable with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Construction Noise

Construction noise would generally be localized to the area surrounding each project site. Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Most demolition and construction noise falls with the range of 80 to 90 dBA at a distance of 50 feet from the source. Construction-generated noise levels drop off at a rate of about six dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain can provide an additional five to 10 dBA noise reduction at distant receptors. Refer to Appendix H for additional detail regarding typical construction equipment and noise levels. As discussed below, based on the location of nearby receptors and typical construction noise level at a distance of 50 feet, construction of future development under the project would exceed the threshold of 60 dBA L_{eq} at residences and 70 dBA L_{eq} at commercial uses, and the ambient noise environment by five dBA L_{eq} .

Consistent with the SMC, future development under the proposed DSP amendments would limit construction activity to between 7:00 AM and 6:00 PM Monday through Friday and between 8:00 AM and 5:00 PM on Saturdays.

Construction duration of future development would be similar to that of the proposed six development projects. Construction activities for each project would be carried out in stages. During each stage of construction, there would be a different mix of equipment operating, and noise levels would vary by stage and vary within stages, based on the amount of equipment in operation and the location at which the equipment is operating.

The estimated construction noise levels of the six development projects at nearby receptors are discussed below and summarized in Table 3.13-2. Refer to Appendix H for additional detail regarding construction equipment and noise levels for each development project.

Table 3.13-2: Estimated Construction Noise Levels at Nearby Receptors			
Site	Total Construction Duration	Distance to Nearest Receptor	Calculated Hourly Average L_{eq}, dBA
100 Altair Way	27 months	Loft House Apartment buildings, 45 feet south	75-84
		Loft House Apartment buildings, 60 feet southeast	72-81, up to 85 dBA L_{eq} with use of concrete or industrial saws
		150 Mathilda Place office building, 45 feet	75-84
300 Mathilda Avenue	21 months	Residences, 150 feet west	64-78
		Bank of the West building, 40 feet south	76-90
Macy's and Redwood Square	43 months	Residences, 75 feet north and west	76-86
		Restaurants, 75 feet north	
Town Center Sub-block 6	38 months	Residences, 100 feet east	74-84
		Commercial, 75 feet north	76-86
Murphy Square	20 months	Office building, 40 feet west	76-85
		Residential building, 100 feet east	68-77

100 Altair Way

Construction of the 100 Altair Way development would take approximately 27 months and include demolition, site preparation, grading and excavation, trenching, building construction, and paving. The noisiest periods of construction would include demolition and site work (site preparation, grading and excavation, trenching, and paving) and would occur over a period of about eight months. Building construction generally results in much lower noise levels, especially after the building is enclosed. Noise sensitive uses surrounding the site include the Loft House Apartment buildings, located 45 feet south and 60 feet southeast of the site, and an office building at 150 Mathilda Place, located 45 feet west of the site.

At a distance of 45 feet, exterior construction noise levels would typically be in the range of 75 to 84 dBA L_{eq} , with use of concrete or industrial saws during demolition generating noise levels of about 88 dBA L_{eq} . At 60 feet, construction noise levels would typically be in the range of 72 to 81 dBA L_{eq} , with use of concrete or industrial saws during demolition generating noise levels of about 85 dBA L_{eq} . As a result, construction noise levels are estimated to exceed the threshold of 60 dBA L_{eq} at residences and 70 dBA L_{eq} at commercial (including office) uses, and the ambient noise environment by five dBA L_{eq} for a period of more than one year.

300 Mathilda Avenue

Construction for 300 Mathilda Avenue would take approximately 21 months and include demolition, site preparation, grading and excavation, trenching, building construction, and paving. As discussed in Section 3.13.1.3, the day-night average noise levels on Mathilda Avenue ranged from 71 to 73 dBA DNL. The nearest noise sensitive uses to the 300 Mathilda Avenue site are residences located 150 feet to the west across Mathilda Avenue and the Bank of West building located 40 feet to the south. At a distance of 40 feet, construction noise levels would be in the range of 76 to 90 dBA L_{eq} . At 150 feet, construction noise levels would be in the range of 64 to 78 dBA L_{eq} . As a result, construction noise levels are estimated to exceed the threshold of 60 dBA L_{eq} at residences and 70 dBA L_{eq} at commercial uses, and the ambient noise environment by five dBA L_{eq} for a period of more than one year.

300 West Washington Avenue

This site is currently under construction and the project's conversion of interior building space into an additional unit would not affect the construction noise at nearby sensitive receptors because the construction noise would be interior to the existing building.

Macy's and Redwood Square

Construction of the Macy's and Redwood Square development would take approximately 43 months and would include demolition, site preparation, grading and excavation, trenching, building construction, and paving. The noisiest periods of construction would include demolition and grading and excavation and would occur over a period of about 10 months. Noise sensitive uses surrounding the Macy's and Redwood Square site include residential and restaurant buildings located 75 feet north and 75 feet west of the site. At a distance of 75 feet, construction noise levels would be in the range of 76 to 86 dBA L_{eq} . As a result, construction noise levels are estimated to exceed the threshold of 60 dBA L_{eq} at residences and 70 dBA L_{eq} at commercial uses, and the ambient noise environment by five dBA L_{eq} for a period of more than one year.

Town Center Sub-block 6

Construction of the Town Center Sub-block 6 development would take approximately 38 months. Noise sensitive uses surrounding the Town Center Sub-block 6 site include a residential building 100 feet to the east and commercial uses located 75 feet to the north. At a distance of 75 feet, construction noise levels would be in the range of 76 to 86 dBA L_{eq} . At 100 feet, construction noise levels would be in the range of 74 to 84 dBA L_{eq} . As a result, construction noise levels are estimated to exceed the threshold of 60 dBA L_{eq} at residences and 70 dBA L_{eq} at commercial uses, and the ambient noise environment by five dBA L_{eq} for a period of more than one year.

Murphy Square

Construction of Murphy Square development would take approximately 20 months. Noise sensitive uses surrounding the Murphy Square site include an office building located 40 feet west and a residential building located 100 feet to the east. At a distance of 40 feet, construction noise levels would be in the range of 76 to 85 dBA L_{eq} . At a distance of 100 feet, construction noise levels would be in the range of 68 to 77 dBA L_{eq} . As a result, construction noise levels are estimated to exceed the

threshold of 60 dBA L_{eq} at residences and 70 dBA L_{eq} at commercial (including office) uses, and the ambient noise environment by five dBA L_{eq} for a period of more than one year.

DSP Amendments and Six Development Projects Mitigation Measures:

MM NOI-4.1: **All Project Sites (except 300 West Washington Avenue):** Future development shall prepare a noise control plan to be submitted for review and approval by the City prior to construction. The noise control plan shall be included in the approved building permit plan sets and address, at a minimum, the following:

1. Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).
2. Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools.
3. Construct temporary noise barriers, where feasible as determined by the City, to screen stationary noise-generating equipment. Temporary noise barrier fences would provide a five dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receptor and if the barrier is constructed in a manner that eliminates any cracks or gaps.
4. Unnecessary idling of internal combustion engines shall be strictly prohibited.
5. Construction staging areas shall be established at locations that would create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible as determined by the City, from residential receptors.
6. Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
7. Where feasible as determined by the City, temporary power service from local utility companies shall be used instead of portable generators.
8. Locate cranes as far from adjoining noise-sensitive receptors as possible.
9. During final grading, substitute graders for bulldozers where feasible as determined by the City. Wheeled heavy equipment are quieter than track equipment and should be used where feasible, as determined by the City.
10. Substitute nail guns for manual hammering, where feasible as determined by the City.
11. Avoid the use of circular saws, miter/chop saws, and radial arm saws near the adjoining noise-sensitive receptors. Where feasible as determined by the City, shield saws with a solid screen with material having a minimum surface density of two pounds per square feet (e.g., such as ¾-inch plywood).

12. Maintain smooth vehicle pathways for trucks and equipment accessing the site, and avoid local residential neighborhoods as much as possible.
13. During interior construction, the exterior windows facing noise-sensitive receptors shall be closed.
14. During interior construction, locate noise-generating equipment within the building to break the line-of-sight to the adjoining receptors.
15. The contractor shall prepare a detailed construction 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.
16. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., bad muffler, etc.) and would 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.

Future development would be required to conform with the SMC limits on allowable construction hours and implement mitigation measures MM NOI-4.1 by preparing a noise control plan to reduce construction noise to the extent feasible; however, construction noise would still exceed the noise limits of 60 dBA L_{eq} for residential and 70 dBA L_{eq} for commercial uses for more than one year. For these reasons, the proposed project would result in a significant and unavoidable construction noise impact with mitigation. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

Impact NOI-5: The six project sites are not located within an airport land use plan, or within the vicinity of a private airstrip. **(No Impact)**

DSP Amendments and Six Development Projects

The project sites are approximately two miles southwest of the Moffett Federal Airfield, and aircraft-related noise occasionally is audible at the project sites. Nevertheless, the six project sites are not located within Moffett Airfield's 65 dBA noise contour area. For these reasons, the project would not expose people residing or working in the project area to excessive airport-related noise levels. **(No Impact)**

Impact NOI-6: The six project sites are not within the vicinity of a private airstrip. **(No Impact)**

DSP Amendments and Six Development Projects

The six project sites are not within the vicinity of a private airstrip. **(No Impact)**

Impact NOI-C	The project would result in a cumulatively considerable noise or vibration impacts. (Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)
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The geographic area for cumulative noise impacts is based on the type of the noise sources. Project operation noise has the potential to add to operational noises at other sites within approximately 300 feet from the source; therefore, the geographic area for on-site operational noise is identified as locations within 300 feet of the site. For traffic noise, the geographic area is identified as the surrounding roadway network. Construction noises have the potential to add to construction noise occurring at other sites within approximately 500 feet from the source; therefore, the geographic area for construction noise is identified as locations within 500 feet of the six project sites.

DSP Amendments and Six Development Projects

Operational Noise

As described under Impact NOI-1, mechanical equipment located 150 feet or further from residential property lines or in shielded areas would be anticipated to meet the City’s 50 dBA L_{eq} limit. There is one reasonably foreseeable residential mixed-use project proposed within 300 feet of the six project sites: 311 South Mathilda Avenue, which is about 150 feet from the 300 Mathilda Avenue site. Based on the results of the noise monitoring survey, vehicular traffic along South Mathilda Avenue currently results in traffic noise levels of 71 to 73 dBA DNL at 60 feet from the center of the roadway. Project operational noise, in compliance with the City’s Code limits (see mitigation measure MM NOI-1.1), would not be discernable above noise levels generated by existing vehicular traffic along South Mathilda Avenue. The project, therefore, would not result in a significant impact at the proposed residences at 311 South Mathilda Avenue with the implementation of mitigation measure MM NOI-1.1. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

Project Traffic

A significant cumulative traffic noise impact would occur if two criteria are met: (1) noise levels at existing sensitive receivers would be substantially increased (i.e., three dBA DNL above existing noise levels where noise levels would exceed 60 dBA DNL); and (2) if the project would make a “cumulatively considerable” contribution to the overall noise level increase. A “cumulatively considerable” contribution is defined as an increase of one dBA DNL or more attributable solely to the project.

Traffic volumes under existing, cumulative, and cumulative plus project conditions were compared to calculate the traffic noise increases anticipated along the surrounding roadway network. Based on this comparison, cumulative traffic noise increases of three dBA DNL or greater with a project contribution of one dBA or greater would be anticipated along West McKinley Avenue between South Mathilda Avenue and South Sunnyvale Avenue, West Iowa Avenue between South Mathilda Avenue and the entrance to the 300 Mathilda Avenue parking garage, and South Taaffe Street between West Washington Avenue and West McKinley Avenue. There are no existing residences along these roadway segments. As described under Impact NOI-3, future residences currently under construction on both sides of West McKinley Avenue between South Taaffe Avenue and the extension of Aries Way are being designed and constructed with forced-air mechanical ventilation,

allowing occupants the option of keeping windows closed to control noise. As a result, interior noise levels in these residences would comply with the City's interior noise limit. **(Less than Significant Cumulative Impact)**

Project Construction

The construction of the project would overlap with three other cumulative projects within 500 feet of the six project sites. The three cumulative projects include 220 Carroll Street, 311 South Mathilda Avenue, and the Civic Center Master Plan (refer to Table 3.0-1 for a description of these cumulative projects). The Civic Center Master Plan area is located about 500 feet from the 300 Mathilda Avenue site. The 220 Carroll Street site is located about 410 feet east of the Town Center Sub-block 6 site, with the three story Plaza de las Flores building providing considerable acoustical shielding between the two sites. The 311 South Mathilda Avenue site is located about 150 feet west of the 300 Mathilda Avenue site and is exposed to traffic noise from vehicles on South Mathilda Avenue.

The cumulative projects would be required to comply with the same applicable standard construction best management practices and SMC regulations as the proposed project and would contribute to the project's significant and unavoidable construction noise impact. As discussed under Impact NOI-4, the project shall implement mitigation measure MM NOI-4.1 to reduce its construction noise impact, but not to a less than significant level. Given the magnitude of the project's construction compared to the construction of the three other cumulative projects, the project's contribution to the significant cumulative noise impact is cumulatively considerable. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**

3.13.3 Non-CEQA Effects

Per BIA v. BAAQMD, effects of the environment on the project are not considered CEQA impacts. The following discussion is included for informational purposes only because the City of Sunnyvale has policies and regulations (including those identified in Section 3.13.1.2) that addresses existing noise and vibration conditions affecting a proposed project.

Exterior and Interior Noise

The City's "normally acceptable" exterior noise standard is 60 dBA DNL or less, and "conditionally acceptable" exterior noise standard is 75 dBA DNL or less for residential uses. The City's "normally acceptable" exterior noise level standard is 70 dBA DNL or less, and "conditionally acceptable" exterior noise level is 80 dBA DNL for commercial/office uses. Future exterior noise levels for the project were calculated based on the results of the noise monitoring survey and traffic noise increases anticipated under future conditions. Traffic volumes provided in the Traffic Study (refer to Appendix H) were used to compare existing traffic volumes, background traffic volumes, and cumulative traffic volumes including trips attributable to proposed project.

As described under Section 3.13.1.3 and shown in Figure 3.13-1, existing noise levels surrounding the six project sites range from 62 to 85 dBA. As further discussed below, future noise levels of the roadways along the six project sites would range from 63 to 69 dBA DNL for the 100 Altair Way, 300 Mathilda Avenue, Macy's and Redwood Square, and Town Center Sub-block 6 sites, and 78 to 84 dBA DNL for the Murphy Square site (from daily train activity). Without knowing the location of outdoor areas proposed by future development, it is conservatively assumed that future outdoor areas

could experience noise levels exceeding the normally acceptable 60 dBA DNL noise limit for residential uses and normally acceptable 70 dBA DNL for office and commercial buildings at these sites.

California requires that interior noise levels be maintained at 45 dBA CNEL or less at multi-family residences and lodging facilities where occupants sleep, and the CALGreen Code requires that interior noise levels in offices and commercial buildings be maintained at or below at 50 dBA L_{eq-1hr} or less during hours of operation.

DSP Amendments

Future development under the proposed DSP amendments would allow a mix of uses, including residential, commercial, and/or office uses on the six project sites. Interior noise levels would vary depending upon the design of the buildings (relative window area to wall area) and the selected construction materials and methods. Standard residential construction provides approximately 15 dBA of exterior-to-interior noise reduction, assuming the windows are partially open for ventilation. Standard new residential construction with windows closed provides approximately 25 dBA of noise reduction in interior spaces. Standard new commercial construction with windows closed provides approximately 25 to 30 dBA of noise reduction to interior spaces. Based on the projected noise levels in future conditions, interior levels may exceed the interior noise limits for multi-family residential, office, and/or commercial uses. With the implementation of condition of approval COA NOI-1 (refer to Table 2.3-2), the interior noise levels would meet state interior noise standards.

Six Development Projects

100 Altair Way

The primary noise source at the 100 Altair Way site will continue to be local and distant vehicular traffic and train activities (see ST-2 and ST-3 in Figure 3.13-1). Future traffic noise levels are anticipated to increase by two dBA under cumulative plus project conditions. Outdoor areas at the proposed office building include a balcony on level four and a rooftop terrace, which would be exposed to exterior noise levels up to 61 dBA DNL and be below the normally acceptable exterior noise limit of 70 dBA DNL for office and commercial buildings.

The west façade of proposed office building, facing Aries Way and South Mathilda Avenue, would be exposed to noise levels up to 66 dBA DNL under future cumulative conditions, with worst-hour noise levels as high as 65 dBA L_{eq-1hr} . All other facades would be exposed to noise levels up to 61 dBA DNL and 60 dBA L_{eq-1hr} . Assuming standard construction materials with windows partially open for ventilation, interior levels would be up to 50 dBA L_{eq-1hr} inside offices facing Aries Way and 45 dBA L_{eq-1hr} inside other exterior facing offices. The interior levels, therefore, would comply with Cal Green Code noise limit of 50 dBA L_{eq-1hr} for non-residential interior spaces. Forced air mechanical ventilation would further reduce interior noise by 10 to 15 dBA.

300 West Washington Avenue

The project proposes to convert interior space of a building into an additional residential unit. The project does not propose any additional outdoor use areas for the site. Noise and land use compatibility of the site was already evaluated and would not change with the project amendments.

300 Mathilda Avenue

No outdoor uses are proposed for the development at the 300 Mathilda Avenue site. The west facing façade of the building, adjacent to South Mathilda Avenue, would be exposed to exterior noise levels reaching 69 dBA DNL under future traffic conditions and 70 dBA L_{eq-1hr} . The north façade, fronting West McKinley Avenue, would be exposed to exterior noise levels up to 60 dBA DNL and 61 dBA L_{eq-1hr} . With standard construction, interior noise levels would be up to 55 dBA L_{eq-1hr} inside western facing offices and 46 dBA L_{eq-1hr} in northern facing offices. With the inclusion of forced-air mechanical ventilation, allowing occupants the option of keeping windows closed to control noise, noise levels would be 10 to 15 dBA lower. Interior noise levels, therefore, would comply with the Cal Green Code noise limit of 50 dBA L_{eq-1hr} for non-residential use interior spaces.

Macy's and Redwood Square

The Macy's and Redwood Square site proposes two, seven-story commercial/office buildings and two, 10-story mixed use buildings for commercial and residential uses. The primary noise sources at the site would be vehicular traffic on West Washington Avenue and West McKinley Avenue.

Outdoor areas associated with the commercial/office uses would include decks on level two of Buildings 3B West and 3B East, located on the northern portion of the site, perpendicular to West Washington Avenue. Considering a future traffic noise increase of three dBA due to traffic volumes on West Washington Avenue, outdoor areas of both buildings would be exposed to exterior noise levels reaching 63 dBA DNL, which would be below the normally acceptable exterior noise limit of 70 dBA DNL. A beer garden and associated outdoor seating area, proposed in the southern portion of the site, would be exposed to an exterior noise levels as high as 65 dBA DNL. While there is no criteria specific to outdoor restaurant use, the noise level would be below the commercial/office criteria of 70 dBA DNL.

Residential outdoor use areas would include terrace lounges, patios, and accessible roof areas on level two of Buildings 1 and 2, located in the southern portion of the site. The residential outdoor use areas would be located in the interior of the southern portion of the site and well shielded from the surrounding traffic noise sources. Noise levels in these areas would be below 60 dBA DNL and would be considered compatible with the proposed residential use.

The northern façade of the commercial/office buildings facing West Washington Avenue would be exposed to noise levels up to 63 dBA DNL and 65 dBA L_{eq-1hr} . Resulting interior levels with standard construction would be up to 50 dBA L_{eq-1hr} . The proposed building, therefore, would comply with Cal Green Code interior noise limit of 50 dBA L_{eq-1hr} for non-residential use.

Residential units with façades adjacent to and fronting West McKinley Avenue would be exposed to exterior noise levels as high as 63 dBA DNL. With windows partially open for ventilation, these residences would be exposed to interior noise levels as high as 47 dBA DNL, which would exceed

the City's interior limit of 45 dBA DNL. With the inclusion of forced-air mechanical ventilation, allowing occupants the option of keeping windows closed to control noise, noise levels would be about 10 dBA lower and comply with the state's interior limit for residence.

Town Center Sub-block 6

Town Center Sub-block 6 proposes a seven-story mixed use building with commercial and residential use. The primary noise source at Town Center Sub-block 6 would be vehicular traffic on West Washington Avenue, South Sunnyvale Avenue, and West McKinley Avenue. Future traffic noise levels under cumulative plus project conditions are anticipated to increase by two to three dBA over existing noise levels on these roadways.

Based on the site plan, residential outdoor use areas would include three central courtyards which are anticipated to include a pool, outdoor BBQ grills, gardens, landscaped areas, and seating areas. There are no outdoor use areas proposed for the commercial uses. The residential outdoor use areas would be in the interior of the site and well shielded from the surrounding traffic noise sources by the proposed building. Noise levels in these areas would be below 60 dBA DNL and would be considered compatible with the proposed residential use.

North, east, south and west facing residential façades located on Levels 3 through 7 would be exposed to noise levels of 63, 66, 63, and 60 dBA DNL, respectively. With windows partially open for ventilation, these residences would be exposed to interior noise levels as high as 51 dBA DNL, which would exceed the City's interior limit of 45 dBA DNL. With the inclusion of forced-air mechanical ventilation, allowing occupants the option of keeping windows closed to control noise, noise levels would be about 10 dBA lower and would comply with the City's interior noise limit for residences.

Retail uses would be located on the ground floor facing South Murphy Avenue. North, south, and west facing retail façades would be exposed to exterior noise levels of 65, 65, and 61 dBA L_{eq-1hr} , respectively. Resulting interior levels with standard construction would be up to 50 dBA L_{eq-1hr} and would comply with the Cal Green Code noise limit of 50 dBA L_{eq-1hr} .

Murphy Square

The primary noise source at the Murphy Square site would be train passbys on the adjacent tracks and vehicular traffic on West Evelyn Avenue. The Murphy Square site proposes a four-story office building. Outdoor decks are proposed on the third and fourth floors and on the rooftop.

The proposed building would be set back 30 feet from the center of the near southbound tracks and 45 feet from the center of the northbound tracks. Outdoor decks are proposed on the northeastern and southwestern corners of the third floor of the building and the southern and eastern façades of the fourth floor. A rooftop deck is proposed along the eastern and southern portions of the building's rooftop. Noise levels at these outdoor decks are summarized in Table 3.13-3 below. Noise levels in the southwest facing third floor outdoor deck, the south facing fourth floor outdoor deck, and the southern portion of the rooftop outdoor deck would meet the City's normally acceptable exterior noise level objective of 70 dBA DNL for office or commercial uses.

The northern or eastern facing outdoor decks on the third and fourth floor outdoor decks would not meet the City’s normally acceptable exterior noise level objective of 70 dBA DNL. Fully enclosing the outdoor use areas or redesigning the site plan to locate the outdoor use areas within the interior of the project building would reduce exterior noise levels at the northern or eastern facing decks to meet the City’s 70 dBA DNL exterior noise level objective. These strategies are not considered feasible as enclosing an outdoor area negates the outdoor purpose of the space and substantially redesigning the site plan is not proposed. For this reason, the northern and eastern facing outdoor use areas would not meet the City’s 70 dBA DNL exterior noise level objective.

Table 3.13-3: Calculated Future Noise Levels at Outdoor Decks on Murphy Square Site		
Floor	Location	Calculated DNL, dBA
3 rd Floor	Deck facing northeast	78-84
	Deck Facing southwest	67-70
4 th Floor	Deck facing east	76-82
	Deck facing south	67-70
Rooftop	Eastern portion of deck	76-82
	Southern portion of deck	67-70

Noise levels in the southwest facing 3rd floor deck, the south facing 4th floor deck, and the southern portion of the rooftop deck would meet the City’s normally acceptable” exterior noise level objective of 70 dBA DNL for office or commercial uses.

Exterior noise levels at north facing office façades are calculated to be 78 to 84 dBA DNL, depending on the daily train activity. Hourly average noise levels during daytime office hours range from 72 to 85 dBA L_{eq-1hr} . Maximum instantaneous noise levels produced by train warning whistles during passbys would typically be in the range of 85 to 100 dBA L_{max} . East and west facing offices would be exposed to exterior noise levels of 69 to 82 dBA L_{eq-1hr} and south facing offices would be exposed to exterior noise levels of 60 to 70 dBA L_{eq-1hr} .

With windows partially open for ventilation, north facing offices would be exposed to interior noise levels as high as 70 dBA L_{eq-1hr} , which would exceed the Cal Green Code noise limit of 50 dBA L_{eq-1hr} for non-residential use interior spaces by up to 20 dBA. With the inclusion of forced-air mechanical ventilation, allowing occupants the option of keeping windows closed to control noise, noise levels would be 10 to 15 dBA lower, but would still exceed the Cal Green Code. In addition to inclusion of forced-air mechanical ventilation, inclusion of sound-rated construction methods and noise insulation features would reduce interior noise levels below the City’s interior noise limit for offices.

With implementation of conditions of approval COA NOI-2 through COA NOI-4 (refer to Table 2.3-2), interior noise levels at the six development projects would meet the state’s interior noise standard of 45 dBA DNL and the CALGreen Code noise limit of 50 dBA L_{eq-1hr} .

Vibration

DSP Amendments and Six Development Projects

Of the six project sites, only the Murphy Square site is located within 300 feet of any major source of groundborne vibration. The Murphy Square site is 30 feet from the center of the southbound Caltrain tracks and 45 feet from the center of the northbound tracks. Table 3.13-1 lists the criteria for evaluating vibration effects associated with transit. Approximately 92 Caltrain trains currently pass the site daily. Given the frequency of train events at the site, the Category 3 “frequent event” level of 75 VdB would be appropriate for Murphy Square site, which is an office project and would primarily have daytime usage.

As described under Section 3.13.1.3, vibration levels from measured trains ranged from approximately 71 to 91 VdB at V-1 and 68 to 88 VdB at V-2, with an average train vibration level of 79 VdB at V-1 and 77 VdB at V-2. Of the eight trains measured, six train events exceeded the “occasional event” limit of 75 VdB at both setbacks.

With the implementation of condition of approval COA NOI-5 (refer to Table 2.3-2), the construction vibration levels at the Murphy Square site would be meet acceptable FTA standards.

3.14 POPULATION AND HOUSING

3.14.1 Environmental Setting

3.14.1.1 *Regulatory Framework*

State

State Housing Element Law

California's Housing Element Law requires all cities to: (1) zone adequate lands to accommodate its Regional Housing Needs Allocation (RHNA); (2) produce an inventory of sites that can accommodate its share of the regional housing need; (3) identify governmental and non-governmental constraints to residential development; (4) develop strategies and work plan to mitigate or eliminate those constraints; and (5) adopt a housing element that is to be updated on a regular recurring basis. The City of Sunnyvale's Housing Element was last updated in 2015.

Regional and Local

Plan Bay Area 2040

ABAG allocates regional housing needs to each city and county within the nine-county Bay Area, based on statewide goals. ABAG also develops forecasts for population, households, and economic activity in the Bay Area. ABAG, MTC, and local jurisdictions created the Regional Forecast of Jobs, Population and Housing (upon which Plan Bay Area 2040 is based), which is an integrated land use and transportation plan looking out to the year 2040 for the nine-county San Francisco Bay Area.

MTC and ABAG originally adopted Plan Bay Area in 2013. Plan Bay Area is a long range regional plan for reducing per-capita GHG emissions through the promotion of compact, mixed-use residential and commercial neighborhoods near transit – particularly within identified PDAs. PDAs are areas within existing communities that local city or county governments have identified and approved for future growth. These areas typically are accessible by one or more transit services and are often located near established job centers, shopping districts, and other services.¹¹¹

Plan Bay Area 2040 was adopted in July 2017 as a focused update building upon the development strategies developed in the original Plan Bay Area but with updated planning assumptions that incorporate key economic and demographic trends from the last four years. Plan Bay Area 2040 includes the region's Sustainable Communities Strategy and 2040 Regional Transportation Plan. Plan Bay Area 2040 is a state-mandated, integrated long-range transportation, land-use and housing plan that will support a growing economy, provide more housing and transportation choices and reduce transportation-related pollution in the Bay Area. The project site is located within a PDA.¹¹²

¹¹¹ Metropolitan Transportation Agency. "Priority Development Areas." Accessed: October 3, 2019. Available at: <https://mtc.ca.gov/our-work/plans-projects/focused-growth-livable-communities/priority-development-areas>.

¹¹² Association of Bay Area Governments. *Future Place Type for Priority Development Areas in Santa Clara County*. February 2012.

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to housing and population and are applicable to the proposed project.

Policy	Description
Housing Element	
A4	Continue to require office and industrial development to mitigate the demand for affordable housing.
D.2	Continue to accommodate new residential development into specific plan areas and areas near transit and employment and activity centers, such as the El Camino Real corridor and Lawrence Station area.
D.3	Require new development to build to at least 75 percent of the maximum zoning density, unless an exception is granted by the City Council.
D.5	Provide opportunities and incentives for mixed use, multi-family infill, and transit-oriented development in Downtown Sunnyvale as part of the City's overall revitalization strategy for the area.
F.7	Continue to permit and encourage a mix of residential, neighborhood-serving retail, and job-producing land uses, as long as there is neighborhood compatibility and no unavoidable environmental impacts.

Downtown Specific Plan

The DSP contains specific land use and design standards for new development in downtown Sunnyvale. Under the adopted DSP, the six project sites are allowed to be developed with 93 residential units, 181,000 square feet of commercial uses, 17,896 square feet of office uses, and 200 hotel rooms.

3.14.1.2 *Existing Conditions*

As of January 1, 2018, the City of Sunnyvale had an approximate population of 153,389 with an average of 2.66 persons per household.¹¹³ Within the DSP area, the average persons per household is 2.13.¹¹⁴ ABAG estimates that in 2035, the City's population will be 194,300 residents.¹¹⁵ ABAG is projecting that jobs in the City will increase from approximately 80,490 in 2015 to 92,790 in 2035.¹¹⁶ As summarized in Table 2.3-1, the project site is currently developed with a total of 20 residential units, 181,000 square feet of commercial uses, and 8,000 square feet of office uses.

¹¹³ Population: California Department of Finance. "E-5 City/County Population and Housing Estimates – May 1, 2018." Accessed: October 9, 2018. Available at: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>.

¹¹⁴ Keyser Marston Associates. *Fiscal Impacts Analysis of Requested Amendments to Downtown Specific Plan Sunnyvale, CA*. Page 33, footnote 1 ESRI Business Analyst Demographic Forecasts for 2017 to 2022.

¹¹⁵ Association of Bay Area Governments. *Plan Bay Area Projections 2013*. 2013.

¹¹⁶ Ibid.

3.14.2 Population and Housing Impacts

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

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Impact POP-1: The project would not induce substantial population growth in the area. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Direct Impact

The proposed project would allow for the development of up to 843 residential units, 260,063 square feet of commercial uses, and 860,624 square feet of office uses. Compared to existing conditions, the project would result in a net increase of up to 823 residential units, 79,063 square feet of commercial uses, and 852,624 square feet of office uses, which would result in approximately 1,753 new residents and 3,608 new jobs/employees (see to Table 3.14-1).¹¹⁷

Under the adopted DSP, on the six project sites, 93 residential units, 181,000 square feet of commercial uses, 17,896 square feet of office uses, and 200 hotel rooms are allowed. Compared to development allowed on the six project sites under the adopted DSP, the project would result in a net increase in 750 residential units, 79,063 square feet of commercial uses, and 842,728 square feet of office uses; and a net decrease of 200 hotel rooms. This net change in development would result in 1,598 additional residents and 3,388 additional jobs/employees (refer to Table 3.14-1).¹¹⁸

¹¹⁷ The net new jobs estimated include 197 retail jobs and 3,410 office jobs. Residents based on 2.13 residents per household in the DSP area (assuming no vacancies); jobs based on 400 square feet/retail employee and 250 square feet/office employee. (Source: Keyser Marston Associates. *Fiscal Impact Analysis of Requested Amendments to Downtown Specific Plan*. July 2018.)

¹¹⁸ The jobs estimated include net increase in 198 retail jobs and 3,371 office jobs, and net decrease in 180 hotel jobs; jobs based on 400 square feet/retail employee, 250 square feet/office employee, and 0.9 employee per hotel room. (Source: Keyser Marston Associates. *Fiscal Impact Analysis of Requested Amendments to Downtown Specific Plan*. July 2018.)

Table 3.14-1: Estimated Residents and Jobs/Employees On the Six Project Sites under Existing, Adopted DSP, and Project Conditions		
	Residents	Jobs/Employees
A. Existing Conditions	43	485 (453 commercial jobs+32 office jobs)
B. Adopted DSP	198	705 (453 commercial jobs+72 office jobs+180 hotel jobs)
C. Proposed Project*	1,796	4,093 (650 commercial jobs+3,443 office jobs)
<i>Change between Existing and Project (C – A)</i>	<i>+1,753</i>	<i>+3,608 (197 commercial jobs+3,411 office jobs)</i>
<i>Change between Adopted DSP and Project (C – B)</i>	<i>+1,598</i>	<i>+3,388 (197 commercial jobs+3,371 office jobs-180 hotel jobs)</i>
<p>Note: *The estimated number of residents and jobs/employees reflects the development that would be allowed under the proposed DSP amendments. The six specific development projects propose 793 residential units, 164,906 square feet of commercial space, and 856,199 square feet of office space (50 fewer residential units, 95,157 fewer square feet of commercial space, and 4,425 fewer square feet of office space than what would be allowed under the proposed DSP amendments) and is estimated to generate 1,690 residents and 3,837 jobs/employees.</p> <p>Source: Residents based on 2.13 residents per household in the DSP area (assuming no vacancies); jobs based on 400 square feet/retail employee, 250 square feet/office employee, and 0.9 employee per hotel room. (Source: Keyser Marston Associates. <i>Fiscal Impact Analysis of Requested Amendments to Downtown Specific Plan</i>. July 2018.)</p>		

Compared to what is allowed in the larger DSP area under the adopted DSP, the project's net increase of approximately 1,600 residents and 3,390 jobs represents an approximately 34 percent increase in residential population and a 42 percent increase in jobs/employees within the DSP area.¹¹⁹

Compared to the buildout of the General Plan, the project's net increase in development represents an approximately one percent increase in residents and three percent increase in jobs/employees citywide.¹²⁰

While the project would result in an increase in population and housing compared to existing conditions and what is allowed in the adopted DSP and General Plan, the project would be consistent with the City's objective for the project of maximizing opportunities for higher-density housing (see

¹¹⁹ Buildout of the adopted DSP would result in 2,200 residential units, 200 hotel rooms, 1,367,387 square feet of commercial uses, 1,080,421 square feet of office uses, and 54,000 square feet of office or commercial uses (Source: City of Sunnyvale. *Downtown Specific Plan 2003*. Table 6-1. Updated in 2013.). Buildout of the adopted DSP would result in 4,686 residents based on 2.13 persons per household in the DSP area (assuming no vacancies), and 8,055 jobs based on 400 square feet/retail employee, 250 square feet/office employee, and 0.9 employee per hotel room (Source: Keyser Marston Associates. *Fiscal Impact Analysis of Requested Amendments to Downtown Specific Plan*. July 2018.). The job estimate for 54,000 square feet of office or commercial uses was based on commercial rates.

¹²⁰ Buildout of the City's General Plan would result in 72,100 residential units, 59.8 million square feet of industrial/office/commercial uses, and 124,410 jobs/employees.

Objective 4 in Section 2.4 Project Objectives) and would result in a minimal increase in growth (less than two percent increase in residential and office/commercial square footage) compared to what is planned citywide. The project is also consistent with General Plan policies D.2 and D.5 by facilitating additional residential development and would help the City meet its regional housing needs. The project is also consistent with the intent of Plan Bay Area 2040 because it proposes compact, mixed-use residential development within a PDA. For these reasons, the project would not directly induce substantial population growth in the area. **(Less than Significant Impact)**

Indirect Impact

As discussed in Section 3.17 Transportation/Traffic, the project would require transportation infrastructure improvements to mitigate its significant impacts. The transportation improvements would serve the proposed project, as well as existing and planned projects.

The project would also require connections to existing utility lines in the area. These standard connections to existing water, sewer, and storm drain systems to serve the project would not induce growth beyond the proposed project. As described in Section 3.18 Utilities and Service Systems under Impact UTL-2, utility improvements are required to provide adequate sewer system capacity for the project. The project shall implement mitigation measures MM UTL-2.1 to mitigate its impacts, and the sewer improvements would not create additional capacity beyond what is required to serve the project and existing and planned development in the City.

Based on the above discussion, the project would not indirectly induce substantial population growth through its infrastructure improvements. **(Less than Significant Impact)**

Impact POP-2: The project would not displace substantial numbers of existing housing or residents, necessitating the construction of replacement housing elsewhere. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Implementation of the project would result in the demolition of 20 existing residential units on the 100 Altair Way site.¹²¹ While the project would result in the loss of 20 existing residential units, the project would result in a net increase of between 773 and 823 new residential units on the sites.¹²² Given that the implementation of the project would result in a net increase in residential units, the project would not necessitate the construction of replacement housing elsewhere. For this reason, the project would not displace substantial numbers of existing housing or residents. **(Less than Significant Impact)**

¹²¹ The other project sites do not have existing residential units.

¹²² The proposed DSP amendments would allow for up to 843 new residential units (843 new residential units – 20 existing residential units = 823 net new residential units). The six development projects propose 793 new residential units (793 new residential units – 20 existing residential units = 773 net new residential units).

Impact POP-C: The project would not have a cumulatively considerable contribution to a significant cumulative population and housing impact. **(Less than Significant Cumulative Impact)**

DSP Amendments and Six Development Projects

The geographic area for cumulative population and housing impacts is the City boundaries, and can be extended further to Santa Clara County and the San Francisco Bay region. Past, present, and pending development projects contribute to the City's, County's, and region's population and housing impact.

As discussed under Impact POP-1, compared to the buildout of the City's General Plan, the proposed project would result in an approximately one percent increase in residential units and three percent increase in jobs/employees citywide. This increase in growth citywide is not substantial. In addition, as the geographic area increases to the County and region, the project's increase in residential units and jobs/employees would be even less. For these reasons, implementation of the project would not have a cumulatively considerable contribution to a significant cumulative population and housing impact. **(Less than Significant Cumulative Impact)**

3.15 PUBLIC SERVICES
3.15.1 Environmental Setting
3.15.1.1 *Regulatory Framework*

State

Government Code Section 66477

The Quimby Act (included within Government Code Section 66477) requires local governments to set aside parkland and open space for recreational purposes. It provides provisions for the dedication of parkland and/or payment of fees in lieu of parkland dedication to help mitigate the impacts from new residential developments. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parks, pay a fee in lieu of parkland dedication, or perform a combination of the two.

Government Code Sections 65995 through 65998

Government Code Sections 65995 through 65998 sets forth provisions for the payment of school impact fees by new development by “mitigating impacts on school facilities that occur (as a result of the planning, use, or development of real property)” (Section 65996[a]). The legislation goes on to say that the payment of school impact fees “are hereby deemed to provide full and complete school facilities mitigation” under CEQA (Section 65996[b]).

California Government Code Section 65996 specifies that an acceptable method of offsetting a project’s effect on the adequacy of school facilities is the payment of a school impact fee prior to the issuance of a building permit. Developers pay a school impact fee to the school district to offset the increased demands on school facilities caused by their proposed residential development project. The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

City of Sunnyvale General Plan

The City’s General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to public services and are applicable to the proposed project.

Policy	Description
Land Use and Transportation Element	
LT-9.1	Ensure that the planned availability of open space in both the city and the region is adequate.
LT-9.18	Improve accessibility to parks and open space by removing barriers.
LT-14.8	Ensure that development projects provide appropriate improvements or resources to meet the future infrastructure and facility needs of the City, and provide development incentives that result in community benefits and enhance the quality of life for residents and workers.

Policy	Description
Community Character Element	
CC-4.1	Ensure that Sunnyvale’s public facilities are easily identified, accessible, attractive and representative of the community’s values and aspirations.
CC-4.2	Maintain beautiful and comfortable outdoor public places which provide a shared sense of ownership and belonging for Sunnyvale residents, business owners and visitors.
Safety and Noise Element	
SN-5.1	Assure that equipment and facilities are provided and maintained to meet reasonable standards of safety, dependability, and compatibility with fire service operations.

Sunnyvale Municipal Code

SMC Chapter 18.10 establishes that as a condition of approval of any final subdivision map or parcel map, the subdivider must dedicate land or pay a fee in lieu thereof, or both, at the option of the City, for park or recreational purposes. For example, high density residential developments (over 27 du/ac) are required to provide 0.009 acres of parkland per unit through the dedication of land or in lieu fee payment.

SMC Chapter 19.74 defines the park in lieu fees or land dedication required for multi-family rental housing projects within Sunnyvale. New rental housing developments must pay a fee equivalent to the cost of purchasing parkland or to compensate for the anticipated increased usage of existing parklands. Alternatively, a new project may develop or dedicate land for future use.

SMC Chapter 16.52 is the City’s Fire Code and, adopted by reference, the 2015 International Fire Code (IFC) in its entirety as published by the International Code Council and the California Fire Code under Ordinance 3018-13 are included in the City’s Fire Code. The Fire Code regulates, among other things, issuance of permits where operations or business or the installation or modification of any systems regulated under the Fire Code are planned (Section 16.52.105), application and collection of applicable fire permit fees (Section 16.52.113), and installation of residential and commercial automatic sprinkler systems (Section 16.52.903).

3.15.1.2 *Existing Conditions*

Fire and Police Protection

Police and fire protection services for the six project sites are provided by the Sunnyvale DPS. The DPS is divided into three divisions: Bureau of Police Services, Bureau of Fire Services, and Special Operations.

The Bureau of Fire Services operates a total of six fire stations that serve the City of Sunnyvale. The nearest fire station to the six project sites is Sunnyvale Fire Station #1 located at 171 North Mathilda Avenue, approximately 0.5 miles northwest of the DSP area. The City and DPS do not have an

established response time goal or service ratio. In the first quarter of fiscal year 2017/18, the average response time was four minutes and 38 seconds.¹²³

The Bureau of Police Services includes five squads that patrol the City 24-hours a day.¹²⁴ The Bureau of Police Services is located at 700 All America Way, approximately 0.6 miles southwest of the DSP area. In the first quarter of fiscal year 2017/18, the average response time was four minutes and one second.¹²⁵

The City of Sunnyvale participates in a mutual aid program with neighboring cities, including the cities of Mountain View, Santa Clara, and San José. Through this program, should Sunnyvale need additional assistance, one or more of the mutual aid cities would provide assistance in whatever capacity was needed.

Schools

The six project sites are all in the Sunnyvale School District (SSD) and Fremont Union High School District (FUHSD). The six project sites are within the enrollment boundaries of Bishop Elementary School located at 450 North Sunnyvale Avenue (approximately 0.8 mile northeast of the DSP area), Columbia Middle School located at 739 Morse Avenue (approximately 1.4 miles northeast of the DSP area), and Fremont High School located at 1279 Sunnyvale Saratoga Road (approximately 1.5 miles south of the DSP area). The current enrollment capacities for these schools are shown in Table 3.15-1 below. As shown in Table 3.15-1, there is currently available capacity at the schools.

Table 3.15-1: School Enrollment and Capacity			
School	Existing Capacity	Current Enrollment	Available Capacity
Bishop Elementary School ¹	765	472	293
Columbia Middle School ¹	965	796	169
Fremont High School ²	2,120	2,075	45
¹ School data for the 2018-2019 school year. Source: Nishihara, Jeremy. Manager of Information Systems and Human Resources, Sunnyvale School District. Personal Communication. May 13, 2019. ² School data for the 2018-2019 school year. Source: Crutchfield, Jason. Director of Business Services, Fremont Union High School District. Personal Communication. September 20, 2018			

¹²³ Ngo, Phan. Public Safety Department Chief, City of Sunnyvale. Personal Communication. September 26, 2018.

¹²⁴ The number of officers per squad varies depending on the time of day and work shift.

¹²⁵ Ngo, Phan. Public Safety Department Chief, City of Sunnyvale. Personal Communication. September 26, 2018.

Parks

Parks and open space in the City are managed by the Department of Public Works Parks Division. The City currently has approximately 765 acres of parkland, including approximately 177 acres of parks, 264 acres of special use facilities (including the Sunnyvale Golf Course and Plaza del Sol), and 87 acres of school open space. The nearest park to the DSP area is Washington Park located at 840 West Washington Avenue, approximately 0.5 mile west of the DSP area. Washington Park includes a playground, tennis courts, swimming pool, basketball courts, and ball fields.

Libraries

The Sunnyvale Public Library is located at 665 West Olive Avenue, approximately 0.3 mile southeast from the DSP area. The Sunnyvale Public Library includes more than 250,000 print materials, eBooks, DVDs, Blu-ray discs, books on CD, music CDs, and streaming audio and video. The library also offers a variety of programs and events for the community.

In September 2018, the City approved the Civic Center Modernization Project, which will expand or replace the existing 60,900 square foot library with a 120,000 square foot library. The intent of the larger library is to serve existing and future growth in the City. The impacts of the larger library were analyzed in the certified Civic Center Modernization Master Plan EIR.¹²⁶

3.15.2 Public Services Impacts

For the purposes of this EIR, a public services impact is considered significant if the impacts are associated with:

- The provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - Fire protection
 - Police protection
 - Schools
 - Parks
 - Other public facilities.

¹²⁶ City of Sunnyvale. *Civic Center Modernization Master Plan Draft Program Environmental Impact Report*. SCH# 2017092075. April 2018. Certified September 2018.

Impact PS-1: The project would not require new or physically altered fire protection facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times, or other performance objectives. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

As discussed above, the City and Bureau of Fire Services do not have an established response time goal or service ratio. Given the proximity of Fire Station #1 to the six project sites, response time to the six project sites would be adequate and would not be substantially, adversely impacted by the project.

As discussed in Section 3.14 Population and Housing, the project would result in a net increase in approximately one percent in residential units and three percent in jobs/employees. This net increase in population citywide would result in an incremental increase in demand for fire protection services. The certified LUTE EIR concluded the buildout of the General Plan could result in the need for additional fire personnel and facilities, however, any new or expanded facilities that may be required would be constructed on previously disturbed sites within the existing urban area of the City and are not expected to result in any significant and unavoidable environmental impacts.¹²⁷ In recent communications, the Bureau of Fire Services confirmed the while staffing levels may change, buildout of the proposed project and General Plan would not require the construction of new or expanded fire protection facilities.¹²⁸ In addition, implementation of the project would be required to meet current Building and Fire Code standards, including requirements in SMC Chapter 16.52. The Bureau of Fire Services would also review proposed site plans to ensure future development include adequate design and infrastructure for fire protection. **(Less than Significant Impact)**

¹²⁷ City of Sunnyvale. *Land Use and Transportation Element Draft Environmental Impact Report*. August 2016. Pages 4.0-5 and 4.0-6.

¹²⁸ Ngo, Phan. Chief of Department of Public Safety, City of Sunnyvale. Personal Communication. September 26, 2018.

Impact PS-2: The project would not require new or physically altered police protection facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times, or other performance objectives. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

As discussed under Impact PS-1, the City and Bureau of Police Services do not have an established response time goal or service ratio and the project would result in a net increase of approximately one percent in residential units and three percent in jobs/employees development citywide. This incremental increase in populations citywide would result in an incremental increase in need for police protection services. The certified LUTE EIR concluded that if the buildout of the General Plan would require new or expanded police facilities, the facilities would be constructed on previously disturbed sites within the existing urban area of the City and would not be expected to result in significant and unavoidable environmental impacts.¹²⁹ In recent communications, the Bureau of Police Services confirmed that while staffing levels may change, buildout of the proposed project and General Plan would not require the construction of new or expanded police protection facilities.¹³⁰ **(Less than Significant Impact)**

Impact PS-3: The project would not require new or physically altered school facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times, or other performance objectives. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Students generated from the project would likely attend Bishop Elementary School, Columbia Middle School, and Fremont High School. Implementation of the project would result in a net increase of 823 residential units compared to existing conditions. Based on student generation rates (SGRs) of 0.07 per residential unit for elementary and middle school and 0.01 per residential unit for high school, the project would generate 59 elementary and middle school students and nine high school students.^{131,132} As shown in Table 3.15-1, Bishop Elementary School, Columbia Middle School, and Fremont High School all have sufficient capacity to accommodate the additional students generated by the project, and would not require the expansion of its facilities.

As required by state law (Government Code Section 65996), development projects are required to pay the established school impact fees to impacted school districts to offset the increased demands on school facilities caused by the development. The project, in conformance with state law, would not result in significant impacts to schools. **(Less than Significant Impact)**

¹²⁹ City of Sunnyvale. *Land Use and Transportation Element Draft Environmental Impact Report*. August 2016. Pages 4.0-7 and 4.0-8.

¹³⁰ Ngo, Phan. Chief of Department of Public Safety, City of Sunnyvale. Personal Communication. September 26, 2018.

¹³¹ Nishihara, Jeremy. Manager of Information Systems and Human Resources, Sunnyvale School District. Personal Communication. May 13, 2019.

¹³² Enrollment Projection Consultants. *Projected Enrollments from 2017 to 2023 Fremont Union High School District*. January 10, 2018.

Impact PS-4: The project would not require new or physically altered library facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times, or other performance objectives. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Implementation of the proposed project would result in 843 new residential units, which would generate 1,796 new residents.¹³³ These new residents would increase the demand on library services compared to existing conditions. As previously discussed, the planned, larger library facility would meet the need anticipated from the buildout of the General Plan and project and, therefore, construction of new or expand library facilities beyond what is planned is not required.¹³⁴ The impacts of the planned library facility were analyzed in the certified Civic Center Modernization Master Plan EIR. The analysis concluded that the Civic Center Modernization Project (including the larger library) would not result in significant environmental impacts.¹³⁵ **(Less than Significant Impact)**

Impact PS-5: The project would not require new or physically altered park facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times, or other performance objectives. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

SMC Chapter 19.74 establishes a standard of five acres of park for every 1,000 residents, and requires new rental housing projects to either provide the appropriate amount of park space or pay in-lieu fees. As discussed above, the project would generate 1,796 new residents and would be required to provide approximately nine-acres of new park space. The project would comply with the requirements of SMC Chapter 19.74, through the construction of new park space, payment of in-lieu fees, and/or dedicate land to mitigate its impacts on park facilities to a less than significant level.

No specific site has been identified for parkland construction, acquisition, or dedication in association with project's compliance with SMC Chapter 19.74. When specific sites are identified, separate environmental review would be required. It is expected that any future park facilities would be constructed on previously disturbed sites within the existing urban area of the City. Based on previous analyses for park facilities in on previously disturbed sites in the South Bay, the impacts associated with the construction of park facilities can be mitigated to a less than significant level with implementation of standard mitigation measures (such as the ones identified in Sections 3.3 Air Quality, 3.4 Biological Resources, 3.5 Cultural Resources, 3.10 Hydrology and Water Quality, 3.13 Noise and Vibration in this EIR). **(Less than Significant Impact)**

¹³³ The number of residents was estimated assuming 2.13 residents per unit (Source: Keyser Marston Associates. *Fiscal Impacts Analysis of Requested Amendments to Downtown Specific Plan Sunnyvale, CA*. Page 33, footnote 1 ESRI Business Analyst Demographic Forecasts for 2017 to 2022.).

¹³⁴ Steffens, Kent. City Manager, City of Sunnyvale. Personal Communication. September 18, 2018.

¹³⁵ City of Sunnyvale. *Civic Center Modernization Master Plan Draft Program Environmental Impact Report*. SCH# 2017092075. April 2018. Certified September 2018.

Impact PS-C: The project would not result in significant cumulative impacts to public services. **(Less than Significant Cumulative Impact)**

DSP Amendments and Six Development Projects

Fire and Police Protection

The geographic area for cumulative fire and police protection services is the City of Sunnyvale. As discussed previously, the City and DPS do not have established response time goals or service ratios. Buildout of the cumulative projects, including the proposed project, would increase the amount of development and need for fire and police protections services in the City compared to existing conditions.

DPS continually evaluates its service levels and works with the City Council during the budget process to balance resources, and uses planning tools (including the City's General Plan and Specific Plans) to plan for future needs within a 20-year horizon.¹³⁶ In addition, as discussed under Impact PS-1 and Impact PS-2, the Bureaus of Fire and Police Services confirmed the buildout of the project and General Plan would not require the construction of new or expanded fire or police protection facilities.^{137,138} **(Less than Significant Cumulative Impact)**

Schools

The geographic areas for cumulative school impacts are the Bishop Elementary School, Columbia Middle School, and Fremont High School enrollment areas because the six project sites are located within these school boundaries. The cumulative projects within these enrollment boundaries that include new residential units would generate new students.

The implementation of the cumulative projects listed in Table 2.3-1 (including the proposed project) would add approximately 205 additional residential units to the Bishop Elementary School enrollment area, 2,322 residential units to the Columbia Middle School enrollment area, and 4,434 residential units to the Fremont High School enrollment area. Based on their respective SGRs, the cumulative projects would add about 14 students to Bishop Elementary School, 163 students to Columbia Middle School, and 44 students to Fremont High School.

As shown in Table 3.15-1, each school has capacity to accommodate additional students. Bishop Elementary has available capacity for 293 students and Columbia Middle School has available capacity for 169 students. Fremont High School has available capacity for 45 students and enrollment is expected to drop over the next three years by 35 students.¹³⁹ Thus, there is currently sufficient capacity at Bishop Elementary, Columbia Middle School, and Fremont High School to accommodate students generated by the cumulative projects.

¹³⁶ Ngo, Phan. Chief of Department of Public Safety, City of Sunnyvale. Personal communications. September 26, 2018.

¹³⁷ Ibid.

¹³⁸ Ibid.

¹³⁹ Enrollment Projection Consultants. *Projected Enrollments from 2017 to 2023 Fremont Union High School District*. January 10, 2018.

As required by state law (Government Code 65996), the cumulative projects (including the proposed project) shall pay the appropriate school impact fees to impacted school districts to offset the increase demands on school facilities caused by the development. The cumulative projects (including the proposed project), in conformance with state law (Government Code 65996), would not result in significant cumulative impacts to schools. **(Less than Significant Cumulative Impact)**

Library

The geographic area for cumulative library impacts is the City boundaries. As discussed above under Impact PS-4, the increased demand for library services from the buildout of the General Plan and project would not require new or expanded library facilities beyond what is planned in the Civic Center Modernization Project. As discussed above, the certified Civic Center Modernization Master Plan EIR evaluated the environmental impacts of implementing the Civic Center Modernization Project and concluded it would not result in significant impacts. For these reasons, the cumulative projects would not result in significant cumulative library impacts. **(Less than Significant Cumulative Impact)**

Parks

The geographic area for cumulative park impacts is the City boundaries. The implementation of the cumulative projects (including the project) would incrementally increase the demand for park facilities. The cumulative projects would be required to construct new park space, pay in-lieu fees, and/or dedicate land pursuant to SMC Chapter 19.74, thereby reducing their impacts on parks to a less than significant level. **(Less than Significant Cumulative Impact)**

3.16 RECREATION

3.16.1 Environmental Setting

3.16.1.1 *Regulatory Framework*

State

Quimby Act

The Quimby Act (California Government Code Sections 66475-66478) was approved by the California legislature to preserve open space and parkland in the State. This legislation was in response to California's increased rate of urbanization and the need to preserve open space and provide parks and recreation facilities for California's growing communities. The Quimby Act authorizes local governments to establish ordinances requiring developers of new subdivisions to dedicate parks, pay an in-lieu fee, or perform a combination of the two.

Local

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to recreation and are applicable to the proposed project.

Policy	Description
Land Use and Transportation Element	
LT-9.1	Ensure that the planned availability of open space in both the city and the region is adequate.
LT-9.18	Improve accessibility to parks and open space by removing barriers.
LT-14.8	Ensure that development projects provide appropriate improvements or resources to meet the future infrastructure and facility needs of the City, and provide development incentives that result in community benefits and enhance the quality of life for residents and workers.
Community Character Element	
CC-4.1	Ensure that Sunnyvale's public facilities are easily identified, accessible, attractive and representative of the community's values and aspirations.
CC-4.2	Maintain beautiful and comfortable outdoor public places which provide a shared sense of ownership and belonging for Sunnyvale residents, business owners and visitors.

Sunnyvale Municipal Code

SMC Chapter 18.10 establishes that as a condition of approval of any final subdivision map or parcel map, the subdivider must dedicate land or pay a fee in lieu thereof, or both, at the option of the City, for park or recreational purposes. For example, high density residential developments (over 27 du/ac) are required to provide 0.009 acres of parkland per unit through the dedication of land or in lieu fee payment.

In addition, SMC Chapter 19.74 defines the park in lieu fees or land dedication required for multifamily rental housing projects within Sunnyvale. New rental housing developments must pay a fee equivalent to the cost of purchasing parkland or to compensate for the anticipated increased usage of existing parklands. Alternatively, the new project may develop or dedicate land for future use.

3.16.1.2 *Existing Conditions*

Parks and open space in the City are managed by the Parks Division within the Department of Public Works. The City currently has approximately 765 acres of parkland, including 177 acres of parks, 264 acres of special use facilities (including the Sunnyvale Golf Course and Baylands Park Wetlands), 87 acres of school open space, three acres of public grounds (including orchards and open space surrounding the Community Center and Civic Center campuses), and 48 acres of greenbelts and trails.¹⁴⁰ The City's parkland total includes other recreational facilities such as the John W. Christian Greenbelt, a senior center, tennis courts, a skate park.

The nearest recreational facilities to the six project sites include Washington Park located at 840 West Washington Avenue (approximately 0.5 mile west of the DSP area), Murphy Park located at 194 North Sunnyvale Avenue (approximately 0.4 miles north of the DSP area), and Las Palmas Park located at 800 Spinosa Drive (approximately 0.7 miles south of the DSP area).

3.16.2 Recreation Impacts

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

- An increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

¹⁴⁰ Lee, Jay. Senior Planner, City of Sunnyvale. Personal Communication. August 26, 2019.

Impact REC-1: The project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

As discussed in Section 3.14 Population and Housing, the project would result in a net increase of 1,796 new residents. The new residents would incrementally increase demand for park and recreational facilities. The project would include on-site amenity space that would partially offset the project's demand on nearby recreation and park facilities. In addition, the project shall comply with SMC Chapters 18.10 and 19.74 through the construction of new park space, payment of in-lieu fees, and/or dedication of land to mitigate its impacts to parks and recreational facilities to a less than significant level.

As discussed under Impact PS-5, no specific site has been identified for parkland construction, acquisition, or dedication in association with project's compliance with SMC Chapter 19.74. When specific sites are identified, separate environmental review would be required. It is expected that any future park facilities would be constructed on previously disturbed sites within the existing urban area of the City. Based on previous analyses for park facilities in on previously disturbed sites in the South Bay, the impacts associated with the construction of new park facilities can be mitigated to a less than significant level with implementation of standard mitigation measures (such as the ones identified in Sections 3.3 Air Quality, 3.4 Biological Resources, 3.5 Cultural Resources, 3.10 Hydrology and Water Quality, 3.13 Noise and Vibration in this EIR). **(Less than Significant Impact)**

Impact REC-2: The project would not result in significant cumulative impacts to recreational facilities. **(Less than Significant Cumulative Impact)**

DSP Amendments and Six Development Projects

The geographic area for cumulative recreation impacts is the City boundaries. The cumulative projects (including the project) would incrementally increase the demand for recreational facilities, including parks. Cumulative projects, including the proposed project, include on-site amenity space that would partially offset the cumulative demand on nearby recreation and park facilities. In addition, the cumulative projects (including the project) are required to construct new park space, pay in-lieu fees, and/or dedicate land pursuant to SMC Chapters 18.10 and 19.74 to reduce the cumulative impact on recreational and park facilities to a less than significant level. **(Less than Significant Cumulative Impact)**

3.17 TRANSPORTATION/TRAFFIC

The discussion in this section is based on a TIA and land use update memorandum prepared by Fehr & Peers dated March 19, 2019 (revised). This report is included in Appendix I of this EIR.

3.17.1 Environmental Setting

3.17.1.1 *Regulatory Framework*

State

Regional Transportation Plan

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area, including Santa Clara County. MTC is charged with regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities in the region. MTC and ABAG adopted Plan Bay Area 2040 in July 2017, which includes the region's Sustainable Communities Strategy (integrating transportation, land use, and housing to meet GHG reduction targets set by CARB) and Regional Transportation Plan (including a regional transportation investment strategy for revenues from federal, state, regional and local sources over the next 24 years).

Senate Bill 743

SB 743 establishes criteria for determining the significance of transportation impacts using metrics intended to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses to a greater extent than relying on level of service (LOS) accomplishes those goals. Specifically, SB 743 requires the replacement of automobile delay – as described solely by LOS or similar measures of vehicular capacity or traffic congestion – with metrics such as VMT or per capita VMT for determining the significance of transportation impacts. OPR approved the CEQA Guidelines implementing SB 743 on December 28, 2018. Local jurisdictions are required to implement a VMT policy by July 1, 2020.

SB 743 did not authorize the Governor's Office of Planning and Research (OPR) to set specific VMT impact thresholds, but it did direct OPR to develop guidelines for jurisdictions to utilize. CEQA Guidelines Section 15064.3(b)(1) describes factors that might indicate whether a development project's VMT may be significant, or not. Notably, projects located within one half mile of transit should be considered to have a less than significant transportation impact based on OPR guidance.

Regional and Local

Congestion Management Program

VTA oversees the Congestion Management Program (CMP), a program aimed at reducing regional traffic congestion. The relevant state legislation requires that all urbanized counties in California prepare a CMP in order to obtain each county's share of the increased 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. The VTA has review responsibility for proposed development projects that are expected to affect CMP designated intersections.

LOS is a description of traffic flow from the driver's perspective based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels are defined, from LOS A (little or no delay), to LOS F (excessive delay). LOS E represents "at-capacity" operations. When traffic volumes exceed the intersection capacity, stop-and-go conditions result, and operations are designated as LOS F. Freeway segments are evaluated using VTA's analysis procedure, which is based on the density of the traffic flow that is calculated using methods described in the 2000 HCM. Density is expressed in passenger cars per mile per lane. The CMP range of densities for each freeway segment level of service are shown in Table 3.17-1.

Table 3.17-1: Freeway Segment Level of Service Definitions	
Level of Service	Density (passenger cars per mile per lane)
A	≤ 11
B	11.1 to 18.0
C	18.1 to 26.0
D	26.1 to 46.0
E	46.1 to 58.0
F	> 58.0

City of Sunnyvale General Plan and Downtown Specific Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to transportation and traffic and are applicable to the proposed project.

Policy	Description
Land Use and Transportation Element	
LT-1.6	Integrate land use planning in Sunnyvale and the regional transportation system.
LT-3.1	Use land use planning, including mixed and higher-intensity uses, to support alternatives to the single-occupant automobile such as walking and bicycling and to attract and support high investment transit such as light rail, buses, and commuter rail.
LT-3.4	Require large employers to develop and maintain transportation demand management programs to reduce the number of vehicle trips generated by their employees.

Policy	Description
LT-3.5	Follow California Environmental Quality Act requirements, Congestion Management Program requirements, and additional City requirements when analyzing the transportation impacts of proposed projects and assessing the need for offsetting transportation system improvements or limiting transportation demand.
LT-3.11	As they become available, use multimodal measures of effectiveness to assess the transportation system in order to minimize the adverse effect of congestion. Continue to use level of service (LOS) to describe congestion levels. Use vehicle miles traveled (VMT) analysis to describe potential environmental effects and impacts to the regional transportation system.
LT-3.14	Require roadway and signal improvements for development projects to improve multimodal transportation system efficiency.
LT-3.22	Provide safe access to city streets for all modes of transportation. Safety considerations of all transport modes shall take priority over capacity considerations of any one transport mode.
LT-3.27	Require appropriate roadway design practice for private development consistent with City standards and the intended use of the roadway.

Downtown Specific Plan

The DSP contains specific land use and design standards for new development in downtown Sunnyvale. The DSP contains the following policies related to transportation and traffic.

Policy	Description
EC.1	To the extent possible, maintain service level D as the lowest acceptable service level for intersections in the Downtown.
C.6	Provide adequate access to parking in the downtown.
C.7	Follow the VTA standards for bicycle parking to the extent possible.

Signalized Intersections

The LOS calculations for the signalized intersections are based on the methodology in the 2000 Highway Capacity Manual (HCM). This method, which is approved by the City of Sunnyvale and VTA, analyzes operations based on average control delay per vehicle. Control delay includes the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using TRAFFIX analysis software and is correlated to a LOS designation as shown in Table 3.17-2.

Table 3.17-2: Signalized Intersection Level of Service Definitions		
Level of Service	Description	Average Control Delay per Vehicle (seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B+ B B-	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 12.0 12.1 to 18.0 18.1 to 20.0
C+ C C-	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 23.0 23.1 to 32.0 32.1 to 35.0
D+ D D-	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 39.0 39.1 to 51.0 51.1 to 55.0
E+ E E-	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55.1 to 60.0 60.1 to 75.0 75.1 to 80.0
F+ F F-	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Unsignalized Intersections

The operations of unsignalized intersections are evaluated using the method contained in the 2000 HCM. LOS ratings for stop-sign-controlled intersections are based on the average control delay expressed in seconds per vehicle. At two-way or side-street-controlled intersections, the average control delay is calculated for each stopped movement, not for the intersection as a whole. For approaches composed for a single lane, the control delay is computed as the average of all movements in that lane. Table 3.17-3 summarizes the relationship between delay and LOS for unsignalized intersections. Additionally, the City applies the 2014 California Manual on Uniform Traffic Control Devices (MUTCD) peak-hour volume signal warrant to evaluate operations at unsignalized intersections.

Table 3.17-3: Unsignalized Intersection Level of Service Definitions Using Average Control Vehicular Delay		
Level of Service	Description	Average Control Delay per Vehicle (seconds)
A	Little or no delay	≤ 10.0
B	Short traffic delay	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

City of Sunnyvale Citywide Deficiency Plan

In compliance with VTA, the City of Sunnyvale maintains a Citywide Deficiency Plan (CDP, September 2005) to address existing and anticipated deficiencies in the LOS of CMP intersections within the City. The objective of the CDP is to set forth a comprehensive citywide solution of offsetting improvements to LOS deficiencies at CMP facilities for which no localized mitigation is feasible. The CDP includes a list of intersection and roadway improvements, as well as pedestrian, bicycle, and transit infrastructure improvements to facilitate multi-modal access throughout the City.

To help implementation of the improvements identified in the CDP, the City of Sunnyvale has a Traffic Impact Fee (TIF) that identifies fee structures for the Moffett Park Specific Plan area north of SR 237 and the remainder of the City south of SR 237. Fees are adopted pursuant to the Transportation Strategic Program and associated Impact Fee Study. The purpose of the fee is to help provide adequate transportation-related improvements to serve cumulative development within the City. The most recent Traffic Impact Fee Update Study is dated June 2017.

City of Sunnyvale 2006 Bicycle Plan

The 2006 Sunnyvale Bicycle Plan (Bicycle Plan) continues Sunnyvale's development of bicycling infrastructure, practices, and policies, all intended to provide a convenient transportation alternative to motor vehicles. It describes current Community Conditions relevant to utility and recreational bicycling, including existing and planned facilities of Sunnyvale and its neighboring jurisdictions. To carry Sunnyvale through its next decade, the Plan updates the Bicycle Capital Improvement Program and the Goals, Policies, and Action Statements that guide all bicycling improvements. The Bicycle Plan is consistent with the City's General Plan Land Use Element and DSP.

The Bicycle Plan contains the following policies related to transportation and traffic to reduce environmental impacts.

Policy	Description
BP.A4	Facilitate bicycle access to and through Downtown.
BP.A5	Facilitate bicycling to workplaces.
BP.B2	Accommodate bicycling needs in future roadway and land development projects.

The City is currently in the process of developing an Active Transportation Plan. This plan will recommend improvements that integrate pedestrian, bicycling, and safe routes to schools needs throughout the City, and would supersede the 2006 Bicycle Plan when adopted. It is anticipated a draft of the plan will be available in 2020.

3.17.1.2 *Existing Conditions*

Four modes of transportation serve the project site. The roadway network consists of freeways, highways, state routes, and local streets used for vehicle access. Bicycle facilities consist of various types of bike lanes and bike racks. Pedestrian facilities consist of sidewalks and crosswalks. Transit facilities consist of all public transportation option including, but not limited to, buses, light-rails, subways, and trains.

Roadway Network

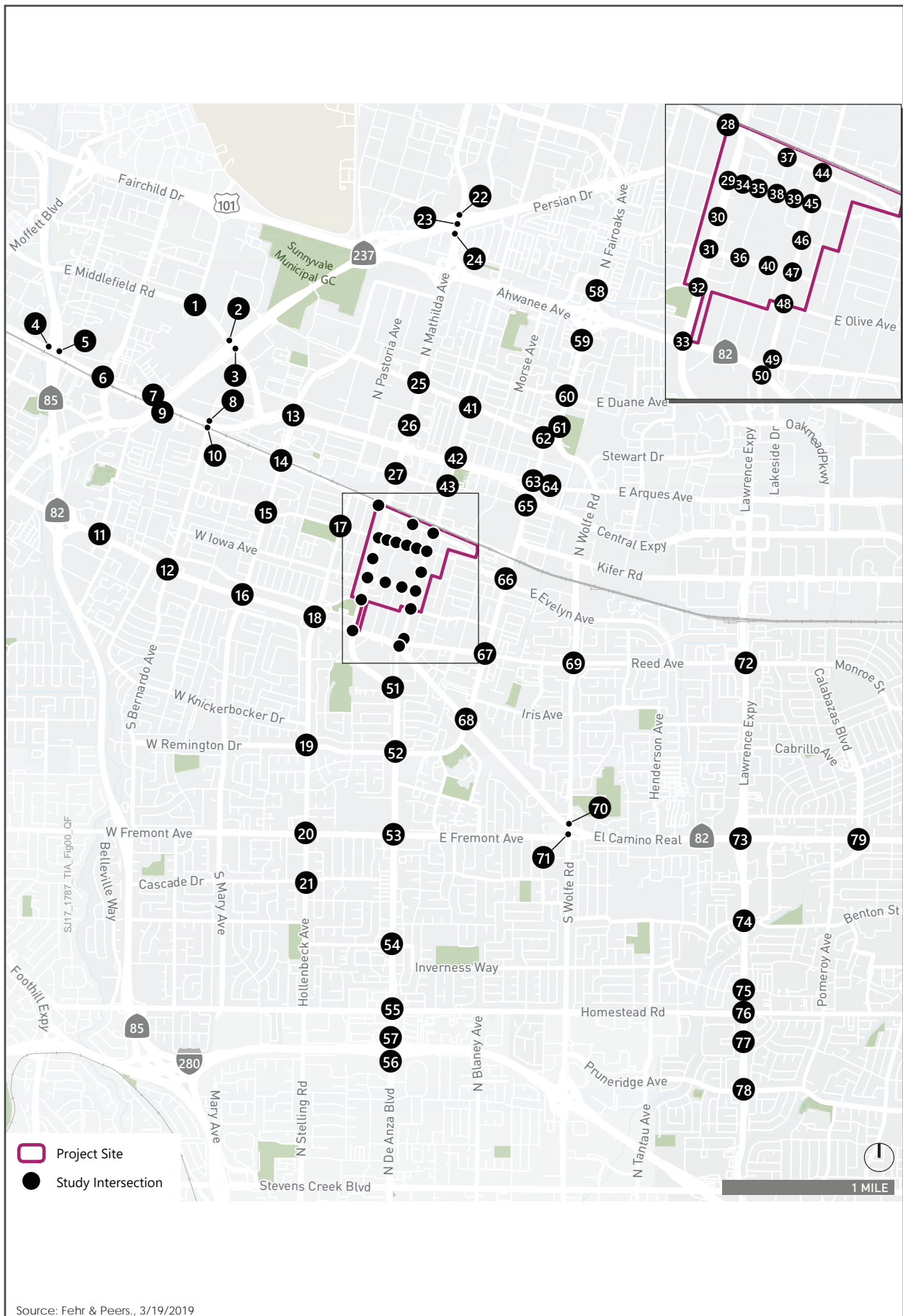
The existing roadway network is shown on Figure 3.17-1 and described in detail below.

Regional Access

US Highway 101 (US 101) extends north through San Francisco and south through San José. Near the DSP area, US 101 travels in an east-west direction. The freeway has three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction. HOV lanes, also known as diamond or carpool lanes, restrict use to vehicles with two or more persons (carpool, vanpool, and buses), motorcycles, or qualified clean air vehicles during the morning (5:00 AM to 9:00 AM) and evening (3:00 PM to 7:00 PM) commute periods. Primary access to the project site is provided via the Mathilda Avenue interchange.

State Route 237 (SR 237) is a primarily east-west freeway located northwest of the DSP area providing two to three travel lanes in each direction. One travel lane in each direction is designated as a HOV lane for some segments of this freeway. SR 237 merges into Grant Road in Mountain View and extends east to I-680 in Milpitas. SR 237 provides access to the site via El Camino Real, Mathilda Avenue and Central Expressway via the Middlefield Road interchange.

Interstate 280 (I-280) is located south of the DSP area. It provides regional access between San Francisco and San José. I-280 is a north-south freeway with three mixed-flow lanes and one HOV in each direction. I-280 provides access via interchanges with De Anza Boulevard, Wolfe Road, and Lawrence Expressway.



EXISTING ROADWAY NETWORK AND STUDY INTERSECTIONS

FIGURE 3.17-1

Central Expressway is a divided four-lane east-west expressway between San Antonio Road in the City of Mountain View and De La Cruz Boulevard in the City of Santa Clara. West of San Antonio Road, Central Expressway continues to Menlo Park as Alma Road. Central Expressway provides access to the site via an interchange at Mathilda Avenue and ramps at Fair Oaks Avenue.

Lawrence Expressway is a limited access north-south expressway that extends between San José to the north and Saratoga to the south. South of I-280, Lawrence Expressway is a six-lane facility, north of I-280 it is an eight-lane expressway with one HOV in each direction. Lawrence Expressway is located east of the DSP area and provides access via Reed Avenue.

El Camino Real (SR 82) connects the cities of San Francisco and San José. It is a divided six-lane Class I Arterial¹⁴¹ traveling northwest-southeast providing access to the project site via Mathilda Avenue, Sunnyvale Avenue, and Fair Oaks Avenue.

Local Access

Aries Way is a private, two-lane north-south roadway that extends from Altair Way to Washington Avenue. Aries Way provides direct access to several blocks of the DSP area.

Evelyn Avenue is a two-lane east-west roadway extending from Castro Street in Mountain View to Reed Avenue in Sunnyvale. This road provides access to the six project sites via Mathilda Avenue, Frances Street, Murphy Avenue, and Sunnyvale Avenue.

Fair Oaks Avenue is a four-lane north-south roadway that extends from El Camino Real to SR 237. Fair Oaks Avenue provides access to the six project sites via Olive Avenue, Evelyn Avenue, and McKinley Avenue.

Iowa Street is a four-lane east-west roadway that extends from Bernardo Avenue to Flora Vista Avenue. Iowa Street runs parallel to Washington Avenue and McKinley Avenue. Iowa Street provides access to the project site via Mathilda Avenue, Taaffe Street, Murphy Avenue, and Sunnyvale Avenue.

Mathilda Avenue is a six- to eight-lane north-south arterial that extends from Caribbean Drive to north to Talisman Drive to the south where it merges with Sunnyvale-Saratoga Road. This road provides access to the six project sites via Washington Avenue, McKinley Avenue, and Iowa Street.

McKinley Avenue is a two- to four-lane east-west roadway extending from Sunset Avenue to Bayview Avenue. McKinley Avenue runs parallel to Washington Avenue, and the roadway passes directly through the DSP area between Mathilda Avenue and Sunnyvale Avenue.

Murphy Avenue is a two-lane north-south roadway that extends from Evelyn Avenue to El Camino Real. Murphy Avenue runs parallel to Sunnyvale Avenue, and the roadway passes directly through the DSP area.

¹⁴¹ Class I Arterial is defined as roadways that serve major centers of metropolitan areas, provide a high degree of mobility and can also provide mobility through rural areas. Class I Arterial roadways provide access to specific parcels and at-grade intersections with other roadways.

Sunnyvale Avenue/Sunnyvale-Saratoga Road is a north-south roadway that extends from Maude Avenue to Junipero Serra Freeway. Sunnyvale Avenue runs parallel to Mathilda Avenue. North of El Camino Real, Sunnyvale Avenue is a two-lane roadway. South of El Camino Real, Sunnyvale-Saratoga Avenue is a six-lane roadway. This road provides access to the six project sites via Washington Avenue, Evelyn Avenue, McKinley Avenue, and Iowa Street.

Taaffe Street is a two-lane north-south roadway extending from Altair Way to El Camino Real. Taaffe Street runs parallel to Murphy Avenue and Sunnyvale Avenue. This road provides direct access to the 100 Altair Way, 300 West Washington Avenue, Macy's and Redwood Square sites.

Washington Avenue is a two-lane east-west roadway that extends from Acalanes Drive to Evelyn Avenue and passes through the DSP area. Washington Avenue provides direct access to the 300 West Washington Avenue, Macy's and Redwood Square, and Town Center Sub-block 6 sites.

Wolfe Road is a four-lane north-south roadway that extends from Stevens Creek Boulevard to Maude Avenue. South of Reed Avenue, Wolfe Road is a two-lane north-south avenue. This road provides access to the DSP area via Evelyn Avenue.

Pedestrian Facilities

Pedestrian facilities comprise of sidewalks and crosswalks. Sidewalks are present in the DSP area along all of the streets except for Evelyn Avenue, west of the Sunnyvale Caltrain station driveway. In this area, the ramp to northbound Mathilda Avenue makes a sidewalk infeasible. Within the DSP area, crosswalks are provided on all legs of the study intersections with the following exceptions:

- Evelyn Avenue/Carroll Street: all three legs
- Evelyn Avenue/South Murphy Street: east leg
- Evelyn Avenue/Southbound Mathilda Avenue Off-Ramp: east leg
- Washington Avenue/Carroll Street: east and west legs
- Washington Avenue/Aries Way: east and west legs
- McKinley Avenue/Carroll Street: east and west legs
- Iowa Avenue/Carroll Street: all four legs
- Olive Avenue/Carroll Street: east and west legs

The sidewalk network is complete without gaps near the six project sites. The six project sites are within approximately 0.3 mile from the Sunnyvale Caltrain, Evelyn Avenue/Frances Street VTA bus stop, and Mathilda Avenue/Washington Avenue VTA bus stop using the pedestrian network.

Bicycle Facilities

Designated bike lanes (Class II Bikeways)¹⁴² are present along the following roadways within 0.5 miles of the project site, as shown on Figure 3.17-2:

- Evelyn Avenue
- Mathilda Avenue (north of Washington Avenue and south of El Camino Real; northbound between Iowa and Washington Avenue)
- Sunnyvale Avenue (south of Evelyn Avenue)
- Hendy Avenue (between Sunnyvale Avenue and Fair Oaks Avenue)
- Old San Francisco Road (east of Sunnyvale Avenue)
- El Camino Real (east of Sunnyvale Avenue)

Designated bike routes (Class III Bikeways)¹⁴³ are present along Washington Avenue, Olive Avenue, and Sunnyvale Avenue.

Transit Facilities

The six project sites are located near several transit routes including bus service operated by VTA and passenger rail service operated by Caltrain. Existing transit facilities in the DSP area are shown in Figure 3.17-3 and described below.

VTA Bus Service

Route 22 provides service from Palo Alto Transit Center to Eastridge Transit Center via El Camino Real. On weekdays, frequencies are 10 to 15 minutes during the AM and PM peak periods and 15 to 20 minutes during off-peak time periods. Route 22 stops at El Camino/Mathilda, a walking distance of approximately 0.8 mile from the six project sites.

Route 26 provides service from Sunnyvale/Lockheed Martin Transit Center to Eastridge Transit Center. On weekdays, frequencies are 30 minutes during the AM and PM peak periods and 40 to 60 minutes during off-peak time periods. Route 26 stops at Fair Oaks Avenue/Evelyn Avenue, a walking distance of approximately 0.8 miles from the six project sites.

Route 32 provides service from San Antonio Shopping Center to Santa Clara Transit Center. On weekdays, frequencies are 30 minutes and 30 to 60 minutes off-peak. Route 32 stops at the Sunnyvale Caltrain Station, a walking distance of approximately 0.3 mile from the six project sites.

Route 53 provides service from West Valley College to Sunnyvale Transit Center. On weekdays, frequencies are approximately 60 minutes in the AM and PM peak periods as well as off-peak. Route 53 stops at Frances Street/Olson Way, a walking distance of approximately 0.3 mile from the six project sites.

¹⁴² Class II Bikeways are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage.

¹⁴³ Class III Bikeways are designated by signs or pavement markings for shared use with pedestrians or motor vehicles, but have no separated bike right-of-way or lane striping.

Route 54 provides service from De Anza College in the City of Cupertino to Sunnyvale/Lockheed Martin Transit Center. On weekdays, frequencies are 30 minutes during the AM and PM peak periods and approximately 40 minutes off-peak. Route 54 stops at Frances Street/Olson Way, a walking distance of approximately 0.3 mile from the six project sites.

Route 55 provides service from De Anza College in the City of Cupertino, the Sunnyvale Transit Center, and Great America amusement park in Santa Clara. On weekdays, frequencies are 15 minutes during the AM and PM peak periods and 30 minutes off-peak. Route 55 stops at Frances Street/Olson Way, a walking distance of approximately 0.3 mile from the six project sites.

Route 304 provides limited service from the Sunnyvale Transit Center to the Santa Teresa light rail station via Downtown San Jose. This route provides four trips northbound in the AM peak period and four southbound trips in the PM peak period. Route 304 stops at Frances Street/Olson Way, a walking distance of approximately 0.3 mile from the six project sites.

Route 522 provides service from Palo Alto Transit Center to Eastridge Transit Center. On weekdays, frequencies are 10 to 15 minutes during the AM and PM peak periods and 15 to 20 minutes during off-peak time periods. Route 522 stops at El Camino/Hollenbeck, a walking distance of approximately 0.9 mile from the six project sites.

Route 822 provides limited service to the Altamont Corridor Express commuter rail at the Great America-Santa Clara Station. Service includes four trips southbound in the AM peak period and four northbound in the PM peak period. Route 822 stops at Kifer Road/Hendy Avenue, a walking distance of approximately 0.8 mile from the six project sites.

VTA Next Network

VTA's Fiscal Year 18-19 Transit Service Plan adopted in May 2017 outlines the redesign of the transit network to increase ridership and to improve cost-effectiveness. The redesigned transit network strives for better balance between the service frequency and coverage in VTA's service area. The redesigned system, called the Next Network, is shown in Figure 3.17-4. The following route realignments and service frequency changes have been proposed for VTA bus routes in the DSP area:

- Route 32 stops at the Sunnyvale Caltrain Station, a walking distance of 0.3 mile from all the project site; it will be replaced with new Route 21. The frequency will remain at 30 minutes on weekdays and will decrease to 45 minutes on Saturdays.
- Route 54 runs along Mathilda Avenue and stops at Frances Street/Olson Way, a walking distance of approximately 0.3 mile from all project sites. This route will be discontinued due to low ridership and replaced with new Rapid Route 523, which provides service on the Mathilda Avenue/De Anza Boulevard corridor.
- Route 55 stops at Frances Street/Olson Way, a walking distance of approximately 0.3 mile from all project sites. This route's weekday peak headway will increase from 15 minutes to 30 minutes.
- Route 304 stops at Frances Street/Olson Way, a walking distance of approximately 0.3 mile from all project sites. This route will be discontinued due to low ridership. To replace the service by Route 304, riders could use the new Route 20 that would connect Milpitas BART

Station, Mission College, Santa Clara Square and Downtown Sunnyvale with weekday peak headways of 15 minutes.

Caltrain Service

Caltrain provides regional passenger rail service between San Francisco and San Jose, with extended service to Morgan Hill and Gilroy during weekday commute hours. The Sunnyvale Caltrain station is located within the DSP area and is within approximately 0.3 mile of all the project sites. The station is accessible from the six project sites via walking, biking, driving, and public transit. A limited amount of paid parking is available at Sunnyvale's Caltrain station. This station is a stop for the Caltrain baby bullet during morning and evening commute hours and maintains one-hour headways throughout the day.

3.17.2 Transportation/Traffic Impacts

Section 15064.3(c) of the CEQA Guidelines specifically provide that a lead agency may elect to immediately be governed by the provisions regarding transportation thresholds that became effective on December 28, 2018, but the provisions do not become effective statewide until July 1, 2020. The City is undergoing a comprehensive update to its CEQA thresholds, and the transportation thresholds will be updated prior to July 1, 2020 in connection with VTA. Because the City has not yet adopted local thresholds of significance to implement SB 743 and the relevant CEQA Guidelines are not yet applicable statewide, for the purposes of this EIR, a transportation/traffic impact is considered significant if the project would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
- Substantially increase hazards use to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?
- Conflict with adopted policies, plans, or programs regarding public transit bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

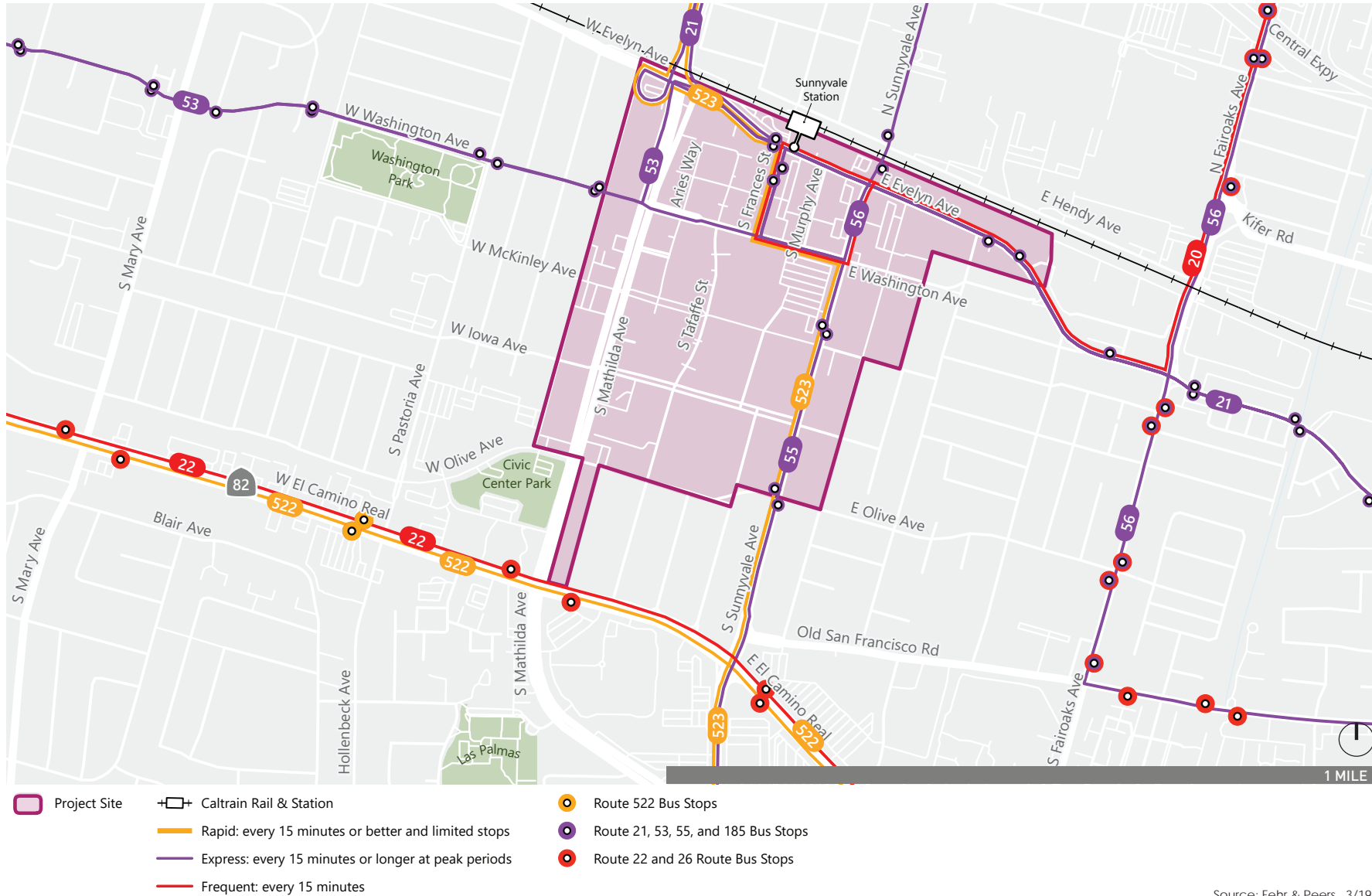




Source: Fehr & Peers., 3/19/2019

EXISTING TRANSIT SERVICE

FIGURE 3.17-3



Source: Fehr & Peers., 3/19/2019

VTA NEXT NETWORK TRANSIT ROUTES

FIGURE 3.17-4

3.17.2.1 *Project Impacts*

Impact TRN-1: The project would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Level of Service

The following discussion of LOS is provided as it pertains to consistency with the City's DSP Policy C.1 and existing practice, and LOS policies for applicable jurisdictions. The LOS standards for applicable jurisdictions are summarized in Table 3.17-4.

Table 3.17-4: Signalized Intersection LOS Standards	
Jurisdiction	Intersection LOS Standard
City of Sunnyvale	LOS D for all City-controlled signalized intersections, except for CMP intersections and regionally significant roadways
City of Mountain View	LOS D for all City of Mountain View intersections; LOS E for Downtown Mountain View; LOS E for San Antonio Shopping Center; LOS E for CMP facilities
City of Santa Clara	LOS D, except designated CMP and Expressway intersections (LOS E threshold)
City of Cupertino	LOS D for all City of Cupertino intersections, except at three intersections where LOS E+ is acceptable ¹
County of Santa Clara	LOS E for all County expressway intersections
Congestion Management Program (CMP)	LOS E for all CMP intersections
¹ The three intersections are Stevens Creek Boulevard/De Anza Boulevard, Stevens Creek Boulevard/Stelling Road, and De Anza Boulevard/Bollinger Road.	

Significant LOS impacts due to the project would occur at signalized intersections if the addition of project traffic causes:

- Intersection operations to deteriorate from an acceptable LOS under no project conditions to an unacceptable LOS under the corresponding plus project conditions;
- Exacerbation of unacceptable no project conditions by increasing the average critical delay¹⁴⁴ by more than four seconds and increasing the critical volume-to-capacity (V/C) ratio by 0.01 or more; or
- An increase in the critical V/C ratio of 0.01 or more at an intersection with unacceptable operations when the change in critical delay is negative (i.e., decreases). This can occur if the intersection critical movements change.

Significant LOS impacts due to the project would occur at unsignalized intersections if one of the following criteria are met:

- Intersection operates at an acceptable LOS D or better without the project and degrades to an unacceptable LOS E or F with the addition of project traffic;
- Intersection operates at an unacceptable LOS E or F without the project and the addition of project traffic increases:
 - The average intersection delay by four seconds or more and the V/C ratio by 0.01 or more for all-way stop controlled intersections; or
 - The worst movement delay by four seconds or more and the V/C ratio by 0.01 or more for side-street stop-controlled intersections.
- Intersection meets the peak hour volume warrant for installation of a traffic signal as per the latest edition of the California Manual on Uniform Traffic Control Devices (CA MUTCD).

LOS analysis at unsignalized intersections is generally used to determine the need to modify the type of intersection control (i.e., all-way stop or signalization). As part of the evaluation, traffic volumes and delays are evaluated to determine if the existing intersection control is appropriate. The peak hour signal warrant is evaluated if the unsignalized intersection operates at unacceptable levels of service.

Scope of Study

A total of 79 study intersections were selected, pursuant to the VTA's Transportation Impact Analysis Guidelines which indicates that intersections should be included if the project adds 10 or more peak hour vehicles per lane to any intersection movement. The study intersections are shown on Figure 3.17-1 and listed below in Table 3.17-5. The jurisdiction column identifies the public agency that sets the standard of operation of the intersection and/or has authority over improvements at the intersection.

¹⁴⁴ Critical delay represents the delay associated with the critical movements of the intersection, or the movements that require the more "green time" and have the greatest effect on overall intersection operations.

Table 3.17-5: Study Intersection LOS Standards			
Study Intersection	Jurisdiction	CMP or Regionally Significant Intersection	LOS Standard
1. Ellis Street/Middlefield Road (City of Mountain View)	Mountain View	No	D
2. SR 237 WB/Middlefield Road (City of Mountain View)	Mountain View	No	D
3. SR 237 EB/Middlefield Road (City of Mountain View)	Mountain View	No	D
4. SR-85 SB Off-Ramp/Central Expressway (Santa Clara County)	Santa Clara County	No	E
5. SR-85 NB On-Ramp - Easy Street/Central Expressway (Santa Clara County)*	Santa Clara County	No	E
6. Whisman Station Drive/Central Expressway (Santa Clara County/CMP)	VTa/Santa Clara County	Yes	E
7. Ferguson Drive/Central Expressway (Santa Clara County/CMP)	VTa/Santa Clara County	Yes	E
8. Bernardo Avenue/Central Expressway (Santa Clara County)	Santa Clara County	No	E
9. Moorpark Way/Evelyn Avenue (City of Mountain View)	Mountain View	No	D
10. Bernardo Avenue/Evelyn Avenue (City of Sunnyvale)	Sunnyvale	No	D
11. Sylvan Avenue/El Camino Real (City of Mountain View/CMP)	CMP/Mountain View	Yes	E
12. Bernardo Avenue/El Camino Real (City of Sunnyvale/Caltrans)	Sunnyvale/Caltrans	Yes	E
13. Mary Avenue/Central Expressway (Santa Clara County/CMP)	VTa/Santa Clara County	Yes	E
14. Mary Avenue/Evelyn Avenue (City of Sunnyvale)	Sunnyvale	No	D
15. Mary Avenue/Washington Avenue (City of Sunnyvale)	Sunnyvale	No	D
16. Mary Avenue/El Camino Real (CMP/Caltrans)	CMP/Sunnyvale/Caltrans	Yes	E
17. Pastoria Avenue/Washington Avenue (City of Sunnyvale)	Sunnyvale	No	D
18. El Camino Real/Hollenbeck Avenue – Pastoria Avenue (City of Sunnyvale/Caltrans)	Sunnyvale/Caltrans	Yes	E
19. Hollenbeck Avenue/Remington Drive (City of Sunnyvale)	Sunnyvale	No	D

Table 3.17-5: Study Intersection LOS Standards			
Study Intersection	Jurisdiction	CMP or Regionally Significant Intersection	LOS Standard
20. Hollenbeck Avenue/Fremont Avenue (City of Sunnyvale)	Sunnyvale	No	D
21. Hollenbeck Avenue/Cascade Drive (City of Sunnyvale)	Sunnyvale	No	D
22. Mathilda Avenue/SR 237 WB (City of Sunnyvale)	Sunnyvale	Yes	E
23. Mathilda Avenue/SR 237 EB (City of Sunnyvale)	Sunnyvale	Yes	E
24. Mathilda Avenue/Ross Drive (City of Sunnyvale)	Sunnyvale	Yes	E
25. Mathilda Avenue/Maude Avenue (City of Sunnyvale/CMP)	VTa/Sunnyvale	Yes	E
26. Mathilda Avenue/Indio Avenue (City of Sunnyvale)	Sunnyvale	Yes	E
27. Mathilda Avenue/California Avenue (City of Sunnyvale)	Sunnyvale	Yes	E
28. Mathilda Avenue Southbound Off-Ramp/Evelyn Avenue (City of Sunnyvale)	Sunnyvale	Yes	E
29. Mathilda Avenue/Washington Avenue (City of Sunnyvale)	Sunnyvale	Yes	E
30. Mathilda Avenue/McKinley Avenue (City of Sunnyvale)	Sunnyvale	Yes	E
31. Mathilda Avenue/Iowa Avenue (City of Sunnyvale)	Sunnyvale	Yes	E
32. Mathilda Avenue/Olive Avenue (City of Sunnyvale)	Sunnyvale	Yes	E
33. Mathilda Avenue/El Camino Real (City of Sunnyvale/CMP)	VTa/Sunnyvale	Yes	E
34. Washington Avenue/Aries Way (City of Sunnyvale)*	Sunnyvale	No	D
35. Washington Avenue/Taaffe Street (City of Sunnyvale)	Sunnyvale	No	D
36. Iowa Avenue/Taaffe Street (City of Sunnyvale)	Sunnyvale	No	D
37. Evelyn Avenue/Frances Street (City of Sunnyvale)	Sunnyvale	No	D
38. Washington Avenue/Frances Street (City of Sunnyvale)*	Sunnyvale	No	D

Table 3.17-5: Study Intersection LOS Standards			
Study Intersection	Jurisdiction	CMP or Regionally Significant Intersection	LOS Standard
39. Murphy Avenue/Washington Avenue (City of Sunnyvale)*	Sunnyvale	No	D
40. Iowa Avenue/Murphy Avenue (City of Sunnyvale)*	Sunnyvale	No	D
41. Sunnyvale Avenue/Maude Avenue (City of Sunnyvale)	Sunnyvale	No	D
42. Sunnyvale Avenue/Arques Avenue (City of Sunnyvale)	Sunnyvale	No	D
43. Sunnyvale Avenue/California Avenue (City of Sunnyvale)	Sunnyvale	No	D
44. Sunnyvale Avenue/Evelyn Avenue (City of Sunnyvale)	Sunnyvale	No	D
45. Sunnyvale Avenue/Washington Avenue (City of Sunnyvale)	Sunnyvale	No	D
46. Sunnyvale Avenue/McKinley Avenue (City of Sunnyvale)	Sunnyvale	No	D
47. Sunnyvale Avenue/Iowa Avenue (City of Sunnyvale)	Sunnyvale	No	D
48. Sunnyvale Avenue/Olive Avenue (City of Sunnyvale)	Sunnyvale	No	D
49. Sunnyvale Avenue/Old San Francisco Road (City of Sunnyvale)	Sunnyvale/Caltrans	No	D
50. Sunnyvale Avenue/El Camino Real (CMP/City of Sunnyvale/Caltrans)	VTa/Sunnyvale/Caltrans	Yes	E
51. Mathilda Avenue/Saratoga-Sunnyvale Road - Talisman Drive (City of Sunnyvale)	Sunnyvale	Yes	E
52. Sunnyvale-Saratoga Road/Remington Drive (City of Sunnyvale/CMP)	VTa/Sunnyvale	Yes	E
53. Sunnyvale-Saratoga Road/Fremont Avenue (City of Sunnyvale/CMP)	VTa/Sunnyvale	Yes	E
54. Sunnyvale-Saratoga Road/Alberta Avenue - Harwick Way (City of Sunnyvale)	Sunnyvale	Yes	E
55. De Anza Boulevard/Homestead Road (Cupertino/CMP)	Cupertino/VTa	Yes	D
56. De Anza Boulevard/I-280 Northbound Ramps (Cupertino/CMP)	Cupertino/VTa	Yes	D
57. De Anza Boulevard/I-280 Southbound Ramps (Cupertino/CMP)	Cupertino/VTa	Yes	D

Table 3.17-5: Study Intersection LOS Standards			
Study Intersection	Jurisdiction	CMP or Regionally Significant Intersection	LOS Standard
58. Fair Oaks Avenue/US 101 Northbound Ramp (Sunnyvale/Caltrans)	Sunnyvale/Caltrans	No	D
59. Fair Oaks Avenue/Ahwanee Avenue (City of Sunnyvale)	Sunnyvale	No	D
60. Fair Oaks Avenue/Duane Avenue (City of Sunnyvale)	Sunnyvale	No	D
61. Fair Oaks Avenue/Wolfe Road (City of Sunnyvale)	Sunnyvale	No	D
62. Fair Oaks Avenue/Maude Avenue (City of Sunnyvale)	Sunnyvale	No	D
63. Fair Oaks Avenue/Arques Avenue (City of Sunnyvale)	Sunnyvale	No	D
64. Central Expressway WB Off-Ramp/Arques Avenue (Santa Clara County)*	Santa Clara County	No	E
65. Fair Oaks Avenue/California Avenue (City of Sunnyvale)	Sunnyvale	No	D
66. Fair Oaks Avenue/Evelyn Avenue (City of Sunnyvale)	Sunnyvale	No	D
67. Fair Oaks Avenue/Old San Francisco Road (City of Sunnyvale)	Sunnyvale	No	D
68. Fair Oaks Avenue/El Camino Real (CMP/City of Sunnyvale/Caltrans)	CMP/Sunnyvale/Caltrans	Yes	E
69. Wolfe Road/Old San Francisco Road (City of Sunnyvale)	Sunnyvale/Caltrans	No	D
70. Wolfe Road/El Camino Real (CMP/City of Sunnyvale/Caltrans)	CMP/Sunnyvale/Caltrans	Yes	E
71. Wolfe Road/Fremont Avenue (City of Sunnyvale)	Sunnyvale	No	D
72. Lawrence Expressway/Monroe Street (Santa Clara County/CMP)	VTa/Santa Clara County	Yes	E
73. Lawrence Expressway/El Camino Real (Santa Clara County/CMP)	VTa/Santa Clara County	Yes	E
74. Lawrence Expressway/Benton Street (Santa Clara County)	Santa Clara County	No	E
75. Lawrence Expressway/Lochinvar Avenue (Santa Clara County)	Santa Clara County	No	E
76. Lawrence Expressway/Homestead Road (Santa Clara County/CMP)	VTa/Santa Clara County	Yes	E

Table 3.17-5: Study Intersection LOS Standards			
Study Intersection	Jurisdiction	CMP or Regionally Significant Intersection	LOS Standard
77. Lawrence Expressway/Lehigh Drive (Santa Clara County)	Santa Clara County	No	E
78. Lawrence Expressway/Pruneridge Avenue (Santa Clara County)	Santa Clara County	No	E
79. Calabazas Boulevard/El Camino Real (City of Santa Clara)	Santa Clara	No	D
Note: * denotes unsignalized intersection			

The following study freeway segments were selected for analysis based on VTA guidelines.

- I-280, Magdalena Avenue to Foothill Expressway
- I-280, Foothill Expressway to SR 85
- I-280, SR 85 to De Anza Boulevard
- I-280, De Anza Boulevard to Wolfe Road
- I-280, Wolfe Road to Lawrence Expressway
- I-280, Lawrence Expressway to Saratoga Avenue
- I-280, Saratoga Avenue to Winchester Boulevard
- SR 237, Sylvan Avenue to Maude Avenue
- SR 237, Maude Avenue to US 101
- SR 237, US 101 to Mathilda Avenue
- SR 237, Mathilda Avenue to Fair Oaks Avenue
- SR 237, Fair Oaks Avenue to Lawrence Expressway
- SR 237, Lawrence Expressway to Great America Parkway
- US 101, De La Cruz Boulevard to Montague Expressway
- US 101, Montague Expressway Bowers Avenue
- US 101, Bowers Avenue to Lawrence Expressway
- US 101, Lawrence Expressway to Fair Oaks Avenue
- US 101, Fair Oaks Avenue to Mathilda Avenue
- US 101, Mathilda Avenue to SR 237
- US 101, SR 237 to Moffett Boulevard
- US 101, Moffett Boulevard to SR 85
- US 101, SR 85 to Shoreline Boulevard

The operations of the study intersections were evaluated during the weekday morning (7:00 to 9:00 AM) and weekday evening (4:00 to 6:00 PM) peak hours for the following scenarios:

- Existing conditions – existing peak hour traffic volumes on the existing roadway. Existing traffic volumes were obtained from traffic counts.

- Existing plus project conditions – existing traffic volumes with the addition of traffic generated by the project.
- Background conditions – existing traffic volumes plus traffic from approved but not yet built or occupied developments in the area. Background conditions also includes approved and funded intersection geometry improvements. The complete list of approved projects included in the background conditions is included in Appendix I.
- Background plus project conditions – background traffic volumes with the addition of net traffic generated by the project. Net project trips were calculated by subtracting the trips generated by the proposed land uses from the trip estimates for the approved land uses on the six project sites.
- Cumulative conditions – background traffic volumes plus traffic from pending developments in the area and a 1.5 percent per year compound growth factor applied to existing volumes.
- Cumulative plus project conditions – cumulative traffic volumes plus net traffic generated by the project. Net project trips were calculated by subtracting the trips generated by the proposed land uses from the trip estimates for the approved land uses on the six project sites.

Refer to Appendix I for additional detail on the study scenarios listed above, including the list of approved and pending projects included in the background and cumulative conditions.

Project Traffic Estimates

The amount of traffic added to the roadway system by the project is estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of traffic added to the roadway network. The second step estimates the regional origin and destination areas for trips coming to/going from the six project sites. The new trips are assigned to specific street segments and intersection turning movements during the third step.

- Trip Generation – The amount of traffic anticipated to be added to the surrounding roadway system by the project was estimated by subtracting the amount of traffic estimated by the existing uses on the six project sites from the amount of traffic generated by the proposed uses. The vehicle trips generated by the existing and proposed uses were estimated based on data published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017). Additionally, transit reductions and mixed-use reductions were applied per VTA TIA Guidelines.

As outlined in Table 3.17-6, the project is estimated to generate 13,250 net new daily trips, 1,186 net new AM peak hour trips (870 inbound and 316 outbound), and 1,424 PM peak hour trips (430 inbound and 994 outbound) under existing plus project conditions. The trip generation estimates for the project are lower under background and cumulative conditions (compared to under existing conditions), because the project gets larger trip credits for approved developments on the six project sites under background conditions and the maximum amount of development allowed on the six project sites under the approved DSP under cumulative conditions. The amount of development approved and allowed under the adopted DSP is greater than the existing amount of development on the six project sites (refer to Table 2.3-1). Detailed trip generation estimates for Background and Cumulative Conditions are included in Appendix I.

Table 3.17-6: Project Trip Generation Estimates

Land Use	Size ⁴	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Proposed Land Uses								
Apartment	843 du ¹	4,586	79	224	303	226	145	371
Mixed-Use and Transit Reduction		(1,239)	(23)	(50)	(73)	(61)	(39)	(100)
Apartment Subtotal (A)		3,347	56	174	230	165	106	271
Commercial	260 ksf	9,817	151	93	244	476	515	991
Mixed-Use Reduction		(688)	(23)	(14)	(37)	(22)	(34)	(52)
Commercial Subtotal (B)		9,129	128	79	207	454	481	935
Office	861 ksf	8,382	858	140	998	158	832	990
Mixed-Use and Transit Reduction		(641)	(59)	(10)	(69)	(13)	(57)	(70)
Office Subtotal (C)		7,741	799	130	929	145	775	920
Total Project Trips (D) = (A) + (B) +(C)		20,217	983	383	1,366	764	1,362	2,126
Existing Land Uses ²								
Apartment Subtotal (E)	20 du	80	2	2	4	2	4	6
Commercial Subtotal (F)	181 ksf	6,817	105	64	169	331	358	689
Office Subtotal (G)	8 ksf	70	6	1	7	1	6	7
Total Existing Trips (H) = (E) + (F) + (G)		6,967	113	67	180	334	368	702
Net New Project Trips (I) = (D) – (H)		13,250	870	316	1,186	430	994	1,424
Notes: ¹ du = dwelling unit, ksf = 1,000 square feet ² Existing land uses include mixed-use and transit reductions.								

- Trip Distribution and Assignment – The distribution of the traffic generated by the project onto the roadway system was based on the locations of complementary land uses, prevailing travel patterns, surrounding population densities, and recent TIAs completed in the area. Project trips were assigned to the roadway network based on the trip distribution patterns discussed above. The trip distribution patterns and assignments are included in Appendix I.

Existing and Existing Plus Project Conditions

Impacted Intersections

The results of the intersection LOS analysis under existing and existing plus project conditions are shown in Table 3.17-7. As shown in Table 3.17-7, the results indicate that all study intersections operate at acceptable service levels (generally LOS D or better for City intersections and LOS E or better for regionally significant, expressway, and CMP intersections) during the AM and PM peak hours under existing and existing plus project conditions.¹⁴⁵ **(Less than Significant Impact)**

Table 3.17-7: Existing and Existing Plus Project Intersection Level of Service								
Intersection	LOS Standard ¹	Peak Hour ²	Existing		Existing Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
1. Ellis Street/Middlefield Road	D	AM	14.8	B	14.8	B	-0.002	0
		PM	15.3	B	15.3	B	0.010	0
2. SR 237 WB/Middlefield Road	D	AM	19.7	B-	19.7	B-	0.004	0
		PM	14.6	B	14.6	B	0.006	0
3. SR 237 EB/Middlefield Road	D	AM	22.5	C+	22.4	C+	0.004	0
		PM	20.3	C+	20.3	C+	0.012	0.3
4. SR-85 SB Off-Ramp/Central Expressway	E	AM	11.8	B+	11.9	B+	0.006	0.1
		PM	14.3	B	14.4	B	0.006	0
5. SR-85 NB On-Ramp - Easy Street/Central Expressway*	E	AM	13.1	B	13.2	B	0.001	0
		PM	13.3	B	13.5	B	0.001	0
6. Whisman Station Drive/Central Expressway ⁺	E	AM	18	B-	17.9	B	0.003	0
		PM	12	B	12	B	0.009	-0.1

Table 3.17-7: Existing and Existing Plus Project Intersection Level of Service								
Intersection	LOS Standard¹	Peak Hour²	Existing		Existing Plus Project			
			Delay³	LOS⁴	Delay³	LOS⁴	Change in Critical V/C⁵	Change in Average Critical Delay⁶
7. Ferguson Drive/Central Expressway ⁺	E	AM	7.6	A	7.6	A	0.009	0.2
		PM	8.5	A	8.6	A	0.016	0.1
8. Bernardo Avenue/Central Expressway	E	AM	9.8	A	9.8	A	0.010	0.2
		PM	7	A	7.1	A	0.018	0.1
9. Moorpark Way/Evelyn Avenue	D	AM	13.7	B	14.1	B	0.015	0.4
		PM	17	B	17.6	B	0.013	0.8
10. Bernardo Avenue/Evelyn Avenue	D	AM	26.6	C	26.9	C	0.006	0.5
		PM	15.7	B	16.2	B	0.015	0.9
11. Sylvan Avenue/El Camino Real ⁺	E	AM	39.7	D	39.7	D	0.003	0.1
		PM	35.7	D+	35.8	D+	0.007	0.2
12. Bernardo Avenue/El Camino Real ⁺	E	AM	39.8	D	39.7	D	0.004	0
		PM	38.9	D+	39	D+	0.007	0.1
13. Mary Avenue/Central Expressway ⁺	E	AM	42	D	42	D	0.007	0.2
		PM	52.8	D-	52.9	D-	-0.001	-0.4
14. Mary Avenue/Evelyn Avenue	D	AM	37.5	D+	37.6	D+	0.006	0.1
		PM	44.1	D	44.8	D	0.016	1.2
15. Mary Avenue/Washington Avenue	D	AM	15.9	B	16.8	B	0.019	1.2
		PM	17.5	B	18.2	B-	0.007	0.6
16. Mary Avenue/El Camino Real ⁺	E	AM	46.2	D	46.1	D	0.004	0
		PM	48.4	D	48.5	D	0.007	0.2
17. Pastoria Avenue/Washington Avenue	D	AM	26	C	26.1	C	0.013	0.2
		PM	25.9	C	25.7	C	0.029	-0.2
18. El Camino Real/Hollenbeck Avenue - Pastoria Avenue ⁺	E	AM	38.7	D+	39.1	D	0.016	0.6
		PM	40.8	D	41.5	D	0.023	1.4

Table 3.17-7: Existing and Existing Plus Project Intersection Level of Service								
Intersection	LOS Standard¹	Peak Hour²	Existing		Existing Plus Project			
			Delay³	LOS⁴	Delay³	LOS⁴	Change in Critical V/C⁵	Change in Average Critical Delay⁶
19. Hollenbeck Avenue/Remington Drive	D	AM	24.2	C	24.6	C	0.027	0.7
		PM	27.2	C	28.1	C	0.038	1.1
20. Hollenbeck Avenue/Fremont Avenue	D	AM	45.5	D	45.9	D	0.021	0.8
		PM	48.3	D	48.9	D	0.023	1.1
21. Hollenbeck Avenue/Cascade Drive	D	AM	9.1	A	9.3	A	0.016	0.3
		PM	8.1	A	8.4	A	0.026	0.3
22. Mathilda Avenue/SR 237 WB ⁺	E	AM	21.5	C	22.1	C	0.000	7.2
		PM	29.6	C	30.1	C	0.001	0.3
23. Mathilda Avenue/SR 237 EB ⁺	E	AM	38.2	D	40.2	D	0.005	5.4
		PM	60.5	E	53.9	D	0.008	0.3
24. Mathilda Avenue/Ross Drive ⁺	E	AM	24.6	C	24.7	C	0.010	0.1
		PM	26.4	C	26.4	C	0.006	0.1
25. Mathilda Avenue/Maude Avenue ⁺	E	AM	40.3	D	40.5	D	0.013	0.3
		PM	47	D	47.4	D	0.01	0
26. Mathilda Avenue/Indio Avenue ⁺	E	AM	31.7	C	31.5	C	0.011	0.1
		PM	29.6	C	30.8	C	0.029	2.2
27. Mathilda Avenue/California Avenue ⁺	E	AM	25.2	C	28.5	C	0.072	5.7
		PM	30	C	32.1	C-	0.045	2.9
28. Mathilda Avenue Southbound Off-Ramp/Evelyn Avenue ⁺	E	AM	6.2	A	6.4	A	0.008	0
		PM	10.1	B+	9.8	A	0.008	-0.1
29. Mathilda Avenue/Washington Avenue ⁺	E	AM	34.3	C-	35.7	D+	0.045	2.9
		PM	35.6	D+	42.3	D	0.09	9.6
30. Mathilda Avenue/McKinley Avenue ⁺	E	AM	15.4	B	31.8	C	0.217	21.8
		PM	19.7	B-	35.7	D+	0.159	16.3

Table 3.17-7: Existing and Existing Plus Project Intersection Level of Service								
Intersection	LOS Standard¹	Peak Hour²	Existing		Existing Plus Project			
			Delay³	LOS⁴	Delay³	LOS⁴	Change in Critical V/C⁵	Change in Average Critical Delay⁶
31. Mathilda Avenue/Iowa Avenue ⁺	E	AM	12.8	B	14	B	0.049	1.3
		PM	19.5	B-	22.7	C+	0.091	4.4
32. Mathilda Avenue/Olive Avenue ⁺	E	AM	14	B	13.8	B	0.053	0.3
		PM	20.7	C+	20.1	C+	0.061	-0.3
33. Mathilda Avenue/El Camino Real ⁺	E	AM	47.8	D	50.2	D	0.054	2.7
		PM	46.1	D	46.5	D	0.027	0.5
34. Washington Avenue/Aries Way*	D	AM	9	A	9.3	A	0.010	0
		PM	9.9	A	10	B	0.069	0.5
35. Washington Avenue/Taaffe Street	D	AM	15	B	15.8	B	0.076	1.2
		PM	12.3	B	13.5	B	0.052	1.7
36. Iowa Avenue/Taaffe Street	D	AM	24.8	C	24.6	C	0.076	-0.5
		PM	23.6	C	24.8	C	0.055	0.2
37. Evelyn Avenue/Frances Street	D	AM	19.1	B-	18.9	B-	0.005	0.1
		PM	15.2	B	15.3	B	0.009	-0.1
38. Washington Avenue/Frances Street*	D	AM	9.8	A	10.2	B	0.023	0
		PM	14	B	16.1	C	0.050	0.3
39. Murphy Avenue/Washington Avenue*	D	AM	7.6	A	7.9	A	0.054	0.3
		PM	9.8	A	10.6	B	0.065	0.8
40. Iowa Avenue/Murphy Avenue*	D	AM	7.4	A	9.6	A	0.008	0.4
		PM	0.1	A	10.9	B	0.022	0.8
41. Sunnyvale Avenue/Maude Avenue	D	AM	14.7	B	14.8	B	0.001	0.1
		PM	13.8	B	14.5	B	0.007	0.8
42. Sunnyvale Avenue/Arques Avenue	D	AM	21.1	C+	20.9	C+	0.007	0
		PM	14.3	B	14.3	B	0.002	0

Table 3.17-7: Existing and Existing Plus Project Intersection Level of Service								
Intersection	LOS Standard¹	Peak Hour²	Existing		Existing Plus Project			
			Delay³	LOS⁴	Delay³	LOS⁴	Change in Critical V/C⁵	Change in Average Critical Delay⁶
43. Sunnyvale Avenue/California Avenue	D	AM	7.7	A	7.7	A	0.007	0
		PM	14	B	13.9	B	0.006	0.1
44. Sunnyvale Avenue/Evelyn Avenue	D	AM	25.6	C	26.3	C	0.021	0.7
		PM	20	C+	21.2	C+	0.039	0.5
45. Sunnyvale Avenue/Washington Avenue	D	AM	16.2	B	17.1	B	0.099	4.1
		PM	17.5	B	17.7	B	0.056	0.7
46. Sunnyvale Avenue/McKinley Avenue	D	AM	12	B	13.1	B	0.030	0.2
		PM	25.5	C	32.2	C-	0.144	8.7
47. Sunnyvale Avenue/Iowa Avenue	D	AM	13.2	B	13.9	B	0.073	0.5
		PM	20.8	C+	21.3	C+	0.116	1.6
48. Sunnyvale Avenue/Olive Avenue	D	AM	14.2	B	14.3	B	0.106	0.3
		PM	17.2	B	17.2	B	0.114	1.1
49. Sunnyvale Avenue/Old San Francisco Road	D	AM	13.8	B	15.5	B	0.073	1.9
		PM	14	B	15.7	B	0.077	2.9
50. Sunnyvale Avenue/El Camino Real ⁺	E	AM	38.2	D+	39.1	D	0.050	1.5
		PM	36.4	D+	37.6	D+	0.042	1.6
51. Mathilda Avenue/Saratoga-Sunnyvale Road - Talisman ⁺	E	AM	22.5	C+	22.9	C+	0.027	0.7
		PM	29.8	C	31.1	C	0.048	1.8
52. Sunnyvale-Saratoga Road/Remington Drive ⁺	E	AM	40.8	D	41.5	D	0.033	1.2
		PM	43.7	D	43.7	D	0.040	0.1
53. Sunnyvale-Saratoga Road/Fremont Avenue ⁺	E	AM	45.0	D	45.5	D	0.033	1.1
		PM	46.1	D	46.4	D	0.033	0.3
54. Sunnyvale-Saratoga Road/Alberta Avenue - Harwick Way ⁺	E	AM	33.3	C-	33.9	C-	0.033	1.1
		PM	27.8	C	27.8	C	0.035	0.2

Table 3.17-7: Existing and Existing Plus Project Intersection Level of Service								
Intersection	LOS Standard ¹	Peak Hour ²	Existing		Existing Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
55. De Anza Boulevard/ Homestead Road ⁺	D	AM	52.9	D-	53.2	D-	0.020	0.5
		PM	53.9	D-	54.4	D-	0.022	0.8
56. De Anza Boulevard/I-280 Northbound Ramps ⁺	D	AM	38.5	D+	39.3	D	0.025	2.4
		PM	43.5	D	43.9	D	0.017	0.5
57. De Anza Boulevard/I-280 Southbound Ramps ⁺	D	AM	46.1	D	46.7	D	0.013	1.5
		PM	35.9	D+	36.9	D+	0.023	1.6
58. Fair Oaks Avenue/US 101 Northbound Ramp	D	AM	16.4	B	16.6	B	0.014	0.4
		PM	20.1	C+	20.3	C+	0.006	0.5
59. Fair Oaks Avenue/Ahwanee Avenue	D	AM	16.7	B	16.6	B	0.004	0
		PM	10.9	B+	10.8	B+	0.004	0
60. Fair Oaks Avenue/Duane Avenue	D	AM	27	C	26.8	C	0.005	0
		PM	25.1	C	25.3	C	0.012	0.1
61. Fair Oaks Avenue/Wolfe Road	D	AM	8.4	A	8.3	A	0.006	0
		PM	8.1	A	8.6	A	0.021	0.5
62. Fair Oaks Avenue/Maude Avenue	D	AM	22.9	C+	22.6	C+	0.015	-0.5
		PM	23.7	C	23.5	C	0.014	0.5
63. Fair Oaks Avenue/Arques Avenue	D	AM	36.3	D+	36.1	D+	0.011	-0.2
		PM	39.5	D	39.4	D	0.008	0.2
64. Central Expressway WB Off-Ramp/Arques Avenue*	E	AM	12.7	B	13	B	0.031	0.3
		PM	20.9	C	21.5	C	0.015	0.2
65. Fair Oaks Avenue/California Avenue	D	AM	11.8	B+	11.6	B+	0.006	-0.1
		PM	16.7	B	16.5	B	0.008	0
66. Fair Oaks Avenue/Evelyn Avenue	D	AM	31.3	C	31.8	C	0.015	1
		PM	30	C	30.7	C	0.004	0.2

Table 3.17-7: Existing and Existing Plus Project Intersection Level of Service								
Intersection	LOS Standard¹	Peak Hour²	Existing		Existing Plus Project			
			Delay³	LOS⁴	Delay³	LOS⁴	Change in Critical V/C⁵	Change in Average Critical Delay⁶
67. Fair Oaks Avenue/Old San Francisco Road	D	AM	34.8	C-	35.6	D+	0.028	1.4
		PM	31.4	C	32.3	C-	0.019	1.2
68. Fair Oaks Avenue/El Camino Real ⁺	E	AM	31	C	30.8	C	0.028	-0.5
		PM	36.9	D+	37	D+	0.026	-0.1
69. Wolfe Road/Old San Francisco Road	D	AM	34.9	C-	35.7	D+	0.011	1
		PM	37.7	D+	39	D+	0.020	1.6
70. Wolfe Road/El Camino Real ⁺	E	AM	35.9	D+	36.2	D+	0.023	0.6
		PM	45.2	D	45.3	D	0.025	0.5
71. Wolfe Road/Fremont Avenue	D	AM	48.6	D	48.7	D	0.006	0.2
		PM	49.8	D	50.3	D	0.011	0.5
72. Lawrence Expressway/Monroe Street ⁺	E	AM	65.8	E	66.6	E	0.001	0.2
		PM	74.1	E	74.3	E	0.133	3.8
73. Lawrence Expressway/El Camino Real ⁺	E	AM	37.1	D+	37.8	D+	0.032	0.8
		PM	28.7	C	28.7	C	0.025	-0.1
74. Lawrence Expressway/Benton Street	E	AM	54.8	D-	56.2	E+	0.017	2.4
		PM	43.2	D	43.4	D	0.021	-0.9
75. Lawrence Expressway/Lochinvar Avenue	E	AM	35.6	D+	36.2	D+	0.016	0.8
		PM	35.2	D+	35.5	D+	0.012	0.3
76. Lawrence Expressway/Homestead Road ⁺	E	AM	59.3	E+	60.5	E	0.014	2.2
		PM	74.8	E	75.9	E-	0.008	0.5
77. Lawrence Expressway/Lehigh Drive	E	AM	29.1	C	29.2	C	0.011	0.3
		PM	50.0	D	50.6	D	0.009	0.9

Table 3.17-7: Existing and Existing Plus Project Intersection Level of Service								
Intersection	LOS Standard ¹	Peak Hour ²	Existing		Existing Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
78. Lawrence Expressway/ Pruneridge Avenue	E	AM	38.5	D+	38.7	D+	0.008	0.3
		PM	46.6	D	46.8	D	0.004	0.1
79. Calabazas Boulevard/El Camino Real	D	AM	23.6	C	23.5	C	0.007	-0.1
		PM	27.8	C	27.7	C	0.009	-0.2
Notes: * denotes unsignalized intersection. + denotes CMP intersection.								
¹ LOS Standard of intersection’s jurisdiction.								
² AM = morning peak hour (between 7:00 and 9:00 AM), PM = evening peak hour (between 4:00 and 6:00 PM).								
³ Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop control intersections. Total control delay for the worst movement is presented for side-street stop-controlled intersections.								
⁴ LOS = Level of Service								
⁵ Change in critical volume-to-capacity ratio (V/C) between no project and plus project conditions.								
⁶ Change in critical movement delay between no project and plus project conditions.								

Impacted Freeway Segments

The results of the mixed-flow and HOV lane freeway segment analysis during the AM and PM peak hours under existing plus project conditions are shown in Table 3.17-8. The project would result in a significant LOS impact at the following freeway segment:

- SR 237, Mathilda Avenue to Fair Oaks Avenue (VTA) – PM peak hour

No other freeway segments would be significantly impacted by the project.

There are limited options to widen the impacted freeway segment due to right-of-way constraints. Additionally, the widening of roadways can lead to other effects, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity), air quality degradation, increases in noise associated with motor vehicles, and reductions in transit use (less congestion or reduced driving time may make driving more attractive than transit travel).

Table 3.17-8: Existing Plus Project Freeway Segment Level of Service

Freeway Segment	Direction	Peak Hour ¹	Capacity ⁴		Existing LOS		Project Trips		% Added Volume ⁵		LOS ⁷	
			Mixed ²	HOV ³	Mixed	HOV	Mixed	HOV	Mixed	HOV	Mixed	HOV
I-280, between Magdalena Avenue to Foothill Expressway	EB	AM	6,900	1,650	C	A	12	2	0.17	0.12	C	A
		PM	6,900	1,650	D	C	8	1	0.12	0.06	D	C
	WB	AM	6,900	1,650	E	E	6	1	0.09	0.06	E	E
		PM	6,900	1,650	C	B	14	2	0.2	0.12	C	B
I-280, between Foothill Expressway to SR 85	EB	AM	6,900	1,650	C	A	17	3	0.25	0.18	C	A
		PM	6,900	1,650	F	D	11	2	0.16	0.12	F	D
	WB	AM	6,900	1,650	F	F	9	2	0.13	0.12	F	F
		PM	6,900	1,650	D	B	19	3	0.28	0.18	D	B
I-280, between SR-85 to De Anza Boulevard	EB	AM	6,900	1,650	C	B	24	4	0.35	0.24	C	B
		PM	6,900	1,650	F	F	15	3	0.22	0.18	F	F
	WB	AM	6,900	1,650	F	D	13	2	0.19	0.12	F	D
		PM	6,900	1,650	D	A	28	4	0.41	0.24	D	A
I-280, between De Anza Boulevard to Wolfe Road	EB	AM	6,900	1,650	C	C	11	2	0.16	0.12	C	C
		PM	6,900	1,650	F	F	44	8	0.64	0.48	F	F
	WB	AM	6,900	1,650	F	E	42	7	0.61	0.42	F	E
		PM	6,900	1,650	D	B	14	2	0.2	0.12	D	B

Table 3.17-8: Existing Plus Project Freeway Segment Level of Service

Freeway Segment	Direction	Peak Hour ¹	Capacity ⁴		Existing LOS		Project Trips		% Added Volume ⁵		LOS ⁷	
			Mixed ²	HOV ³	Mixed	HOV	Mixed	HOV	Mixed	HOV	Mixed	HOV
I-280, between Wolfe Road to Lawrence Expressway	EB	AM	6,900	1,650	C	B	8	1	0.12	0.06	C	B
		PM	6,900	1,650	F	D	31	5	0.45	0.3	F	D
	WB	AM	6,900	1,650	F	F	29	5	0.42	0.3	F	F
		PM	6,900	1,650	C	B	9	2	0.13	0.12	C	B
I-280, between Lawrence Expressway to Saratoga Avenue	EB	AM	6,900	1,650	D	B	5	1	0.07	0.06	D	B
		PM	6,900	1,650	F	E	21	4	0.3	0.24	F	E
	WB	AM	6,900	1,650	F	F	20	4	0.29	0.24	F	F
		PM	6,900	1,650	D	B	7	1	0.1	0.06	D	B
I-280, between Saratoga Avenue to Winchester Boulevard	EB	AM	6,900	1,650	D	B	3	1	0.04	0.06	D	B
		PM	6,900	1,650	F	F	15	3	0.22	0.18	F	F
	WB	AM	6,900	1,650	F	F	14	3	0.2	0.18	F	F
		PM	6,900	1,650	D	B	4	1	0.06	0.06	D	B
US-101, between De La Cruz Boulevard to Montague Expressway	NB	AM	6,900	1,650	F	F	21	4	0.3	0.24	F	F
		PM	6,900	1,650	C	A	8	1	0.12	0.06	C	A
	SB	AM	6,900	1,650	C	A	7	1	0.1	0.06	C	A
		PM	6,900	1,650	F	F	22	4	0.32	0.24	F	F

Table 3.17-8: Existing Plus Project Freeway Segment Level of Service

Freeway Segment	Direction	Peak Hour ¹	Capacity ⁴		Existing LOS		Project Trips		% Added Volume ⁵		LOS ⁷	
			Mixed ²	HOV ³	Mixed	HOV	Mixed	HOV	Mixed	HOV	Mixed	HOV
US-101, between Montague Expressway to Bowers Avenue	NB	AM	6,900	1,650	F	F	30	5	0.43	0.3	F	F
		PM	6,900	1,650	D	A	11	2	0.16	0.12	D	A
	SB	AM	6,900	1,650	C	B	9	2	0.13	0.12	C	B
		PM	6,900	1,650	F	F	31	6	0.45	0.36	F	F
US-101, between Bowers Avenue to Lawrence Expressway	NB	AM	6,900	1,650	F	F	42	8	0.61	0.48	F	F
		PM	6,900	1,650	D	B	16	3	0.23	0.18	D	B
	SB	AM	6,900	1,650	D	B	14	2	0.20	0.12	D	B
		PM	6,900	1,650	F	F	45	8	0.65	0.48	F	F
US-101 between Lawrence Expressway to Fair Oaks Avenue	NB	AM	6,900	1,650	F	F	46	8	0.67	0.48	F	F
		PM	6,900	1,650	D	B	18	3	0.26	0.18	D	B
	SB	AM	6,900	1,650	D	B	14	3	0.20	0.18	D	B
		PM	6,900	1,650	F	F	49	9	0.71	0.55	F	F
US-101, between N. Fair Oaks Avenue and Mathilda Avenue	NB	AM	6,900	1,650	F	E	25	4	0.36	0.24	F	E
		PM	6,900	1,650	C	A	10	2	0.14	0.12	C	A
	SB	AM	6,900	1,650	C	B	8	1	0.12	0.06	C	B
		PM	6,900	1,650	F	F	26	5	0.38	0.3	F	F

Table 3.17-8: Existing Plus Project Freeway Segment Level of Service

Freeway Segment	Direction	Peak Hour ¹	Capacity ⁴		Existing LOS		Project Trips		% Added Volume ⁵		LOS ⁷	
			Mixed ²	HOV ³	Mixed	HOV	Mixed	HOV	Mixed	HOV	Mixed	HOV
US-101, between Mathilda Avenue and SR 237	NB	AM	6,900	1,650	E	F	17	3	0.25	0.18	E	F
		PM	6,900	1,650	C	C	36	6	0.52	0.36	C	C
	SB	AM	6,900	1,650	C	D	31	6	0.45	0.36	C	D
		PM	6,900	1,650	F	F	19	3	0.28	0.18	F	F
US-101, between SR 237 to Moffett Boulevard	NB	AM	6,900	1,650	F	F	12	2	0.17	0.12	F	F
		PM	6,900	1,650	E	D	25	4	0.36	0.24	E	D
	SB	AM	6,900	1,650	D	D	22	4	0.32	0.24	D	D
		PM	6,900	1,650	F	E	13	2	0.19	0.12	F	E
US-101, between Moffett Boulevard to SR 85	NB	AM	6,900	1,650	F	F	9	1	0.13	0.06	F	F
		PM	6,900	1,650	F	D	18	3	0.26	0.18	F	D
	SB	AM	6,900	1,650	D	B	15	3	0.22	0.18	D	B
		PM	6,900	1,650	F	F	9	2	0.13	0.12	F	F
US-101, between SR 85 to Shoreline Boulevard	NB	AM	9,200	1,650	F	D	6	1	0.07	0.06	F	D
		PM	9,200	1,650	F	D	12	2	0.13	0.12	F	D
	SB	AM	6,900	1,650	D	D	11	2	0.16	0.12	D	D
		PM	6,900	1,650	F	E	7	1	0.10	0.06	F	E

Table 3.17-8: Existing Plus Project Freeway Segment Level of Service

Freeway Segment	Direction	Peak Hour ¹	Capacity ⁴		Existing LOS		Project Trips		% Added Volume ⁵		LOS ⁷	
			Mixed ²	HOV ³	Mixed	HOV	Mixed	HOV	Mixed	HOV	Mixed	HOV
SR-237, between Sylvan Avenue to Maude Avenue	EB	AM	4,400	N/A	E	N/A	9	0	0.20	N/A	E	N/A
		PM	4,400	N/A	D	N/A	4	0	0.09	N/A	D	N/A
	WB	AM	4,400	N/A	D	N/A	3	0	0.07	N/A	D	N/A
		PM	4,400	N/A	F	N/A	10	0	0.23	N/A	F	N/A
SR-237, between Maude Avenue to US-101	EB	AM	4,400	N/A	C	N/A	10	0	0.23	N/A	C	N/A
		PM	4,400	N/A	F	N/A	19	0	0.43	N/A	F	N/A
	WB	AM	4,400	N/A	D	N/A	17	0	0.39	N/A	D	N/A
		PM	4,400	N/A	F	N/A	11	0	0.25	N/A	F	N/A
SR-237 between US-101 and Mathilda Avenue	EB	AM	4,400	N/A	D	N/A	10	0	0.23	N/A	D	N/A
		PM	4,400	N/A	F	N/A	19	0	0.43	N/A	F	N/A
	WB	AM	4,400	N/A	E	N/A	17	0	0.39	N/A	E	N/A
		PM	4,400	N/A	F	N/A	11	0	0.25	N/A	F	N/A
SR-237 between Mathilda Avenue and Fair Oaks Avenue	EB	AM	4,600	1,650	D	B	20	3	0.43	0.18	D	B
		PM	4,600	1,650	F	F	50	9	1.09	0.55	F	F
	WB	AM	6,900	N/A	F	N/A	53	0	0.77	N/A	F	N/A
		PM	6,900	N/A	F	N/A	26	0	0.38	N/A	F	N/A

Table 3.17-8: Existing Plus Project Freeway Segment Level of Service

Freeway Segment	Direction	Peak Hour ¹	Capacity ⁴		Existing LOS		Project Trips		% Added Volume ⁵		LOS ⁷	
			Mixed ²	HOV ³	Mixed	HOV	Mixed	HOV	Mixed	HOV	Mixed	HOV
SR_237, between Fair Oaks Avenue to Lawrence Expressway	EB	AM	4,600	1650	D	C	14	2	0.30	0.12	D	C
		PM	4,600	1,650	F	F	35	6	0.76	0.36	F	F
	WB	AM	4,600	1,650	F	F	31	6	0.67	0.36	F	F
		PM	4,600	1,650	F	D	15	3	0.33	0.18	F	D
SR-237, between Lawrence Expressway to Great America Parkway	EB	AM	4,600	1,650	D	B	9	2	0.20	0.12	D	B
		PM	4,600	1,650	F	F	25	4	0.54	0.24	F	F
	WB	AM	4,600	1,650	F	F	22	4	0.48	0.24	F	F
		PM	4,600	1,650	D	B	11	2	0.24	0.12	D	B

Notes: **Bold font** indicates unacceptable operations based on VTA's LOS E standard. **Bold and highlighted text** indicates a significant LOS impact by the project.

¹. AM = morning peak hour (between 7:00 and 9:00 AM), PM = evening peak hour (between 4:00 and 6:00 PM).

². Mixed = Mixed-Flow Lanes

³. HOV = High-Occupancy Vehicle Lanes

⁴. Capacity in vehicles per hour (vph) based on number of lanes.

⁵. % Added Volume = (Project Trips/Capacity) * 100

⁶. Measured in passenger cars per mile per lane.

⁷. LOS = Level of Service. Level of service based on density

DSP Amendments and Six Development Projects Mitigation Measure:

MM TRN-1.1: **All Project Sites:** Prior to issuance of building permits, future development under the proposed project shall pay a fair-share payment contribution to VTA's VTP 2040 Improvement VTP ID H3: SR 237 Express Lanes (North First Street to Mathilda Avenue). This improvement would convert HOV lanes to express lanes on SR 237 between North First Street and Mathilda Avenue.

The conversion (i.e., re-designation via new signage) of the HOV lanes to express lanes would not result in significant physical impacts on the environment. The project, with the implementation of mitigation measure MM TRN-1.1, would improve the LOS on SR 237 between North First Street and Mathilda Avenue by allowing single-occupancy vehicles to access lanes previously reserved only for HOVs but not to a less than significant level. Complete mitigation of freeway impacts is considered beyond the scope of an individual project, due to the inability of any individual project or City to fully fund a major freeway mainline improvement. In addition, implementation of the VTP projects is outside of the City of Sunnyvale's jurisdiction and the City cannot guarantee that it would be constructed. For these reasons, the project's impact on SR 237, Mathilda Avenue to Fair Oaks Avenue, is significant and unavoidable. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

Background and Background Plus Project Conditions

The transportation network (i.e., roadway, pedestrian, bicycle, and transit facilities) under background conditions includes the existing transportation network plus the following approved and funded (but not yet constructed) intersection geometry improvements:

- Intersection 22: Mathilda Avenue/SR 237 Westbound Ramps – Realign westbound off-ramp to align with Moffett Park Drive, and reconfigure all legs with the following configurations:
 - Northbound leg: one shared U-turn/left-turn lane, one exclusive left turn-lane, three through-lanes
 - Eastbound leg: one shared left-turn/through/right-turn lane, one channelized right-turn lane
 - Southbound leg: one shared through/right-turn lane, two through lanes
 - Westbound leg: one left-turn lane, one shared left-turn/through lane, one shared through/right-turn lane
- Intersection 23: Mathilda Avenue/SR 237 Eastbound Ramps – Combine the eastbound shared left-turn/through lane and right-turn lane to one shared left-turn/through/right-turn lane. Add a second eastbound left-turn lane. Add a second northbound left-turn lane.
- Intersection 26: Mathilda Avenue/Indio Avenue – Modify the east-west signal phasing from permitted phasing to protected phasing. Modify the eastbound and westbound approaches from one shared left/through lane and one dedicated right-turn lane to one dedicated left-turn lane and one shared through/right-turn lane. Combine the northbound and southbound through curb lane and right-turn lane to one shared through/right-turn lane.
- Intersection 29: Mathilda Avenue/Washington Avenue – Add a second westbound left-turn lane. Combine the northbound through lane and right-turn lane to one shared through/right-turn lane.

- Intersection 30: Mathilda Avenue/McKinley Avenue – Add a second southbound left-turn lane. Add a second westbound left-turn lane. Convert northbound curb lane to a bike lane, reconfiguring the northbound approach to two through lanes and one through/right-turn lane.
- Intersection 31: Mathilda Avenue/Iowa Avenue – Add a second westbound left-turn lane. Modify the northbound shared through/right-turn lane to a right-turn lane.
- Intersection 39: Murphy Avenue/Washington Avenue – Modify the eastbound and westbound approaches from one shared left/through/right lane to one dedicated left-turn lane and one shared through/right-turn lane.
- Intersection 45: Sunnyvale Avenue/Washington Avenue – Modify the east-west signal phasing from permitted phasing to protected phasing. Modify the northbound approach from one dedicated left-turn lane and one shared through/right lane to one dedicated left-turn lane, one dedicated through lane, and one shared through/right-turn lane.
- Intersection 46: Sunnyvale Avenue/McKinley Avenue – Add a through-only lane to the northbound approach.
- Intersection 52: Sunnyvale-Saratoga Road/Remington Drive – Modify the westbound approach from two left-turn lanes and one shared through/right-turn lane to two left-turn lanes, one through lane, and one right-turn lane.
- Intersection 55: De Anza Boulevard/Homestead Road – Modify the southbound approach from two left-turn lanes, two through lanes and one shared through/right-turn lane to two left-turn lanes, three through lanes, and one right-turn lane.

The results of the intersection LOS analysis under background (and background plus project) conditions are summarized in Table 3.17-9. The results show that under background (without project) conditions (which includes the improvements listed above), measured against applicable municipal and CMP LOS standards identified in Table 3.17-4, the following intersections would operate at an unacceptable LOS:

- Intersection 22: Mathilda Avenue/SR 237 Westbound Ramps (Sunnyvale) – AM and PM peak hour
- Intersection 24: Mathilda Avenue/Ross Drive (Sunnyvale) – PM peak hour
- Intersection 26: Mathilda Avenue/Indio Avenue (Sunnyvale) – AM and PM peak hours
- Intersection 55: De Anza Boulevard/Homestead Road (Cupertino/VTA) – PM peak hour
- Intersection 72: Lawrence Expressway/Monroe Street (Santa Clara County) – AM and PM peak hours
- Intersection 76: Lawrence Expressway/Homestead Road (Santa Clara County) – PM peak hour

As shown in Table 3.17-9, measured against applicable municipal and CMP LOS standards identified in Table 3.17-4, the project under background plus project conditions would result in significant LOS impacts at the following intersections:

- Intersection 26: Mathilda Avenue/Indio Avenue (Sunnyvale) – AM and PM peak hours
- Intersection 55: De Anza Boulevard/Homestead Road (Cupertino/VTA) – AM peak hour
- Intersection 76: Lawrence Expressway/Homestead Road (VTA/Santa Clara County) – PM peak hour

All other study intersections would not be significantly impacted by the project.¹⁴⁶

Intersection Name	LOS Standard ¹	Peak Hour ²	Background		Background Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
1. Ellis Street/ Middlefield Road	D	AM	14.5	B	14.5	B	0.005	0.0
		PM	15.4	B	15.4	B	0.009	0.0
2. SR 237 WB/ Middlefield Road	D	AM	20	C+	20.1	C+	0.004	0.0
		PM	14.9	B	14.9	B	0.005	0.0
3. SR 237 EB/ Middlefield Road	D	AM	22.9	C+	22.7	C+	0.004	0.0
		PM	20.3	C+	20.	C+	0.012	0.2
4. SR-85 SB Off- Ramp/Central Expressway	E	AM	12.2	B	12.3	B	0.005	0.0
		PM	14.6	B	14.5	B	0.011	0.0
5. SR-85 NB On-Ramp - Easy Street/Central Expressway*	E	AM	13.6	B	13.7	B	0.001	0.0
		PM	14.1	B	14.4	B	0.001	0.0
6. Whisman Station Drive/Central Expressway ⁺	E	AM	17.6	B	17.6	B	0.003	0.0
		PM	11.9	B+	11.9	B+	0.009	-0.1
7. Ferguson Drive/Central Expressway ⁺	E	AM	7.8	A	7.8	A	0.009	0.2
		PM	8.7	A	8.7	A	0.017	0.1
8. Bernardo Avenue/Central Expressway	E	AM	10	A	10.0	A	0.010	0.2
		PM	7.2	A	7.3	A	0.018	0.2
9. Moorpark Way/ Evelyn Avenue	D	AM	14.5	B	14.9	B	0.015	0.3
		PM	18.8	B-	19.4	B-	0.013	0.8
10. Bernardo Avenue/ Evelyn Avenue	D	AM	28.9	C	29.2	C	0.005	0.6
		PM	18.1	B-	18.8	B-	0.015	1.4
11. Sylvan Avenue/El Camino Real ⁺	E	AM	39.7	D	39.7	D	0.003	0.1
		PM	35.6	D+	35.7	D+	0.007	0.2

¹⁴⁶ None of the six unsignalized study intersections meet the peak hour volume signal warrant in either peak hour under background plus project conditions (refer to Appendix I).

Table 3.17-9: Background and Background Plus Project Intersection Level of Service

Intersection Name	LOS Standard ¹	Peak Hour ²	Background		Background Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
12. Bernardo Avenue/El Camino Real ⁺	E	AM	39.4	D	39.3	D	0.004	0.1
		PM	38.8	D+	38.9	D+	0.006	0.1
13. Mary Avenue/Central Expressway ⁺	E	AM	48.2	D	48.4	D	0.006	0.6
		PM	61.1	E	61.5	E	0.008	1.0
14. Mary Avenue/Evelyn Avenue	D	AM	40.3	D	40.4	D	0.006	0.2
		PM	45.9	D	46.6	D	0.016	1.2
15. Mary Avenue/Washington Avenue	D	AM	16.5	B	17.3	B	0.019	1.0
		PM	18.2	B-	18.8	B-	0.006	0.5
16. Mary Avenue/El Camino Real ⁺	E	AM	50.8	D	50.6	D	0.004	0.0
		PM	51.7	D-	51.8	D-	0.006	0.3
17. Pastoria Avenue/Washington Avenue	D	AM	26.7	C	26.9	C	0.012	0.2
		PM	26	C	25.8	C	0.026	-0.3
18. El Camino Real/Hollenbeck Avenue - Pastoria Avenue ⁺	E	AM	40.2	D	40.7	D	0.016	0.6
		PM	43.5	D	44.4	D	0.021	1.3
19. Hollenbeck Avenue/Remington Drive	D	AM	26.3	C	27.2	C	0.026	1.3
		PM	33.8	C-	36.9	D+	0.035	3.8
20. Hollenbeck Avenue/Fremont Avenue	D	AM	47.3	D	47.6	D	0.021	0.7
		PM	50.3	D	50.9	D	0.021	1.0
21. Hollenbeck Avenue/Cascade Drive	D	AM	9.8	A	10.1	B+	0.016	0.3
		PM	9.2	A	9.6	A	0.025	0.6
22. Mathilda Avenue/SR 237 WB ⁺	E	AM	90.7	F	93.1	F	0.013	2.1
		PM	219.3	F	220.4	F	0.003	1.5
23. Mathilda Avenue/SR 237 EB ⁺	E	AM	19.5	B	17.7	B	0.000	-0.1
		PM	37.4	D	39.5	D	0.010	-0.9

Table 3.17-9: Background and Background Plus Project Intersection Level of Service								
Intersection Name	LOS Standard ¹	Peak Hour ²	Background		Background Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
24. Mathilda Avenue/Ross Drive ⁺	E	AM	43.5	D	44.6	D	0.002	1.3
		PM	93.7	F	95.2	F	0.004	1.7
25. Mathilda Avenue/Maude Avenue ⁺	E	AM	57.7	E+	59.6	E+	0.012	3.5
		PM	68.7	E	70.7	E	0.009	2.8
26. Mathilda Avenue/Indio Avenue ⁺	E	AM	127.5	F	130.3	F	0.015	7.1
		PM	110.5	F	117.9	F	0.027	12.8
27. Mathilda Avenue/California Avenue ⁺	E	AM	57.3	E+	62.2	E	0.023	7.8
		PM	56.9	E+	69.8	E	0.042	18.4
28. Mathilda Avenue Southbound Off-Ramp/Evelyn Avenue ⁺	E	AM	6.8	A	7.0	A	0.008	0.0
		PM	12.2	B	11.9	B+	0.008	-0.1
29. Mathilda Avenue/Washington Avenue ⁺	E	AM	53.4	D-	61.1	E	0.045	12.3
		PM	55.2	E+	72.1	E	0.073	25.0
30. Mathilda Avenue/McKinley Avenue ⁺	E	AM	18.8	B-	35.9	D+	0.148	21.1
		PM	22.2	C+	33.2	C-	0.092	12.0
31. Mathilda Avenue/Iowa Avenue ⁺	E	AM	17.2	B	19.5	B-	0.052	2.2
		PM	24.9	C	28.4	C	0.073	5.0
32. Mathilda Avenue/Olive Avenue ⁺	E	AM	15.1	B	15.8	B	0.053	1.3
		PM	21.5	C+	22.6	C+	0.059	1.7
33. Mathilda Avenue/El Camino Real ⁺	E	AM	54.6	D-	61.7	E	0.054	7.5
		PM	51.2	D-	52.6	D-	0.026	2.3
34. Washington Avenue/Aries Way*	D	AM	9.4	A	9.5	A	0.010	0.0
		PM	10.9	B	10.9	B	0.073	0.4
35. Washington Avenue/Taaffe Street	D	AM	15.0	B	16.2	B	0.080	1.9
		PM	17.7	B	17.7	B	0.012	0.1

Table 3.17-9: Background and Background Plus Project Intersection Level of Service

Intersection Name	LOS Standard ¹	Peak Hour ²	Background		Background Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
36. Iowa Avenue/Taaffe Street	D	AM	25.6	C	26.2	C	0.073	0.6
		PM	27.7	C	29.6	C	0.072	2.6
37. Evelyn Avenue/Frances Street	D	AM	19.0	B-	18.8	B-	0.004	0.1
		PM	16.0	B	16.0	B	0.009	-0.1
38. Washington Avenue/Frances Street*	D	AM	10.7	B	11.3	B	0.026	0.1
		PM	25.2	D	31.7	D	0.075	1.2
39. Murphy Avenue/Washington Avenue*	D	AM	9.0	A	9.4	A	0.060	0.5
		PM	16.6	C	19.6	C	0.063	3.0
40. Iowa Avenue/Murphy Avenue*	D	AM	7.5	A	10.0	A	0.008	0.3
		PM	0.1	A	12.4	B	0.024	0.5
41. Sunnyvale Avenue/Maude Avenue	D	AM	15.1	B	15.1	B	0.001	0.1
		PM	16.4	B	16.9	B	0.006	0.7
42. Sunnyvale Avenue/Arques Avenue	D	AM	20.9	C+	20.6	C+	0.007	-0.1
		PM	14.3	B	14.	B	0.002	0.0
43. Sunnyvale Avenue/California Avenue	D	AM	8.0	A	7.9	A	0.007	0.0
		PM	14.3	B	14.2	B	0.006	0.1
44. Sunnyvale Avenue/Evelyn Avenue	D	AM	25.9	C	26.6	C	0.021	0.7
		PM	21.4	C+	22.9	C+	0.059	1.3
45. Sunnyvale Avenue/Washington Avenue	D	AM	22.4	C+	22.4	C+	0.070	0.0
		PM	28.3	C	30.6	C	0.049	3.5
46. Sunnyvale Avenue/McKinley Avenue	D	AM	13.3	B	14.8	B	0.113	3.2
		PM	30.2	C	38.1	D+	0.141	10.2
47. Sunnyvale Avenue/Iowa Avenue	D	AM	13.7	B	14.6	B	0.071	0.3
		PM	25.5	C	28.8	C	0.107	5.1

Table 3.17-9: Background and Background Plus Project Intersection Level of Service

Intersection Name	LOS Standard ¹	Peak Hour ²	Background		Background Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
48. Sunnyvale Avenue/ Olive Avenue	D	AM	14.4	B	15.6	B	0.105	2.2
		PM	19.4	B-	24.7	C	0.107	9.0
49. Sunnyvale Avenue/Old San Francisco Road	D	AM	19.5	B-	20.3	C+	0.072	0.8
		PM	20.0	B-	21.0	C+	0.071	1.9
50. Sunnyvale Avenue/ El Camino Real ⁺	E	AM	40.6	D	41.4	D	0.049	1.4
		PM	39.2	D	40.2	D	0.041	1.6
51. Mathilda Avenue/ Saratoga-Sunnyvale Road - Talisman ⁺	E	AM	22.1	C+	22.8	C+	0.026	1.0
		PM	29.9	C	32.2	C	0.047	3.0
52. Sunnyvale-Saratoga Road/Remington Drive ⁺	E	AM	47.6	D	52.1	D-	0.033	6.2
		PM	49.5	D	54.2	D-	0.038	7.0
53. Sunnyvale-Saratoga Road/Fremont Avenue ⁺	E	AM	50.1	D	53.5	D-	0.033	5.5
		PM	53.2	D-	57.4	E+	0.032	6.2
54. Sunnyvale-Saratoga Road/Alberta Avenue - Harwick Way ⁺	E	AM	37.1	D+	39.8	D	0.032	3.8
		PM	28.3	C	29.3	C	0.032	1.6
55. De Anza Boulevard/ Homestead Road ⁺	D	AM	54.7	D-	55.7	E+	0.019	1.3
		PM	59.5	E+	61.1	E	0.019	2.9
56. De Anza Boulevard/ I-280 Northbound Ramps ⁺	D	AM	45.3	D	46.9	D	0.024	6.4
		PM	48.4	D	49.7	D	0.017	1.9
57. De Anza Boulevard/ I-280 Southbound Ramps ⁺	D	AM	51.5	D-	52.5	D-	0.013	3.0
		PM	40.2	D	41.2	D	0.022	2.5
58. Fair Oaks Avenue/ US 101 Northbound Ramp	D	AM	18.7	B-	19.0	B-	0.014	0.4
		PM	22.9	C+	23.3	C	0.006	0.8
59. Fair Oaks Avenue/ Ahwanee Avenue	D	AM	16.5	B	16.4	B	0.004	0.0
		PM	10.7	B+	10.7	B+	0.004	0.0

Table 3.17-9: Background and Background Plus Project Intersection Level of Service

Intersection Name	LOS Standard ¹	Peak Hour ²	Background		Background Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
60. Fair Oaks Avenue/ Duane Avenue	D	AM	32.4	C-	32.4	C-	0.004	0.2
		PM	36.6	D+	37.2	D+	0.015	1.5
61. Fair Oaks Avenue/Wolfe Road	D	AM	8.7	A	8.6	A	0.005	0.0
		PM	9.9	A	10.2	B+	0.020	0.5
62. Fair Oaks Avenue/ Maude Avenue	D	AM	25.9	C	25.8	C	0.015	-0.1
		PM	29.7	C	29.6	C	0.006	0.0
63. Fair Oaks Avenue/ Arques Avenue	D	AM	42.1	D	42.3	D	0.011	0.3
		PM	51.6	D-	52.2	D-	0.008	1.2
64. Central Expressway WB Off-Ramp/ Arques Avenue*	E	AM	13.5	B	13.9	B	0.031	0.3
		PM	24.1	C	24.9	C	0.015	0.3
65. Fair Oaks Avenue/ California Avenue	D	AM	10.7	B+	10.6	B+	0.006	0.0
		PM	18.0	B-	17.9	B	0.007	0.0
66. Fair Oaks Avenue/ Evelyn Avenue	D	AM	30.7	C	31.2	C	0.015	1.2
		PM	30.6	C	32.3	C-	0.043	3.0
67. Fair Oaks Avenue/ Old San Francisco Road	D	AM	36.7	D+	37.5	D+	0.027	1.3
		PM	35.1	D+	35.9	D+	0.017	1.0
68. Fair Oaks Avenue/ El Camino Real ⁺	E	AM	31.3	C	31.2	C	0.027	-0.4
		PM	41.6	D	42.4	D	0.025	1.3
69. Wolfe Road/Old San Francisco Road	D	AM	37.4	D+	38.0	D+	0.011	0.8
		PM	42.8	D	43.9	D	0.019	1.5
70. Wolfe Road/El Camino Real ⁺	E	AM	37.7	D+	38.0	D+	0.023	0.6
		PM	50.2	D	50.8	D	0.020	0.4
71. Wolfe Road/ Fremont Avenue	D	AM	49.6	D	49.7	D	0.005	0.2
		PM	53.9	D-	54.6	D-	0.010	0.7

Table 3.17-9: Background and Background Plus Project Intersection Level of Service

Intersection Name	LOS Standard ¹	Peak Hour ²	Background		Background Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
72. Lawrence Expressway/Monroe Street ⁺	E	AM	81.6	F	82.7	F	0.001	0.5
		PM	103.0	F	104.3	F	0.009	2.2
73. Lawrence Expressway/El Camino Real ⁺	E	AM	40.8	D	41.7	D	0.032	1.1
		PM	34.5	C-	35.9	D+	0.031	2.1
74. Lawrence Expressway/Benton Street	E	AM	67.3	E	70.5	E	0.018	5.5
		PM	44.9	D	45.1	D	0.012	0.3
75. Lawrence Expressway/Lochinvar Avenue	E	AM	39.5	D	40.6	D	0.016	1.8
		PM	37.8	D+	38.1	D+	0.011	0.4
76. Lawrence Expressway/Homestead Road ⁺	E	AM	75.3	E-	78.8	E-	0.014	6.2
		PM	99.4	F	102.8	F	0.011	5.9
77. Lawrence Expressway/Lehigh Drive	E	AM	28.7	C	28.6	C	0.008	0.1
		PM	62.6	E	64.2	E	0.008	2.6
78. Lawrence Expressway/Pruneridge Avenue	E	AM	41.1	D	41.6	D	0.008	0.8
		PM	51.3	D-	52.0	D-	0.004	0.1
79. Calabazas Boulevard/El Camino Real	D	AM	22.5	C+	22.5	C+	0.007	-0.1
		PM	26.6	C	26.6	C	0.010	0.0

Notes: **Bold text** indicates intersection operates at unacceptable level of service. **Bold and highlighted text** indicates significant impact caused by the project. * denotes unsignalized intersection. + denotes CMP intersection.

¹. LOS Standard of intersection's jurisdiction.

². AM = morning peak hour (between 7:00 and 9:00 AM), PM = evening peak hour (between 4:00 and 6:00 PM).

³. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop control intersections. Total control delay for the worst movement is presented for side-street stop-controlled intersections.

⁴. LOS = Level of Service

⁵. Change in critical volume-to-capacity ratio (V/C) between No Project and Plus Project Conditions.

⁶. Change in critical movement delay between No Project and Plus Project Conditions.

DSP Amendments and Six Development Projects Mitigation Measures:

Intersection 26: Mathilda Avenue/Indio Avenue (City of Sunnyvale) – To mitigate the project’s significant LOS impact at this intersection to a less than significant level, the addition of a southbound through lane on Mathilda Avenue is required. However, there are right-of-way constraints that limit the physical feasibility of this improvement. An additional southbound through lane would require an additional 11 feet of right-of-way from privately owned properties along the west side of Mathilda Avenue. For these reasons, the project’s significant impact at this intersection is significant and unavoidable. **(Significant and Unavoidable Impact)**

MM TRN-1.2: **All Project Sites:** Intersection 55: De Anza Boulevard/Homestead Road (Cupertino) – The project shall pay its fair-share payment contribution towards the addition of a third westbound left-turn lane. This improvement can be accommodated within the existing right-of-way with modifications to the median and lane widths.

With the additional third westbound left-turn lane, the LOS at the intersection would improve from an unacceptable LOS E to an acceptable LOS D during the AM peak hour. The implementation of this improvement is outside the City of Sunnyvale’s jurisdiction and the City cannot guarantee that it would be constructed. For this reason, the project’s impact at this intersection is considered significant and unavoidable. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

MM TRN-1.3 **All Project Sites:** Intersection 76: Lawrence Expressway/Homestead Road (VTA/Santa Clara County) – Santa Clara County’s Expressway Plan 2040 Study identifies an interim (near-term) improvement that includes the addition of an eastbound through lane on Homestead Road. With this improvement, intersection operations would improve, but the intersection would continue to operate at LOS F under both background and background plus project conditions. The ultimate improvement identified by the County’s Expressway Plan 2040 is to grade-separate the intersection. The County designates the grade separation as a Tier 1 improvement and the project shall pay a fair-share contribution to this improvement.

The implementation of this improvement is outside the City of Sunnyvale’s jurisdiction and the City cannot guaranteed that it would be constructed. For this reason, the project’s impact at this intersection is considered significant and unavoidable. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

Impact TRN-2: The project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

The CMP roadway network includes interstates, state highways, county expressways, and principal arterials.¹⁴⁷ Of the 79 study intersections, 32 are CMP or regionally significant intersections. As discussed under Impact TRN-1 and shown in Table 3.17-7 and Table 3.17-9, the project would result in a significant impact at two CMP intersections: Intersection 55, De Anza Boulevard and Homestead Road and Intersection 76, Lawrence Expressway and Homestead Road. As discussed under Impact TRN-1, the project shall implement mitigation measures MM TRN-1.2 and MM TRN-1.3 to reduce the project's impact. Since the implementation of these mitigation measures is outside of the City's jurisdiction, the project's impact is considered significant and unavoidable.

The project would result in a LOS impact at one freeway segment: SR 237 between Mathilda Avenue and Fair Oaks Avenue. As discussed under Impact TRN-1, the project shall pay a fair-share payment to Improvement VTP ID H#3: SR 237 Express Lanes (North First Street to Mathilda Avenue) (see mitigation measure MM TRN-1.1), which would improve the LOS but not to a less than significant level. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

Impact TRN-3: The project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

As discussed in Section 3.9 Hazards and Hazardous Materials, the six project sites are not located within an airport land use plan. In addition, future development under the proposed project exceeding FAR Part 77 surfaces would be required to obtain a "Determination of No Hazard" and comply with any conditions set forth by the FAA in its determination. For this reason, the project would not result in a change in air traffic patterns that would result in substantial safety risks. **(Less than Significant Impact)**

¹⁴⁷ Principal arterials are those roadways that connect with the freeway and/or county expressway system, and are one of the following: (1) a state highway; (2) a six-lane facility; or (3) a non-residential arterial with average daily traffic of 30,000 vehicles per day.

Impact TRN-4: The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). **(Less than Significant Impact)**

DSP Amendments

All future development is subject to the City's development review process, which ensures minimum design standards are met, including adequate sight distance and configuration (including adequate width and turn radii for continuous unimpeded circulation through the site for passenger vehicles, emergency vehicles, and large trucks) and adequate pedestrian and bicycle access. For this reason, future development under the project would not substantially increase hazards due to a geometric design feature.

The project does not propose incompatible uses that would bring unusual equipment on the roadways (e.g., farm equipment); the project proposes land uses consistent with the land uses allowed in the DSP area by the adopted DSP and consistent with the surrounding mix of land uses. **(Less than Significant Impact)**

Six Development Projects

As described above, the project does not propose incompatible uses. The site plan for each development project was evaluated for site access and circulation. Each development project provided adequate site access, circulation, and emergency vehicle access. Refer to Appendix I for a detailed analysis. To further improve vehicle and pedestrian access at the sites, the project shall implement conditions of approval COA TRN-1 through COA TRN-4 in Table 2.3-2. **(Less than Significant Impact)**

Impact TRN-5: The project would not result in inadequate emergency access. **(Less than Significant Impact)**

DSP Amendments

The project would not alter the existing road network that provides emergency and non-emergency access. All future development is subject to the City's development review process, which ensures minimum design standards are met, including emergency access. For this reason, future development under the project would not result in inadequate emergency access. **(Less than Significant Impact)**

Six Development Projects

Based on review of the proposed site plans for the six development projects, there is adequate site access for emergency vehicles.¹⁴⁸ For this reason, the proposed project would not result in inadequate emergency access. **(Less than Significant Impact)**

¹⁴⁸ Caldera, Ryan. Transportation Engineer/Planner, Fehr & Peers. Personal Communication. May 9, 2019.

Impact TRN-6: The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise decrease the performance or safety of such facilities. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Transit Vehicle Delay

Transit vehicles operating in the project area could incur additional delay due to increased auto congestion. The affected corridors around the project site include El Camino Real, Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, Fair Oaks Avenue, Wolfe Road, Frances Street and Washington Avenue. The difference between the no project and plus project values for existing, background, and cumulative conditions is the added transit vehicle delay. Table 3.17-10 shows the transit delay results and affected corridors for VTA bus routes 22/522, 26, 32, 53, 54, and 55.

Overall, the added transit delay along each of the study transit routes evaluated is about 60 seconds or less, except for transit routes along Mathilda Avenue (Route 54 under background plus project and cumulative plus project conditions) and Sunnyvale Avenue (Route 55 under cumulative plus project conditions).

The City of Sunnyvale and VTA do not have adopted standards related to transit corridor performance associated with congestion resulting from new development projects. Per VTA TIA Guidelines, if increase transit vehicle delay is found, the lead agency (City of Sunnyvale) would work with VTA to identify feasible transit priority measures near the affected facility and include contributions to any applicable projects that improve transit speed and reliability in the TIA (refer to condition of approval COA TRN-5 in Table 2.3-2).

Bicycle and Pedestrian Facilities Impacts

Pedestrian and bicycle impacts are considered significant if the project would potentially disrupt existing pedestrian and bicycle facilities, eliminate existing pedestrian and/or bicycle facilities, interfere with planned pedestrian and bicycle facilities, increase conflicts between drivers, pedestrians, and/or bicyclists, or create inconsistencies or conflicts with adopted pedestrian and bicycle plans, guidelines, policies, or standards.

As discussed under Impact TRN-4, future development is subject to the City's development review process that ensures minimum design standards are met, including adequate pedestrian and bicycle access. The site plans for the six development project were reviewed and do not create significant hazards to bicyclists and pedestrians. The project would implement the conditions of approval identified under Impact TRN-4 (COA TRN-1 through COA TRN-4) to further improve pedestrian access to the six project sites. For these reasons, the project would not result in significant conflicts between drivers, pedestrians, and/or bicyclists.

Table 3.17-10: Transit Vehicle Delay								
VTA Transit Route	Peak Hour	Projected Additional Delay (seconds per vehicle)						Affected Corridors
		Existing Plus Project		Background Plus Project		Cumulative Plus Project		
		NB/WB	SB/EB	NB/WB	SB/EB	NB/WB	SB/EB	
22/522	AM	NC	NC	NC	10	NC	30	El Camino Real
	PM	NC	NC	8	NC	28	NC	
26	AM	NC	NC	NC	NC	NC	5	Fair Oaks Avenue, Wolfe Road
	PM	NC	NC	7	9	21	20	
32	AM	NC	6	6	25	61	36	Mathilda Avenue, Evelyn Avenue
	PM	NC	NC	17	14	18	49	
53	AM	NC	NC	NC	NC	NC	NC	Washington Avenue, Frances Street, Evelyn Avenue, Mathilda Avenue
	PM	8	5	NC	23	8	38	
54	AM	27	NC	51	NC	148	6	Mathilda Avenue
	PM	23	24	27	83	71	147	
55	AM	17	8	33	16	93	31	Sunnyvale Avenue, Evelyn Avenue, Frances Street, Washington Avenue
	PM	6	18	17	51	34	120	
Note: NC = The project was considered to have no change if the increase in travel time was less than five seconds or the travel time improved slightly (due to changes in critical movement changes, lane geometry changes, etc.).								

The project is subject to General Plan policies LT-3.1, LT-3.4, LT-3.14, and LT-3.22 regarding public transit, bicycle, or pedestrian facilities. The project is consistent with these policies by:

- Proposing dense, mixed-use development near existing transit,
- Implementing a TDM program (refer to mitigation measure MM AQ-2.4) to promote alternatives to single-occupancy vehicle trips,
- Implementing roadway improvements to address significant LOS impacts caused by the project (see mitigation measures identified under Impact TRN-1), and
- Requiring future development to ensure adequate pedestrian and bicycle access during development review (refer to the discussion under Impact TRN-4).

DSP policy C.7 requires future development to provide bicycle parking per VTA standards to the extent possible. The VTA standards based on land use are shown in Table 3.17-11. The project's provision of bicycle parking is discussed further in Section 3.17.3 below.

Table 3.17-11: VTA Bicycle Parking Standards	
Land Use	Required Number of Spaces
Residential (General, multi-dwelling)	1 Class I per 3 units + 1 Class II per 15 units
Office	1 per 6,000 square feet (75% Class I & 25% Class II)
Retail	1 Class I per 30 employees + Class II per 6,000 square feet
Restaurants	1 Class I per 30 employees + 1 Class II per 3,000 square feet
Notes: Class I parking is long-term parking that protects the entire bicycle from theft and weather. Class II parking is for short-term parking that allows at least one wheel and the frame to be secured to the rack.	

The project is consistent with the City's 2006 Bicycle Plan policies BP.A4, BP.A5, and BP.B2 by maintaining existing Class II bike lanes in the DSP area and introducing residential and employment uses to the area. Future residents, employees, and visitors would be able to utilize bike lanes to travel to and from in the DSP area and connect with the regional Sunnyvale Caltrain station.

Based on the above discussion, the project would not conflict with applicable General Plan policies, DSP policy C.7, and the City's 2006 Bicycle Plan regarding public transit, bicycle, and pedestrian facilities or otherwise decrease the performance or safety of such facilities. **(Less than Significant Impact)**

3.17.2.2 *Cumulative Impacts*

Impact TRN-C: The project would result in a cumulatively considerable contribution to a significant transportation impact. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**

The geographic area for cumulative transportation resource impacts includes the project site and surrounding area as defined by the study intersections shown in Figure 3.17-1.

DSP Amendments and Six Development Projects

Plan, Ordinance, or Policy Measuring Effectiveness of the Circulation System

Level of Service – Cumulative and Cumulative Plus Project Conditions

The transportation network under cumulative conditions is the same as assumed under background conditions. There are no reasonably foreseeable transportation network improvements identified for the study area.

The results of the intersection level of service analysis under cumulative (and cumulative plus project conditions) are summarized in Table 3.17-12. The results of the analysis under cumulative (without project) conditions show that, measured against applicable municipal and CMP level of service standards identified in Table 3.17-4, the following intersections would operate at an unacceptable LOS:

- Intersection 22: Mathilda Avenue/SR 237 Westbound Ramps (Sunnyvale) – AM and PM peak hours
- Intersection 24: Mathilda Avenue/Ross Drive (City of Sunnyvale) – AM and PM peak hours
- Intersection 26: Mathilda Avenue/Indio Avenue (City of Sunnyvale) – AM and PM peak hours
- Intersection 27: Mathilda Avenue/California Avenue (City of Sunnyvale) – AM and PM peak hours
- Intersection 29: Mathilda Avenue/Washington Avenue (City of Sunnyvale) – AM and PM peak hours
- Intersection 38: Washington Avenue/Frances Street (City of Sunnyvale) – PM peak hour
- Intersection 52: Sunnyvale-Saratoga Road/Remington Drive (City of Sunnyvale) – AM and PM peak hours
- Intersection 55: De Anza Boulevard/Homestead Road (City of Cupertino) – AM and PM peak hours
- Intersection 60: Fair Oaks Avenue/Duane Avenue (City of Sunnyvale) – PM peak hour
- Intersection 63: Fair Oaks Avenue/Arques Avenue (City of Sunnyvale) – PM peak hour
- Intersection 71: Wolfe Road/Fremont Avenue (City of Sunnyvale) – PM peak hour
- Intersection 72: Lawrence Expressway/Monroe Street (Santa Clara County) – AM and PM peak hours
- Intersection 76: Lawrence Expressway/Homestead Road (Santa Clara County) – AM and PM peak hours

The results of the intersection level of service analysis under cumulative and cumulative plus project conditions are summarized in Table 3.17-12. As shown in Table 3.17-12, the results of the analysis under cumulative plus project show that, measured against applicable municipal and CMP level of service standards identified in Table 3.17-4, the project would result in significant LOS impacts at the following intersections:

- Intersection 19: Hollenbeck Avenue/Remington Drive (City of Sunnyvale) – PM peak hour
- Intersection 20: Hollenbeck Avenue/Fremont Avenue (City of Sunnyvale) – PM peak hour
- Intersection 26: Mathilda Avenue/Indio Avenue (City of Sunnyvale) – AM and PM peak hours
- Intersection 27: Mathilda Avenue/California Avenue (City of Sunnyvale) – AM and PM peak hours
- Intersection 29: Mathilda Avenue/Washington Avenue (City of Sunnyvale) – AM and PM peak hours
- Intersection 30: Mathilda Avenue/McKinley Avenue (City of Sunnyvale) – AM peak hour
- Intersection 33: Mathilda Avenue/El Camino Real (City of Sunnyvale) – AM peak hour
- Intersection 38: Washington Avenue/Frances Street (City of Sunnyvale) – PM peak hour

- Intersection 52: Sunnyvale-Saratoga Road/Remington Drive (City of Sunnyvale) – AM and PM peak hours
- Intersection 53: Sunnyvale-Saratoga Road/Fremont Avenue (City of Sunnyvale) – AM and PM peak hours
- Intersection 55: De Anza Boulevard/Homestead Road (City of Cupertino) – AM and PM peak hour
- Intersection 60: Fair Oaks Avenue/Duane Avenue (City of Sunnyvale) – PM peak hour
- Intersection 76: Lawrence Expressway/Homestead Road (Santa Clara County) – AM and PM peak hour

The project would not result in a significant LOS impact at all other study intersections.¹⁴⁹

Table 3.17-12: Cumulative and Cumulative Plus Project Intersection Level of Service								
Intersection Name	LOS Standard ¹	Peak Hour ²	Cumulative		Cumulative Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
1. Ellis Street/ Middlefield Road	D	AM	14.4	B	14.3	B	0.007	0.1
		PM	15.4	B	15.4	B	0.016	0.0
2. SR 237 WB/ Middlefield Road	D	AM	20.1	C+	20.2	C+	0.004	0.0
		PM	14.9	B	14.9	B	0.006	0.1
3. SR 237 EB/ Middlefield Road	D	AM	22.9	C+	22.6	C+	0.005	0.0
		PM	20.4	C+	20.3	C+	0.018	0.3
4. SR-85 SB Off-Ramp/ Central Expressway	E	AM	12.6	B	12.7	B	0.006	0.1
		PM	14.7	B	14.5	B	0.016	0.0
5. SR-85 NB On-Ramp - Easy Street/Central Expressway*	E	AM	13.7	B	13.8	B	0.000	0.0
		PM	14.2	B	14.7	B	0.002	0.0
6. Whisman Station Drive/Central Expressway ⁺	E	AM	17.5	B	17.4	B	0.003	0.0
		PM	11.9	B+	11.9	B+	0.013	-.02
7. Ferguson Drive/Central Expressway ⁺	E	AM	7.7	A	7.8	A	0.011	0.2
		PM	8.7	A	8.9	A	0.024	0.2
8. Bernardo Avenue/ Central Expressway	E	AM	9.9	A	10.0	B+	0.012	0.2
		PM	7.3	A	7.4	A	0.027	0.3

¹⁴⁹ All unsignalized intersections do not meet the peak hour volume warrant, except for Intersection 38 Washington Avenue/Frances Street.

Table 3.17-12: Cumulative and Cumulative Plus Project Intersection Level of Service								
Intersection Name	LOS Standard ¹	Peak Hour ²	Cumulative		Cumulative Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
9. Moorpark Way/ Evelyn Avenue	D	AM	14.7	B	15.2	B	0.021	0.4
		PM	18.7	B-	19.4	B-	0.015	1.0
10. Bernardo Avenue/ Evelyn Avenue	D	AM	29.2	C	29.6	C	0.005	0.6
		PM	18.2	B-	19.1	B-	0.017	1.8
11. Sylvan Avenue/El Camino Real ⁺	E	AM	40.0	D	40.0	D	0.003	0.1
		PM	35.5	D+	35.7	D+	0.008	0.3
12. Bernardo Avenue/El Camino Real ⁺	E	AM	45.7	D	45.7	D	0.003	0.3
		PM	42.7	D	43.0	D	0.007	0.3
13. Mary Avenue/Central Expressway ⁺	E	AM	47.4	D	47.6	D	0.006	0.7
		PM	65.6	E	66.1	E	0.008	1.7
14. Mary Avenue/Evelyn Avenue	D	AM	42.5	D	42.5	D	0.006	0.2
		PM	50.1	D	51.3	D-	0.021	2.0
15. Mary Avenue/ Washington Avenue	D	AM	17.4	B	18.4	B-	0.031	1.4
		PM	19.0	B-	19.8	B-	0.008	0.6
16. Mary Avenue/El Camino Real ⁺	E	AM	52.8	D-	52.6	D-	0.005	0.1
		PM	58.3	E+	59.0	E+	0.016	1.4
17. Pastoria Avenue/ Washington Avenue	D	AM	27.3	C	27.6	C	0.012	0.2
		PM	26.9	C	26.7	C	0.037	-0.2
18. El Camino Real/Hollenbeck Avenue - Pastoria Avenue ⁺	E	AM	42.0	D	42.6	D	0.020	1.0
		PM	46.7	D	48.0	D	0.024	2.0
19. Hollenbeck Avenue/ Remington Drive	D	AM	33.2	C-	36.2	D+	0.033	4.9
		PM	50.2	D	58.3	E+	0.041	10.4
20. Hollenbeck Avenue/ Fremont Avenue	D	AM	49.1	D	49.7	D	0.027	1.1
		PM	54.7	D-	56.0	E+	0.026	2.3

Table 3.17-12: Cumulative and Cumulative Plus Project Intersection Level of Service								
Intersection Name	LOS Standard ¹	Peak Hour ²	Cumulative		Cumulative Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
21. Hollenbeck Avenue/ Cascade Drive	D	AM	11.6	B+	12.2	B	0.020	0.7
		PM	11.6	B+	12.6	B	0.031	1.5
22. Mathilda Avenue/SR 237 WB ⁺	E	AM	152.4	F	158.3	F	0.007	3.8
		PM	282.0	F	283.6	F	0.014	2.8
23. Mathilda Avenue/SR 237 EB ⁺	E	AM	23.7	C	23.9	C	0.000	0.1
		PM	41.3	D	37.1	C	0.010	1.2
24. Mathilda Avenue/ Ross Drive ⁺	E	AM	82.8	F	81.4	F	0.009	1.2
		PM	134.9	F	135.8	F	0.003	0.7
25. Mathilda Avenue/ Maude Avenue ⁺	E	AM	64.5	E	66.6	E	0.012	4.2
		PM	74.0	E	76.8	E-	0.009	3.2
26. Mathilda Avenue/ Indio Avenue ⁺	E	AM	180.6	F	180.6	F	0.015	6.9
		PM	170.1	F	174.0	F	0.027	12.5
27. Mathilda Avenue/ California Avenue ⁺	E	AM	100.0	F	106.9	F	0.022	9.4
		PM	94.4	F	114.6	F	0.042	19.6
28. Mathilda Avenue Southbound Off- Ramp/Evelyn Avenue ⁺	E	AM	7.0	A	7.1	A	0.008	0.0
		PM	12.2	B	12.0	B	0.008	-0.1
29. Mathilda Avenue/ Washington Avenue ⁺	E	AM	85.2	F	94.1	F	0.044	18.1
		PM	82.8	F	107.8	F	0.086	39.4
30. Mathilda Avenue/ McKinley Avenue ⁺	E	AM	23.8	C	85.8	F	0.219	76.0
		PM	25.3	C	51.0	D-	0.156	30.3
31. Mathilda Avenue/ Iowa Avenue ⁺	E	AM	21.3	C+	27.1	C	0.055	7.6
		PM	28.2	C	42.3	D	0.100	19.3
32. Mathilda Avenue/ Olive Avenue ⁺	E	AM	18.5	B-	22.8	C+	0.071	6.1
		PM	25.8	C	31.6	C	0.075	8.7

Table 3.17-12: Cumulative and Cumulative Plus Project Intersection Level of Service								
Intersection Name	LOS Standard ¹	Peak Hour ²	Cumulative		Cumulative Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
33. Mathilda Avenue/El Camino Real ⁺	E	AM	71.1	E	93.0	F	0.074	25.9
		PM	65.7	E	71.6	E	0.034	10.2
34. Washington Avenue/Aries Way*	D	AM	9.5	A	9.7	A	0.007	0.0
		PM	11.2	B	11.3	B	0.074	0.4
35. Washington Avenue/Taaffe Street	D	AM	15.1	B	16.2	B	0.078	1.7
		PM	18.0	B	18.0	B	0.010	0.1
36. Iowa Avenue/Taaffe Street	D	AM	25.8	C	27.1	C	0.110	1.6
		PM	28.3	C	31.4	C	0.124	4.1
37. Evelyn Avenue/Frances Street	D	AM	18.8	B-	18.6	B-	0.004	0.1
		PM	15.8	B	16.0	B	0.007	0.0
38. Washington Avenue/Frances Street*	D	AM	11.2	B	12.2	B	0.028	0.3
		PM	37.6	E	53.4	F	0.100	3.0
39. Murphy Avenue/Washington Avenue*	D	AM	9.3	A	9.8	A	0.060	0.6
		PM	22.1	C	28.4	D	0.071	6.3
40. Iowa Avenue/Murphy Avenue*	D	AM	7.5	A	10.5	B	0.024	0.7
		PM	0.1	A	12.8	B	0.024	0.6
41. Sunnyvale Avenue/Maude Avenue	D	AM	15.8	B	15.9	B	0.001	0.1
		PM	17.1	B	17.6	B	0.006	0.7
42. Sunnyvale Avenue/Arques Avenue	D	AM	20.9	C+	20.7	C+	0.007	-0.1
		PM	15.4	B	15.4	B	0.002	0.0
43. Sunnyvale Avenue/California Avenue	D	AM	8.1	A	8.2	A	0.007	0.0
		PM	14.9	B	14.8	B	0.006	0.1
44. Sunnyvale Avenue/Evelyn Avenue	D	AM	26.3	C	27.4	C	0.025	0.9
		PM	23.1	C	25.3	C	0.076	2.5

Table 3.17-12: Cumulative and Cumulative Plus Project Intersection Level of Service

Intersection Name	LOS Standard ¹	Peak Hour ²	Cumulative		Cumulative Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
45. Sunnyvale Avenue/ Washington Avenue	D	AM	22.6	C+	23.1	C	0.097	0.4
		PM	31.8	C	37.0	D+	0.061	8.4
46. Sunnyvale Avenue/ McKinley Avenue	D	AM	13.4	B	15.1	B	0.125	3.6
		PM	31.5	C	43.5	D	0.190	16.0
47. Sunnyvale Avenue/ Iowa Avenue	D	AM	13.8	B	14.6	B	0.125	0.5
		PM	27.6	C	36.9	D+	0.156	13.7
48. Sunnyvale Avenue/ Olive Avenue	D	AM	15.8	B	22.3	C+	0.163	10.0
		PM	23.4	C	43.7	D	0.157	32.7
49. Sunnyvale Avenue/ Old San Francisco Road	D	AM	19.9	B-	20.9	C+	0.101	1.0
		PM	20.7	C+	21.8	C+	0.079	2.5
50. Sunnyvale Avenue/El Camino Real ⁺	E	AM	41.3	D	42.6	D	0.069	2.1
		PM	41.1	D	43.5	D	0.057	3.5
51. Mathilda Avenue/ Saratoga-Sunnyvale Road - Talisman ⁺	E	AM	24.5	C	25.9	C	0.034	1.8
		PM	33.2	C-	38.5	D+	0.063	6.8
52. Sunnyvale-Saratoga Road/ Remington Drive ⁺	E	AM	83.2	F	96.8	F	0.043	17.3
		PM	80.2	F	93.2	F	0.051	18.9
53. Sunnyvale-Saratoga Road/ Fremont Avenue ⁺	E	AM	72.9	E	83.9	F	0.046	17.3
		PM	79.1	E-	90.4	F	0.043	16.3
54. Sunnyvale-Saratoga Road/ Alberta Avenue - Harwick Way ⁺	E	AM	54.7	D-	66.7	E	0.046	16.9
		PM	35.4	D+	40.0	D	0.043	7.2
55. De Anza Boulevard/ Homestead Road ⁺	D	AM	62.5	E	67.1	E	0.029	6.4
		PM	66.1	E	69.5	E	0.028	6.3
56. De Anza Boulevard/ I-280 Northbound Ramps ⁺	D	AM	49.4	D	52.0	D-	0.028	9.9
		PM	51.2	D-	53.8	D-	0.021	3.8

Table 3.17-12: Cumulative and Cumulative Plus Project Intersection Level of Service								
Intersection Name	LOS Standard ¹	Peak Hour ²	Cumulative		Cumulative Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
57. De Anza Boulevard/ I-280 Southbound Ramps ⁺	D	AM	45.5	D	46.5	D	0.018	1.0
		PM	42.2	D	43.8	D	0.026	4.5
58. Fair Oaks Avenue/ US 101 Northbound Ramp	D	AM	25.8	C	27.0	C	0.020	1.8
		PM	40.2	D	41.0	D	0.006	2.0
59. Fair Oaks Avenue/ Ahwanee Avenue	D	AM	17.3	B	17.2	B	0.003	0.0
		PM	11.9	B+	11.9	B+	0.005	0.1
60. Fair Oaks Avenue/ Duane Avenue	D	AM	41.8	D	42.0	D	0.004	0.7
		PM	60.0	E	62.2	E	0.021	6.3
61. Fair Oaks Avenue/ Wolfe Road	D	AM	8.8	A	8.7	A	0.006	0.0
		PM	11.3	B+	11.9	B+	0.026	0.9
62. Fair Oaks Avenue/ Maude Avenue	D	AM	28.0	C	28.1	C	0.020	0.2
		PM	32.3	C-	32.4	C-	0.006	0.2
63. Fair Oaks Avenue/ Arques Avenue	D	AM	48.5	D	50.0	D	0.017	1.5
		PM	83.1	F	84.1	F	0.008	2.7
64. Central Expressway WB Off-Ramp/ Arques Avenue*	E	AM	16.5	C	17.3	C	0.040	0.6
		PM	26.0	D	26.8	D	0.013	0.3
65. Fair Oaks Avenue/ California Avenue	D	AM	11.2	B+	11.2	B+	0.005	0.1
		PM	20.5	C+	20.5	C+	0.007	0.2
66. Fair Oaks Avenue/ Evelyn Avenue	D	AM	36.0	D+	36.8	D+	0.014	1.9
		PM	33.4	C-	36.3	D+	0.057	6.0
67. Fair Oaks Avenue/ Old San Francisco Road	D	AM	40.2	D	42.0	D	0.035	2.9
		PM	41.2	D	42.9	D	0.021	2.3
68. Fair Oaks Avenue/El Camino Real ⁺	E	AM	34.9	C-	35.3	D	0.040	0.5
		PM	52.4	D-	57.1	E+	0.035	8.1

Intersection Name	LOS Standard ¹	Peak Hour ²	Cumulative		Cumulative Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
69. Wolfe Road/Old San Francisco Road	D	AM	39.5	D	40.4	D	0.015	1.1
		PM	48.0	D	49.8	D	0.022	2.5
70. Wolfe Road/El Camino Real ⁺	E	AM	40.8	D	41.5	D	0.031	1.5
		PM	54.7	D-	56.8	E+	0.031	3.4
71. Wolfe Road/Fremont Avenue	D	AM	51.4	D-	51.7	D-	0.008	0.5
		PM	63.0	E	65.1	E	0.015	2.0
72. Lawrence Expressway/Monroe Street ⁺	E	AM	97.2	F	98.5	F	0.001	0.5
		PM	111.5	F	112.9	F	0.010	2.2
73. Lawrence Expressway/El Camino Real ⁺	E	AM	41.9	D	43.2	D	0.043	1.5
		PM	35.9	D+	38.3	D+	0.040	3.1
74. Lawrence Expressway/Benton Street	E	AM	71.8	E	76.4	E-	0.022	7.7
		PM	45.3	D	45.7	D	0.016	0.7
75. Lawrence Expressway/Lochinvar Avenue	E	AM	40.8	D	42.6	D	0.020	2.8
		PM	38.6	D+	39.2	D	0.015	0.9
76. Lawrence Expressway/Homestead Road ⁺	E	AM	80.6	F	85.2	F	0.017	8.2
		PM	104.5	F	108.7	F	0.013	7.5
77. Lawrence Expressway/Lehigh Drive	E	AM	28.5	C	28.4	C	0.009	0.1
		PM	64.6	E	66.8	E	0.011	3.5
78. Lawrence Expressway/Pruneridge Avenue	E	AM	41.7	D	42.5	D	0.010	1.3
		PM	52.7	D-	53.9	D-	0.004	0.2
79. Calabazas Boulevard/El Camino Real	D	AM	22.4	C+	22.3	C+	0.011	-0.1
		PM	26.4	C	26.4	C	0.013	-0.1
Notes: Bold text indicates intersection operates at unacceptable level of service. Bold and highlighted text indicates a significant LOS impact caused by the project. * denotes unsignalized intersection. + denotes CMP intersection.								
¹ LOS Standard of intersection’s jurisdiction.								
² AM = morning peak hour (between 7:00 and 9:00 AM), PM = evening peak hour (between 4:00 and 6:00 PM).								

Table 3.17-12: Cumulative and Cumulative Plus Project Intersection Level of Service								
Intersection Name	LOS Standard ¹	Peak Hour ²	Cumulative		Cumulative Plus Project			
			Delay ³	LOS ⁴	Delay ³	LOS ⁴	Change in Critical V/C ⁵	Change in Average Critical Delay ⁶
^{3.} Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop control intersections. Total control delay for the worst movement is presented for side-street stop-controlled intersections.								
^{4.} LOS = Level of Service calculations conducted using the TRAFFIX level of service analysis software package, which applies the methodology described in the 2000 HCM.								
^{5.} Change in critical volume-to-capacity ratio (V/C) between No Project and Plus Project Conditions.								
^{6.} Change in critical movement delay between No Project and Plus Project Conditions.								

DSP Amendments and Six Development Projects Mitigation Measures:

MM TRN-C.1: **All Project Sites:** Intersection 19: Hollenbeck Avenue/Remington Drive – The project shall pay its fair-share payment contribution towards restriping the northbound and southbound approaches on Hollenbeck Avenue to provide for a dedicated left-turn and a shared through/right-turn lane. This improvement would require parking restrictions on east side of the northbound approach and the west side of the southbound approach for between 75 and 125 feet to accommodate the striping of the dedicated left-turn lane. The signal phasing on the northbound and southbound approaches could remain “permitted.”

With the implementation of MM TRN-C.1, the LOS at this intersection would improve from an unacceptable LOS E to an acceptable LOS D during the PM peak hour. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

MM TRN-C.2: **All Project Sites:** Intersection 20: Hollenbeck Avenue/Fremont Avenue – The project shall pay its fair-share payment contribution towards adding an eastbound right-turn lane from Fremont Avenue onto southbound Hollenbeck Avenue is required. A dedicated right-turn lane, through lane, and a bike lane would require a minimum width of 25 feet. The available width between the number two through lane and the curb is about 19 feet. This mitigation measure would require removing the raised median on the eastbound approach to allow for adequate ROW.

With implementation of MM TRN-C.2, the LOS at this intersection would improve from an unacceptable LOS E to an acceptable LOS D during the PM peak hour. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

Intersection 26: Mathilda Avenue/Indio Avenue – Like discussed under Impact TRN-1, to mitigate the significant LOS impact at this intersection to a less than significant level requires the addition of a southbound through lane on Mathilda Avenue. However, there are ROW constraints that limit the

physical feasibility of this mitigation measure. For this reason, the cumulative impact at this intersection is significant and unavoidable. **(Significant and Unavoidable Cumulative Impact)**

Intersection 27: Mathilda Avenue/California Avenue – To mitigate the project’s significant cumulative LOS impact at this intersection to a less than significant level, the addition of a northbound right-turn lane from Mathilda Avenue onto eastbound California Avenue or a fourth southbound through lane on Mathilda Avenue is required. However, there are ROW constraints that limit the physical feasibility of either mitigation measure. A dedicated right-turn lane, through lane, and a bike lane would require a minimum width of 25 feet. The available width between the number two through lane and the curb on northbound Mathilda Avenue is about 18 feet. An additional southbound through lane would require an additional 11 feet of right-of-way from privately owned properties along the west side of Mathilda Avenue. For these reasons, the mitigation is not feasible and the cumulative impact at this intersection is significant and unavoidable. **(Significant and Unavoidable Cumulative Impact)**

MM TRN-C.3: All Project Sites: Intersections 29: Mathilda Avenue/Washington Avenue and Intersection 30: Mathilda Avenue/McKinley Avenue – The project shall pay its fair-share payment contribution to the City’s planned improvements along Mathilda Avenue of providing bike lanes between El Camino Real and Washington Avenue, including ROW costs for both the northbound and southbound sections.

Intersection 29 – To mitigate the project’s significant LOS impact at this intersection to a less than significant level, the addition of a fourth southbound through lane on Mathilda Avenue is required. However, there are ROW constraints that limit the physical feasibility of this improvement. An additional southbound through lane would require an additional 11 feet of ROW from existing properties along the west side of Mathilda Avenue. Consistent with General Plan Goal LT-3 of prioritizing investment in pedestrian, bicycle, and transit improvements to achieve greater mobility within the community, the project shall alternatively improve bicycle mobility at this intersection since the improvement to address LOS is infeasible.

Intersection 30 - To mitigate the project’s significant LOS impact at this intersection, the addition of a southbound right-turn lane on Mathilda Avenue is required. However, there are ROW constraints that limit the physical feasibility of this improvement. An additional southbound right-turn lane would require an additional 11 feet of right-of-way from existing properties along the west side of Mathilda Avenue. Consistent with General Plan Goal LT-3 of prioritizing investment in pedestrian, bicycle, and transit improvements to achieve greater mobility within the community, the project shall alternatively improve bicycle mobility at this intersection since the improvement to address LOS is infeasible.

With the implementation of MM TRN-C.2, consistent with General Plan Goal LT-3 to prioritize investments in improvements to achieve greater mobility, bicycle mobility would be improved at this intersection. However, the project’s significant LOS impact at this intersection would not be mitigated to a less than significant level. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**

MM TRN-C.4: All Project Sites: Intersection 33: Mathilda Avenue/El Camino Real – The project shall pay its fair-share payment contribution toward the installation of a third eastbound left-turn lane.

Installation of a third eastbound left-turn lane would improve the LOS at this intersection from an unacceptable LOS F to an acceptable LOS E during the AM peak hour and, therefore, mitigate the project's significant cumulative impact to this intersection to a less than significant level. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

MM TRN-C.5: All Project Sites: Intersection 38: Washington Avenue/Frances Street – The project shall pay its fair-share payment contribution towards converting the intersection to an all-way stop-controlled intersection.

Converting the intersection to an all-way stop-controlled intersection would mitigate the significant cumulative impact to a less than significant level. The project, with the implementation of MM TRN-C.5, would mitigate its significant cumulative impact to a less than significant level. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

MM TRN-C.6: All Project Sites: Intersection 52: Sunnyvale-Saratoga Road/Remington Drive – The project shall pay its fair-share payment contribution towards the City's TIF Program, specifically towards the identified improvement of adding a northbound right-turn lane from Sunnyvale-Saratoga Road onto eastbound Remington Drive. In addition, the project shall pay a fair-share contribution for the installation of the separated eastbound right-turn lane.¹⁵⁰

With the additional northbound and eastbound right-turn lanes, the intersection would improve from unacceptable LOS F to acceptable LOS E during the AM and PM peak hours. A separated eastbound right-turn lane would require an additional five to 11 feet of right-of-way from existing properties along the south side of Remington Drive. The project, with the implementation of MM TRN-C.5, would mitigate its significant cumulative impact to a less than significant level. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

MM TRN-C.7: All Project Sites: Intersection 53: Sunnyvale-Saratoga Road/Fremont Avenue – The project shall pay its fair-share payment contribution to the addition of a dedicated southbound right-turn lane from Sunnyvale-Saratoga Road onto westbound Fremont Avenue. The additional southbound right-turn lane would require modifying the bus duckout and northwest corner at Sunnyvale-Saratoga Road and Fremont Avenue.

¹⁵⁰ With the additional northbound right-turn lane, the intersection would improve from unacceptable LOS F to acceptable LOS E during the AM peak hour but would remain an unacceptable LOS F during the PM peak hour. This is consistent with the results presented in the TIF Nexus Study. A dedicated southbound right-turn lane would be needed to fully mitigate the impact. However, there are right-of-way constraints that limit the physical feasibility of the dedicated southbound right-turn lane. An additional southbound right-turn lane would require an additional 11 feet of right-of-way from existing properties along the west side of Mathilda Avenue.

With the implementation of this mitigation, the LOS at this intersection would improve from an unacceptable LOS F to an acceptable LOS E during the AM and PM peak hours. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

Intersection 55: De Anza Boulevard/Homestead Road – As discussed under Impact TRN-1, the project shall implement mitigation measure MM TRN-1.2, which is to pay a fair-share contribution to the addition of a third westbound left-turn lane. The implementation of this improvement is outside the City of Sunnyvale’s jurisdiction and the City cannot guarantee that it would be constructed. For this reason, the project’s impact at this intersection is considered significant and unavoidable. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**

MM TRN-C.8 All Project Sites: Intersection 60: Fair Oaks Avenue/Duane Avenue – The project shall pay its fair-share payment contribution towards providing a second westbound left-turn lane from Duane Avenue onto southbound Fair Oaks Avenue and restripe the intersection and remove the on-street parking on the south side of Duane Avenue for about 200 feet from the intersection. This improvement requires modification to the traffic signal and relocation of the bus stop on the south side of Duane Avenue. The City, when implementing this improvement, shall coordinate with VTA to relocate the existing bus stop.

With the implementation of MM TRN-C.8, the intersection LOS would improve from an unacceptable LOS E to an acceptable LOS D during the PM peak hour. Since the relocation of the existing bus stop is outside the City of Sunnyvale’s jurisdiction, the project’s impact at this intersection is conservatively concluded to be significant and unavoidable. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**

Intersection 76: Lawrence Expressway/Homestead Road – As discussed in MM TRN-1.2 under Impact TRN-1, the Santa Clara County’s Expressway Plan 2040 Study identifies an interim (near-term) improvement that includes the addition of an eastbound through lane on Homestead Road. With this improvement, intersection operations would improve, but the intersection would continue to operate at LOS F with delays greater than the cumulative without project scenario. The ultimate improvement identified by the County’s Expressway Plan 2040 is to grade-separate the intersection. As identified in MM TRN-1.2, the project shall pay a fair-share contribution to the grade separation. The implementation of this improvement is outside the City of Sunnyvale’s jurisdiction and the City cannot guarantee that it would be constructed. For this reason, the project’s cumulative impact at this intersection is significant and unavoidable. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**

The payment of the project’s fair-share contribution identified in Mitigation Measures TRN C-1 through TRN C-8 will eventually result in restriping, restricting parking, and installing an all-way stop control. These improvements would not result in significant impacts on the environment. The payment of fair-share contributions to planned improvements in and of itself would not result in significant physical impacts on the environment. Implementation of the planned improvements require their own separate environmental review. Generally, mitigation measures are incorporated into roadway projects to reduce construction-related impacts associated with roadway improvements (e.g., biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and noise) to a less than significant level. For these reasons, the

implementation of the above mitigation measures would not result in significant impacts on the environment.

Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities

Transit Vehicle Delay

As discussed under Impact TRN-2, the project would be conditioned to coordinate with the City and VTA to contribute towards applicable and feasible transit priority measures affected by the project. Other cumulative projects in the City that are determined to impact transit vehicle delay are also subject to the same condition as the project. For these reasons, the cumulative projects (including the proposed project) would not result in a significant cumulative transit vehicle delay. **(Less than Significant Cumulative Impact)**

Bicycle and Pedestrian Facilities Impacts

There are no other cumulative projects in the vicinity of the six project sites that would contribute to the same less than significant bicycle and pedestrian impacts as the project discussed under Impact TRN-2. For this reason, there is no cumulative bicycle and pedestrian facilities impacts. **(No Cumulative Impact)**

Hazards Due to a Geometric Design Feature or Incompatible Uses

There are no other cumulative projects in the vicinity of the six project sites that would contribute to the same less than significant hazards due to a geometric design feature discussed under Impact TRN-3 as the project. For this reason, there is no cumulative hazards due to a geometric design feature. **(No Cumulative Impact)**

As discussed under Impact TRN-3, the project would not proposes incompatible uses. The project, therefore, would not contribute to a significant cumulative impact related to incompatible uses. **(No Cumulative Impact)**

Inadequate Emergency Access

All cumulative projects (including the proposed project) are subject to the City's development review process that ensures that minimum design standards are met, including emergency access. For this reason, the cumulative projects would not result in inadequate emergency access. **(Less than Significant Cumulative Impact)**

3.17.3 Non-CEQA Effects

3.17.3.1 *Vehicle Miles Traveled*

As discussed in Section 3.17.2, the City of Sunnyvale does not currently have an adopted VMT policy. Per SB 743, the City is required to implement a VMT policy by July 1, 2020.¹⁵¹ The following discussion of VMT associated with the project, therefore, is provided for informational purposes only.

VMT is a useful metric in understanding the overall effects of a project on the transportation system. VMT is the sum of all of the vehicle trips generated by a project multiplied by the lengths of their trips to and from the site on an average weekday. A vehicle driven one mile is one VMT. Therefore, a project with a higher VMT would have a greater environmental effect than a project with a low VMT.

Per CEQA Guidelines Section 15064.3(b)(1), projects within 0.5-mile of either an existing major transit stop¹⁵² or a stop along an existing high quality transit corridor¹⁵³ should be presumed to cause a less than significant transportation impact. As shown in Figure 3.1-1, all six project sites are within 0.5-mile of the Caltrain station. Therefore, the project would be presumed to have a less than significant impact, and would advance SB 743's stated goals to promote the reduction of greenhouse gas emissions, through the development of multimodal transportation networks, and a diversity of land uses.

As discussed in Section 3.8 Greenhouse Gas Emissions, the project is consistent with the CAP and would result in a less than significant impact with respect to GHG emission thresholds; therefore, the project would advance the goal of GHG reductions. In addition, the project proposes a mix of uses at a high FAR (between 1.8 and 5.6 for all sites); is adequately served by existing pedestrian, bicycle, and transit facilities; and does not include parking in excess of standards. Compact, dense, mixed-use development near transit reduces VMT by placing complimentary land uses in proximity to each other and offers single-occupancy vehicle alternatives to travel. For these reasons, the project would advance the goals of SB 743 and would not result in impacts related to VMT.

3.17.3.2 *Vehicle Parking*

Pursuant to SB 375, parking is not considered a significant impact on the environment for the project.

DSP Amendments and Six Development Projects

SMC Chapter 19.28 (Downtown Specific Plan District) guides the parking requirements for downtown development. The minimum parking ratio for multi-family residential studios or one-bedroom units is 1.5 spaces per unit (1.0 assigned plus 0.5 unassigned) and 2.0 spaces (1.0 assigned

¹⁵¹ In the interim, the City is evaluating transportation impacts based on the City's past practice. Historically, the City has evaluated transportation impacts using LOS.

¹⁵² "Major transit stop" means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (Public Resources Code Section 21064.3).

¹⁵³ A "high-quality transit corridor" means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours (Public Resources Code Section 21155).

and 1.0 unassigned) for multi-family residential units with two or more bedrooms. For office/retail located within the Downtown Specific Plan District one space per 250 square feet (four spaces per 1,000 square feet) is required unless justified through a study, based upon credible data, which indicates a different parking ratio is appropriate.

3.17.3.3 *Bicycle Parking*

DSP Amendments and Six Development Projects

DSP policy C.7 requires projects in the DSP area to follow VTA standards for bicycle parking to the extent possible. Future development under the proposed project shall provide bicycle parking per the VTA standards (see condition of approval COA TRN-6 in Table 2.3-2).

3.18 UTILITIES AND SERVICE SYSTEMS

The following discussion in this section is based in part on a Water Supply Assessment (WSA) and Utility Impact Study prepared by Schaaf & Wheeler dated August 2019 and September 20, 2019, respectively. Copies of these reports are included in Appendix J of this EIR.

3.18.1 Environmental Setting

3.18.1.1 *Regulatory Framework*

State and Regional

State Water Code

Pursuant to State Water Code requirements, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan (UWMP) and update it every five years. The State Water Code requires water agencies to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, and to address a number of related subjects including water conservation, water service reliability, water recycling, opportunities for water transfers, and contingency plans for drought events. The City of Sunnyvale adopted its most recent UWMP in June 2016.

Senate Bill 610

SB 610 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires preparation of a WSA containing detailed information regarding water availability to be provided to the decision-makers prior to approval of specified large development projects that also require a General Plan Amendment. This WSA must be included in the administrative record that serves as the evidentiary basis for an approval action by the city or county on such projects. Under SB 610, WSAs must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA. Pursuant to the California Water Code (Section 10912[a]), projects that require a WSA include any of the following:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed hotel or motel, or both, having more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of the projects identified in this list; or
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

National Pollution Discharge Elimination System

The City owns and operates the Donald M. Sommers Water Pollution Control Plant (WPCP) located at 1444 Borregas Avenue in Sunnyvale. Discharges from the WPCP are subject to discharge prohibitions, discharge limitations, and receiving water limitations. The RWQCB regulates discharges into the San Francisco Bay through NPDES regulations. The NPDES permit for the WPCP documents current practices and levels of service for attainment of discharge water quality that is protective of beneficial uses.

The RWQCB includes regulatory requirements that each wastewater collection system agency shall, at a minimum, develop goals for the Sewer System Management Plan (SSMP) to provide adequate capacity to convey peak flows.

Other RWQCB regulatory requirements include the General Waste Discharge Requirements (GWDR), which regulates the discharge from wastewater treatment plants.

Assembly Bill 939

AB 939, or the California Integrated Waste Management Act of 1989, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures.

Assembly Bill 341

AB 341 (2011) sets forth the requirements of the statewide mandatory commercial recycling program. Businesses that generate four or more cubic yards of garbage per week and multi-family dwellings with five or more units in California are required to recycle. AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

Senate Bill 1383

SB 1383 (2016) establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The bill grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. As of July 8, 2019, CalRecycle was in the process of taking formal comments on proposed regulations to implement SB 1383's organics diversion goals.

Local

City of Sunnyvale General Plan

The City's General Plan includes policies for the purpose of avoiding or mitigating environmental impacts resulting from planned development projects within the City. The following policies are specific to utilities and service systems and are applicable to the proposed project.

Policy	Description
Environmental Management Element	
EM-1.3	Provide enough redundancy in the water supply system so that minimum potable water demand and fire suppression requirements can be met under both normal and emergency circumstances.
EM-2.1	Lower overall water demand through the effective use of water conservation programs in the residential, commercial, industrial and landscaping arenas.
EM-10.1	Consider the impacts of surface runoff as part of land use and development decisions and implement BMPs to minimize the total volume and rate of runoff of waste quality and quantity (hydro modification) of surface runoff as part of land use and development decisions.
EM-14.2	Maximize diversion of solid waste from disposal by use of demand management techniques, providing and promoting recycling programs, and encouraging private sector recycling.

Downtown Specific Plan

The DSP contains specific land use and design standards for new development in downtown Sunnyvale. The DSP contains the following policies related to infrastructure improvements needed to reduce environmental impacts.

Policy	Description
A.1	Ensure adequate public utility services and infrastructure.

Sunnyvale Water Pollution Control Plant Master Plan

In 2016, the City adopted its Water Pollution Control Plant Master Plan to rebuild the WPCP over the next 20 years. Implementation of the plan will upgrade existing outdated equipment and aging infrastructure, and address the WPCP's current and future challenges to providing treatment of the City's wastewater while complying with all applicable federal, state, and local regulations. The implementation of the adopted Water Pollution Control Plant Master Plan ensures that the WPCP would be able to accommodate projected growth through 2035, including General Plan buildout conditions.¹⁵⁴

¹⁵⁴ City of Sunnyvale. *Sunnyvale Water Pollution Control Plant Master Plan Draft Program Environmental Impact Report*. February 2016. Page 3-7.

Sunnyvale Wastewater Collection System Master Plan

The City's 2015 WWMP evaluated the capacity and condition of the sanitary sewer and storm drain collection system in order to recommend a long-term Capital Improvement Program with CIPs.¹⁵⁵

The City's sewer system performance criteria defines a pipe as potentially deficient when the Maximum Flow Depth/Pipe Diameter (d/D) is greater than 0.75 for 12 inch and greater diameter pipes and 0.5 for 10 inch and smaller diameter pipes.¹⁵⁶ Based on the findings, the WWMP identifies CIPs to be implemented to ensure the sanitary sewer and storm drain systems can accommodate the existing development and projected growth in the City through 2035 General Plan buildout conditions. CIPs identified for the DSP area include the following:

*Sanitary Sewer Improvements*¹⁵⁷

- CIP-7 – Close west outlet at Manhole 432-228 to 18-inch diameter pipe between 27-inch and 16-inch diameter pipes in Borregas to reduce surcharging in 16-inch diameter pipe.
- CIP-8 – Construct diversion structure in Manhole 287-2022 and new 12-inch diameter pipe in Mathilda from El Camino Real to Washington Avenue to offload flows in Fair Oaks Avenue Manhole 287-202 to 353-255.
- CIP-9 – Close north outlet at Manhole 331-207 (150 feet south of Hendy Avenue in Fair Oaks Avenue) to prevent surcharging of 12-inch diameter pipe.

*Storm Drain Improvement*¹⁵⁸

- Line C – From Evelyn Avenue across Caltrain tracks to North Frances Street, add new 42-inch diameter reinforced concrete pipe.

Only CIP-9 is funded and planned for near-term implementation. The other CIPs have not been implemented and are not fully funded. The City plans to update the WWMP in the near future. As part of the update, updated data would be collected and updated modeling would be completed, and the existing, identified CIPs in the WWMP may be updated as a result.

Sunnyvale Water Utility Master Plan

The City's Water Utility Master Plan (WUMP) was adopted in 2010 and later updated as part of the Potable Water System Comprehensive Preliminary Design Study Report (CPDS, 2013). The City's WUMP and CPDS identify CIPs and pipeline upsizing projects to address the City's fire flow deficiencies and provide sufficient fire flow in the City through 2033.¹⁵⁹

Sunnyvale Municipal Code

Chapter 19.37 (Landscaping, Irrigation and Usable Open Space) promotes the conservation and efficient use of water. All new landscaping installations of 500 square feet or more or rehabilitated

¹⁵⁵ The 2015 WWMP evaluated 12-inch or larger pipelines.

¹⁵⁶ City of Sunnyvale. *Wastewater Collection System Master Plan*. December 2015. Pages 28-29.

¹⁵⁷ Ibid, Table 4-7.

¹⁵⁸ Ibid, Table 5-5.

¹⁵⁹ City of Sunnyvale. *Water Utility Master Plan*. November 2010. Page 9, Table 7-2 for CIPs and Table 8-2 for pipeline upsizing.

landscaping projects of 1,000 square feet or more are subject to water-efficiency design, planting, and irrigation requirements.

3.18.1.2 Existing Conditions

The project site is located in a developed area within the City of Sunnyvale and is currently served by existing wastewater/sanitary sewer, water, stormwater, and solid waste service systems.

Wastewater Treatment/Sanitary Sewer System

Wastewater Treatment

The WPCP treats wastewater from residential, commercial, and industrial sources in Sunnyvale, the Rancho Rinconada portion of Cupertino, and Moffett Federal Airfield. Sewage generated in the City is collected via a system of sewer lines and trunks and conveyed through five interceptors (the Lawrence, Borregas, Lockheed, Moffett, and Cannery interceptors) to the WPCP.¹⁶⁰ Treated wastewater from the WPCP is discharged to San Francisco Bay via the Guadalupe Slough.

The WPCP uses advanced secondary treatment consisting of the following process: primary treatment (sedimentation), secondary treatment (biological oxidation), and advanced secondary treatment (filtration and disinfection).¹⁶¹ These processes provide treatment to a level that meets or exceeds the NPDES discharge requirements. The amount and quality of this effluent is regulated by the RWQCB. The WPCP's permitted average dry weather flow (ADWF) design capacity is 29.5 million gallons per day (mgd) and the peak wet weather design capacity is 40 mgd. The amount of influent wastewater handled by the WPCP varies within the time of day and within seasonal changes in demand. In 2018, the ADWF was approximately 12.2 mgd.¹⁶²

Sanitary Sewer System

The existing development on the six project sites generate approximately 47,705 gpd of sewage, which is conveyed into a 12-inch sewer line in Mathilda Avenue and an eight-inch sewer line in Washington Avenue to the Borregas interceptor, which is then conveyed to the WPCP. Currently, the sewer system does not have sufficient capacity downstream to accommodate existing flows from the DSP area. Under existing conditions, the portion of the sewer system serving the DSP area has 42 pipe segments (approximately 10,480 feet of pipe) downstream of the six project sites that are deficient based on the City's performance criteria, and four of the 42 deficient pipe segments (approximately 880 feet of pipe) are at risk of surcharging (i.e., being over capacity). While the d/D limits are established as City sewer design guidelines to prevent sewer overflows, there are other factors that are considered to determine whether a pipe needs to be upsized. The other criteria

¹⁶⁰ City of Sunnyvale. *City of Sunnyvale 2015 Urban Water Management Plan*. June 2016. Page 7-15.

¹⁶¹ Approximately 10 percent of the WPCP flow is treated to a higher level to meet the requirements for disinfected tertiary recycled water as specified in Title 22 of the California Code of Regulations and then delivered to customers for non-potable uses, primarily irrigation. The City operates a separate distribution network of pipelines in the northern part of the City solely for distribution of recycled water. Recycled water is not available to the DSP area, and the DSP area not identified as a potential recycled water customer (sources: 1. City of Sunnyvale. *2015 Urban Water Management Plan*. June 2016. Figure 6.3. and 2. City of Sunnyvale. *Feasibility Study for Recycled Water Expansion Report*. 2013.).

¹⁶² City of Sunnyvale. *Water Pollution Control Plant 2018 Annual NPDES Report*. February 1, 2019. Page 13.

include, but are not limited to, the degree of surcharging (level of water below street surface) and anticipated future development that would contribute flow to the pipe.

Water Supply and Demand/Water System and Fire Flow

Water Supply and Demand

The City of Sunnyvale municipal water system provides water service to the DSP area. The City is the water retailer for the DSP area and purchases water from water wholesalers including Valley Water and the San Francisco Public Utilities Commission (SFPUC), totaling approximately 48 percent and 50 percent of the water supply, respectively.¹⁶³ The remaining two percent of the City's water supply comes from City-owned wells, recycled water from the WPCP, and California Water Service Company (Cal Water) Los Altos District. Refer to Appendix J for additional details regarding the City's water supply sources. The City's existing water supply is approximately 27,200 acre feet per year (AFY) and the City's water demand is approximately 18,400 AFY.¹⁶⁴ The six project sites have an existing water demand of approximately 76 AFY.¹⁶⁵

Water System and Fire Flow

The City's water system infrastructure includes supply turnouts, groundwater wells, storage tanks, and a network of water lines and trunks. The City's water system is divided into three pressure zones to maintain reasonable pressures throughout the City's varied topography. The six project sites are located in Pressure Zone 2, which covers the approximately the middle third of the City.

The City's water system performance criteria indicate that fire flows are sufficient when the minimum pressure is 40 pounds per square inch (psi) under the peak hour demand (PHD) scenario and 20 under maximum daily demand with fire flow (MDD+FF) scenario. Under current conditions, the City's system (including the portion serving the DSP area) meets the design criteria for fire flow under the PHD scenario; however, fire flow deficiencies exist outside of the DSP area under the MDD+FF scenario (refer to Appendix J for details).

Storm Drain System

As discussed in Section 3.10 Hydrology and Water Quality, approximately 12.0 acres (or 82 percent) of the six project sites are impervious and the remaining approximately 2.7 acres (or 18 percent) are pervious. Runoff from the six project sites flow into 12- to 36-inch storm drain lines in the surrounding streets, which flows to the Sunnyvale East Channel and eventually the San Francisco Bay.

According to the WWMP, there are areas within the DSP and downstream of the DSP area that currently experience localized flooding during major storm events.

¹⁶³ Evans, Eric. Senior Civil Engineer, City of Sunnyvale. Personal Communication. July 18, 2019.

¹⁶⁴ Ibid.

¹⁶⁵ The existing water demand was estimated using the following rates: Residential - 109 gallons per day per unit; Commercial - 350 gallons per day per 1,000 square feet; Office - 244 gallons per 1,000 square feet (Source: City of Sunnyvale. *Wastewater Collection System Master Plan*. December 2015.).

Solid Waste

Solid waste collected in the City is transported to the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station[®]). The SMaRT Station currently serves the cities of Mountain View, Palo Alto, and Sunnyvale. The SMaRT Station processed an average peak tonnage of 1,048 of materials in 2018 with a permitted peak capacity of 1,500 tons of material each day.¹⁶⁶ The SMaRT Station receives both mixed solid waste and source-separated recyclables, and diverts approximately 43 percent of the materials delivered from being landfilled.¹⁶⁷ Diverted materials include aluminum, cardboard, metals, concrete, soil, mixed paper, newsprint, glass, wood, yard waste and other compostable material, plastic, mattresses, and large appliances. The City has an agreement for solid waste disposal with Waste Management, Inc., which landfills the City's waste at Kirby Canyon Landfill, through 2031.¹⁶⁸

Kirby Canyon Landfill has a capacity of 36.4 million cubic yards, with a remaining capacity of 15.7 million cubic yards as of January 1, 2019.¹⁶⁹ Based on the current remaining capacity available and projected volumes, Kirby Canyon Landfill is projected to close in 2071.¹⁷⁰ The six project sites currently generate approximately 827 cubic yards of solid waste per year.¹⁷¹

3.18.2 Utilities and Service Systems Impacts

For the purposes of this EIR, a utilities and service systems 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 waste 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;
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Comply with federal, state, and local statutes and regulations related to solid waste.

¹⁶⁶ CalRecycle. "Sunnyvale MRF & Transfer Station (43-AA-0009)." Accessed February 25, 2019. Available at: <https://www2.calrecycle.ca.gov/swfacilities/Directory/43-AA-0009/Inspection>.

¹⁶⁷ City of Sunnyvale, Environmental Services Department. "SMaRT Station Annual Report 2016-2017." Accessed: January 23, 2019. Available at: <https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?blobid=25741>.

¹⁶⁸ City of Sunnyvale. *Land Use and Transportation Element Draft Environmental Impact Report*. August 2016. (SCH#:2012032003). Page 3.11-24.

¹⁶⁹ Azevedo, Becky. Technical Manager, Waste Management, Inc. Personal Communication. March 7, 2019.

¹⁷⁰ Ibid.

¹⁷¹ Illingworth & Rodkin, Inc. *Downtown Sunnyvale Specific Plan Amendments Air Quality & Greenhouse Gas Assessment*. October 1, 2019.

Impact UTL-1: The project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

The wastewater generated by the project would be from the proposed office, commercial, and residential uses. The sewage generated would be treated at the WPCP in accordance with the requirements of the WPCP's existing NPDES permit. It is not anticipated that the sewage generated by the proposed office, commercial, and residential uses would contain pollutants such as industrial chemicals that would exceed the RWQCB wastewater treatment requirements and require new treatment permits. **(Less than Significant Impact)**

Impact UTL-2: The project would require improvements to the existing sewer system, the construction of which would not cause significant environmental effects. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Existing Plus Project Conditions

As discussed in Section 3.18.1.2, the existing sanitary sewer system has deficiencies: 42 pipe segments (totaling approximately 10,480 feet of pipe) downstream of the DSP area do not meet the City's d/D performance criteria and four of the 42 deficient pipes (approximately 880 feet of pipe) are at risk of surcharging (i.e., being over capacity).

The existing uses on the six project sites generate approximately 47,710 gpd of sewage. It is estimated the project would generate approximately 296,460 gpd of sewage. The project, therefore, would generate a net increase of approximately 248,750 gpd of sewage under existing plus project conditions. The project's net increase in sewage generation represents a 66 percent increase in existing sewage generated from the DSP area as a whole.¹⁷² The addition of project flows to existing flows would result in six additional pipe segments (approximately 840 feet of pipe) that would not meet the City's d/D performance criteria¹⁷³ and the same four pipes (approximately 880 feet of pipe) are at risk of surcharging.

Cumulative Plus Project Conditions

The WWMP evaluated the condition and capacity of the sanitary sewer system to serve existing and planned development in the City and recommended CIPs to address deficiencies. The results of the Utility Impact Study (see Appendix J) found that under cumulative (no project) conditions with the implementation of CIP 9 (the only CIP funded and scheduled to be completed to be completed by next year), 70 pipe segments (approximately 16,380 feet of pipe) downstream of the DSP area would

¹⁷² The existing DSP area current generates approximately 47,705 gpd (source: Schaaf & Wheeler Consulting Engineers. Draft *Downtown Specific Plan Amendments Project Utility Impact Study*. September 20, 2019. Page 4-2.).

¹⁷³ If a sewer line does not meet the City's d/D performance criteria, the pipe does not necessarily need to be upsized (Source: Evans, Eric. Senior Civil Engineer, City of Sunnyvale. Personal Communication. July 18, 2019.).

not meet the City's d/D performance criteria and 20 of the total 70 pipes would be at risk of surcharging.

Buildout of the six project sites under the adopted DSP would generate 78,820 gpd of sewage. As mentioned above, the project would generate 296,460 gpd of sewage. The project, therefore, would result in a net increase of 217,640 gpd of sewage under cumulative plus project conditions. The project's net increase in sewage generation represents a 27 percent increase in projected sewage generated from the DSP area as a whole under cumulative conditions.¹⁷⁴ Under cumulative plus project conditions with the implementation of CIP 9, an additional four pipe segments for a total of 74 pipe segments (approximately 16,870 feet of pipe) downstream of the DSP area would not meet the City's d/D performance criteria and 26 of the 74 pipes would be at risk of surcharging.

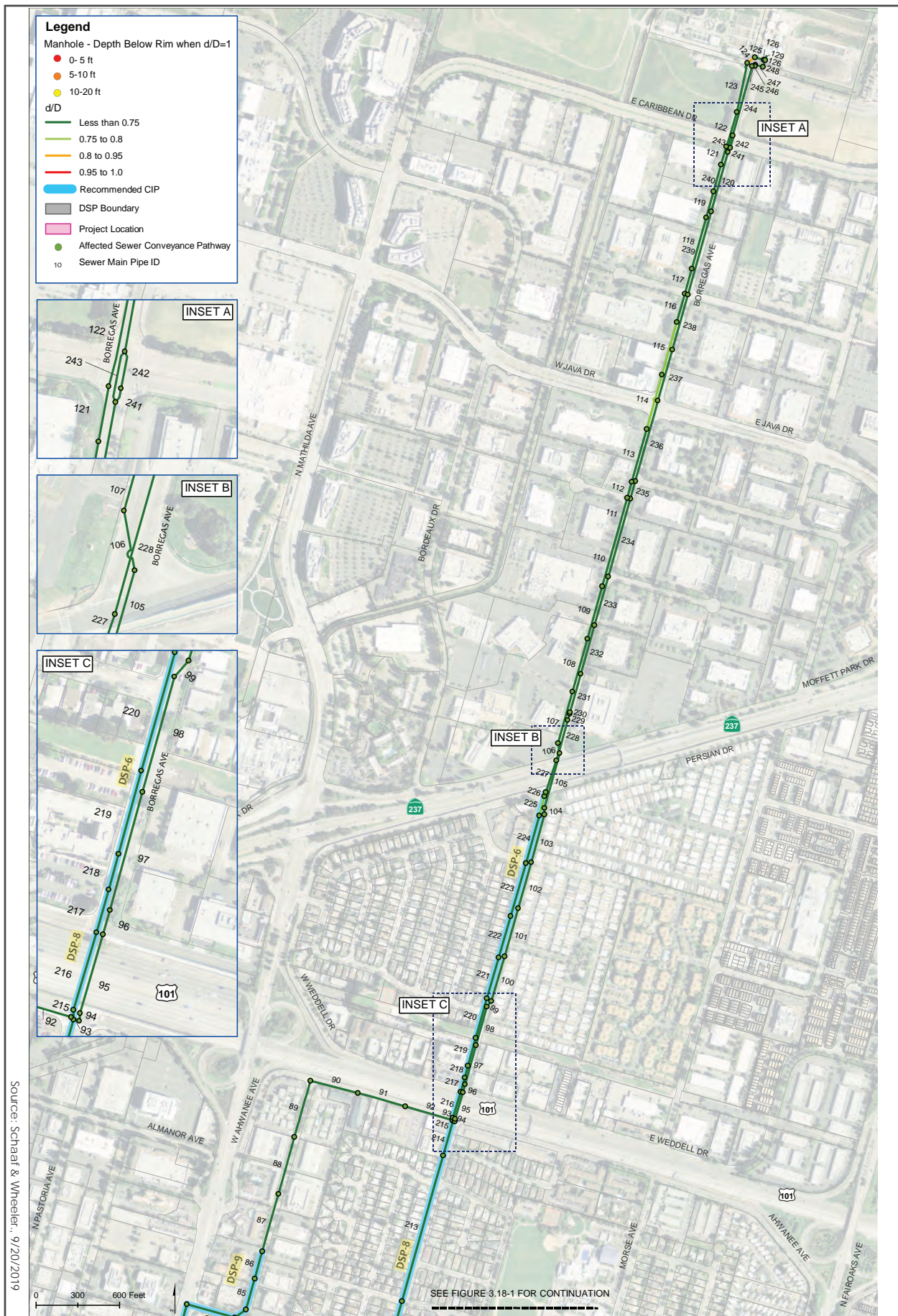
Table 3.18-1 lists nine new CIPs that would be required to provide adequate sewer service for the project, based on the analysis in Appendix J. The project contributes between three and 51 percent of the total flows in the pipes identified in the CIPs (refer to Table 5-8 in Appendix J for additional details). The nine DSP CIPs and improvements are shown graphically in Figure 3.18-1 and Figure 3.18-2 (refer to Appendix J for additional details on the CIPs, including the prioritization for their implementation).

Improvements to the City's sewer system are implemented through the CIP process. As a part of the project, the City's Capital Improvement Program shall be updated to include the DSP CIPs identified in Table 3.18-1. The sanitary sewer system CIPs are funded through the collection of sewer connection fees.¹⁷⁵ Developers are required to pay the appropriate sewer connection fee prior to redevelopment of a property.

¹⁷⁴ Under buildout conditions of the adopted DSP, it is estimated the DSP area would generate approximately 78,824 gpd (source: Schaaf & Wheeler Consulting Engineers. *Draft Downtown Specific Plan Amendments Project Utility Impact Study*. September 20, 2019. Page 4-3.).

¹⁷⁵ Pursuant to Section 9.02(3) of the City of Sunnyvale Fiscal Year 2017/18 Fee Schedule and Revenue Account Numbers, in regards to the City's water and sewer connection fees: There is a reasonable relationship between the use of the fees, the need for a water system, a wastewater treatment plant, and the types of development projects upon which the fee is imposed. All development projects create varying needs for the consumption of water which cannot be fulfilled unless the project is connected to the municipal water system to assure an adequate supply of water to each project. Plus, each project creates a need for sewage conveyance, disposal and treatment. The degree to which each project is charged is based upon factors related to the degree of potential usage, such as: type and size of projects, number of units, and calculations of the escalated cost of the City's sanitary sewer system; the current system capacity; the cost of conveyance, treatment and disposal per equivalent single-family dwelling unit; and the estimated daily discharge for each facility to be connected to the sanitary sewer system, taking into account proportionate average daily discharge of sewage, total organic carbon, sewage, suspended solids, and ammonia nitrogen. The fees or charges shall be collected from the owner or developer of property either (1) prior to approval of the original connection of the property to the water or sanitary sewer system, or a redevelopment with incremental impact, or (2) in the event the uses being made of the property presently connected to the system are enlarged, added to, or further structures are constructed on the property

Table 3.18-1: Sanitary Sewer System CIPs Required			
CIPs	Location Description	Existing Diameter (inches)	Proposed Diameter (inches)
SS DSP-1	Mathilda Avenue between El Camino Real and Washington Avenue	---	12
SS DSP-2	Borregas Avenue at Arbor Avenue	18	Close pipe
SS DSP-3	Mathilda Avenue between Evelyn Avenue and California Avenue	12	15
SS DSP-4	Washington Avenue between Mathilda Avenue and Taaffe Street	8	12
SS DSP-5	Washington Avenue between Evelyn Avenue and Fair Oaks Avenue	10 to 15	18
SS DSP-6	Borregas Avenue between Weddell Drive and CA-237	27	30
SS DSP-7	Fair Oaks Avenue between Railroad Crossing and California Avenue	18	21
SS DSP-8	Borregas Avenue between Maude Avenue and Weddell Drive	27	30
SS DSP-9	Maude Avenue between Mathilda Avenue and Borregas Avenue, and Mathilda Avenue between Maude Avenue and San Aleso Avenue	24	27
		21	24
* SS DSP-1 is identified as CIP #8 and SS DSP-2 is identified as CIP #7 in the 2015 WWMP.			



DSP SEWER CIPs REQUIRED (CONTINUED)

FIGURE 3.18-2

The CIPs are subject to a separate project specific environmental review. At the time the design and construction details of the CIPs are known, the City shall complete environmental review. Based on previous analyses for utility improvements located within existing rights-of-way in developed South Bay locations, the primary environmental effects are associated with construction and can be mitigated to a less than significant level. Mitigation measures for construction-related impacts (such as the ones identified in Sections 3.3 Air Quality, 3.4 Biological Resources, 3.5 Cultural Resources, 3.10 Hydrology and Water Quality, 3.13 Noise and Vibration in this EIR), are available to reduce potential construction-related impacts. **(Less than Significant Impact)**

Impact UTL-3: The wastewater treatment facility (WPCP) would have adequate capacity to serve the project demand in addition to the provider's existing commitments. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

The WPCP has an existing, permitted capacity of 29.5 mgd for ADWF. The ADWF is approximately 12.2 mgd; therefore, the available treatment capacity at the WPCP is 17.3 mgd. As described above, the project is estimated to result in a net increase of approximately 248,750 gpd (or approximately 0.25 mgd) of wastewater compared to existing conditions. Given the existing, available treatment capacity at the WPCP (17.3 mgd) and the project's net increase in ADWF (0.25 mgd), there is sufficient capacity at the WPCP to serve the project and existing treatment demand. **(Less than Significant Impact)**

Impact UTL-4: The project would require the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would not cause significant environmental effects. **(Less than Significant Impact with Mitigation Incorporated)**

DSP Amendments

As discussed in Section 3.10 Hydrology and Water Quality, it is possible that future development implementing the DSP amendments could result in an increase in impervious surfaces compared to existing conditions. Future development implementing the proposed DSP amendments, in conformance with applicable regulations and with the implementation of mitigation measure MM HYD-3.1 identified in Section 3.10 Hydrology and Water Quality, would not result in significant impacts to the storm drain system. **(Less than Significant Impact with Mitigation Incorporated)**

Six Development Projects

As discussed in Section 3.10 Hydrology and Water Quality, the six development projects are anticipated to increase impervious surfaces on-site by approximately 0.36 acres. The City has determined the existing and planned storm drain system capacity is sufficient to accommodate runoff flows from existing and planned development and the six development projects. No additional improvements other than the planned 42-inch diameter storm drain line approximately 800 feet in length from Evelyn Avenue across the tracks to North Francis Street (Line C in the WWMP), which

is identified as a high priority CIP in the WWMP, are required to provide adequate storm drain system capacity for the six development projects.

CIPs are subject to separate environmental review. At the time the design and construction details of Line C in the WWMP are known, the City shall complete environmental review. Based on previous analyses for utility improvements located within existing rights-of-way in developed South Bay locations, the primary environmental effects are associated with construction. Mitigation measures for construction-related impacts (such as the ones identified in Sections 3.3 Air Quality, 3.4 Biological Resources, 3.5 Cultural Resources, 3.10 Hydrology and Water Quality, 3.13 Noise and Vibration in this EIR), are available to reduce potential construction-related impacts.

(Less than Significant Impact)

Impact UTL-5: The project would have sufficient water supply available to serve the project from existing entitlements and resources. The construction of water system improvements to provide adequate service would not result in significant environmental effects. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

Water Supply and Demand

A WSA included in Appendix A of this EIR was completed for the project, in accordance with SB 610. The WSA incorporates by reference and relies upon assumptions and projections in the City's UWMP to assess the water demands of the project relative to the overall increase in water demands expected within the entire City service area. The water demand for the DSP area in the UWMP is based on the buildout of the adopted DSP.

Because the project is proposing development intensities above what was assumed in the adopted DSP for the six project sites, the project would result in water demands higher than those projected in the UWMP. The project would result in a net increase in water demand of 329 AFY.¹⁷⁶ The project's net increase (329 AFY) equates to an approximately one percent increase in the City's overall water demand from buildout of the General Plan from 26,896 to 27,225 AFY.¹⁷⁷

The City's overall water supply for buildout of the General Plan is projected to be the same as the projected water supply for normal and single dry year conditions, which would be 27,225 AFY. Under multiple dry years, the City's supply would be 27,248 AFY (year 2) and 27,270 (year 3). The City can increase its water supply assuming the City can use its total right of 14,100 AFY of water from the SFPUC during normal and single dry year conditions, and the groundwater safe yield of 8,000 AFY of water during multiple dry year conditions.¹⁷⁸ The safe yield from the groundwater

¹⁷⁶ City of Sunnyvale and Schaaf & Wheeler. *Draft Water Supply Assessment for the Downtown Specific Plan (DSP) Amendments Project*. August 15, 2019. Page 8.

¹⁷⁷ Ibid, Page 15.

¹⁷⁸ If SFPUC or groundwater supplies are reduced during dry years, the City may need to impose water conservation measures in keeping with the Water Shortage Contingency Plan to reduce demand. The Contingency Plan is divided into five stages, and can address supply shortfalls of up to 50 percent through voluntary conservation and mandatory consumption restrictions.

supply is typically used for emergency purposes such as drought conditions and wholesale water service interruptions.

Based on the existing and projected water supply and demand, the City is anticipated to meet projected demand (including the project's demand) during normal, single dry year, and multiple dry year conditions. In addition, as proposed, five of the six development projects would meet LEED Gold or Silver and include water conservation measures, which would reduce water demand from the project. **(Less than Significant Impact)**

Water System

Water Supply and Storage System

The Utility Impact Study included in Appendix J of this EIR evaluated the ability of the existing water system to meet the projected water demand of the City at buildout of the General Plan with the project. The analysis found that the addition of the project's water demand would not impact the ability of the City's water system to meet total demand. Note that, as water demand increases with planned development, the City will need to make operational adjustments within the three pressure zones to maintain adequate pressure.

The Utility Impact Study also evaluated the ability of the existing water storage system to meet the state's water storage requirement with implementation of the project. The analysis concluded that there is sufficient water storage for the projected water demand of the City at buildout of the General Plan with the project^{179,180}

Hydraulic Conveyance Hydraulic conveyance deficiencies within the water system is evaluated using the peak hour demand (PHD) scenario. Under existing conditions with the development of the project, the water system would continue to meet the City's performance criteria under the PHD scenario.

Under cumulative (no project) conditions when the CIPs identified in the 2010 WUMP are made, the water system has adequate pressure under the PHD scenario. Under cumulative conditions with the addition of the project's water demand, the water conveyance system would continue to have adequate pressure under the PHD scenario.

Fire Flow

Fire flow deficiencies within the water system is evaluated using the maximum daily demand with fire flow (MDD+FF) scenario. Under existing (no project) conditions, fire flow deficiencies exist outside the DSP area under the MDD+FF scenario. The addition of the project's demand would not result in deficiencies within the DSP area under the MDD+FF scenario; however, existing deficiencies in 10 locations outside of the DSP area would experience further reduced fire flows, varying between one and three percent, with the addition of project demand.

¹⁷⁹ Schaaf & Wheeler. *Draft Downtown Specific Plan (DSP) Amendments Project Utility Impact Study*. September 20, 2019. Page 3-2.

¹⁸⁰ The state's requirement is storage equal to eight hours of maximum day demand plus fire flow storage in each pressure zone.

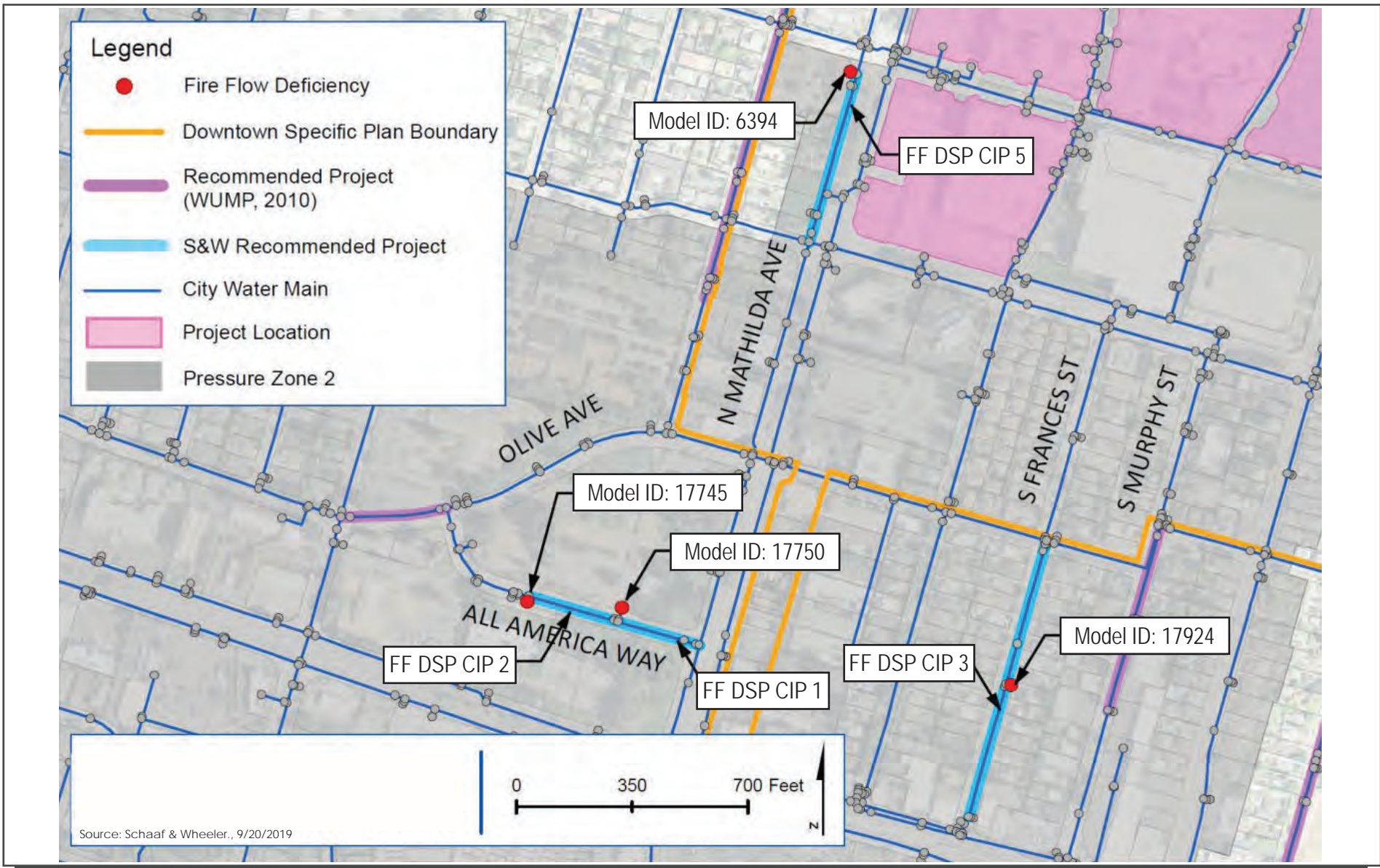
Under cumulative (no project) conditions when the CIPs identified in the 2010 WUMP are made, fire flow deficiencies would occur outside of the DSP area under the MDD+FF scenario. The addition of project's demand would result in two additional deficiencies outside of the DSP area under the MDD+FF scenario, and cumulative deficiencies at four locations outside the DSP area would experience reduced fire flows varying between 1.6 and two percent.

Table 3.18-2 lists four new CIPs that would be required to provide adequate fire flow, based on the analysis in Appendix J. The four CIPs are shown graphically in Figure 3.18-3 (refer to Appendix J for additional details on the CIPs). While modeling results show deficiency in the MDD+FF scenario under both cumulative (no project) and cumulative plus project conditions, the modeling methods were conservative because available flows were evaluated at the end of hydrant laterals, as opposed to on the water main (which would show a higher fire flow) (refer to Appendix J).

Table 3.18-2: Fire Flow System CIPs Required				
CIPs	Location	Length (feet)	Existing Diameter (inches)	Proposed Diameter (inches)
FF DSP-1	All America Way	260	6	8
FF DSP-2	All America Way	285	6	8
FF DSP-3	South Frances Street	865	4	6
FF DSP-5	North Mathilda Avenue	530	8	10
Note: FF CIP-4 identified in the UIS is identified for existing plus project deficiencies, but is not needed to address cumulative plus project deficiencies. Refer to Appendix J for additional details.				

Improvements to the City's water system are implemented through the CIP process. As part of the project, the City's Capital Improvement Program shall be updated to include the DSP CIPs identified in Table 3.18-2. The water system CIPs are funded through the collection of water connection fees. Developers are required to pay the water connection fee prior to redevelopment of a property.

The CIPs are subject to separate environmental review. At the time the design and construction details of the CIPs are known, the City shall complete environmental review. Based on previous analyses for utility improvements located within existing rights-of-way in developed South Bay locations, the primary environmental effects are associated with construction and can be mitigated to a less than significant level. Mitigation measures for construction-related impacts (such as the ones identified in Sections 3.3 Air Quality, 3.4 Biological Resources, 3.5 Cultural Resources, 3.10 Hydrology and Water Quality, 3.13 Noise and Vibration in this EIR), are available to reduce construction-related impacts. **(Less than Significant Impact)**



FIRE FLOW IMPROVEMENTS REQUIRED

FIGURE 3.18-3

Impact UTL-6: The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal and would comply with applicable statutes and regulations related to solid waste. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

The project is estimated to generate approximately 5,800 cubic yards of solid waste per year, which is a net increase of 4,900 cubic yards compared to existing conditions.¹⁸¹ The City has a waste reduction goal to divert 75 percent of solid waste out of the landfills by 2020.¹⁸² The project would be subject to the City's applicable waste reduction program; therefore the solid waste to be transported to the landfill would be less than the estimated generated waste. The City's contract with Waste Management, Inc. for solid waste disposal is through 2031. The contract operator of the SMaRT Station (currently Bay Counties Waste Services, Inc.) hauls the City's solid waste to Kirby Canyon Landfill.

Given the project's estimated net increase in solid waste generation (approximately 0.005 million cubic yards per year) and Kirby Canyon Landfill's remaining capacity (15.7 million cubic yards), Kirby Canyon Landfill has sufficient capacity to accommodate the project's solid waste disposal needs. When the City's current contract with Waste Management, Inc. terminates in 2031, the City could chose to extend its contract with Waste Management, Inc. or contract with a different hauler. There are local landfills with projected capacity, including Kirby Canyon Landfill, that could accommodate the project's solid waste post 2031. For these reasons, the project would be served by a landfill with sufficient capacity. The construction and operation of the project would comply with applicable federal, state, and local regulations and policies related to diversion of materials from disposal, including the City's Zero Waste Strategic Plan policies and appropriate disposal of solid waste. **(Less than Significant Impact)**

Impact UTL-C: The project would result in significant cumulative impacts to utilities and service systems. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**

DSP Amendments and Six Development Projects

Wastewater Treatment

The geographic area for cumulative wastewater treatment impacts is the service area of the WPCP. One of the cumulative projects is the WPCP Master Plan. The environmental impacts from implementing the WPCP Master Plan were evaluated in the certified Sunnyvale Water Pollution Control Plan Master Plan Program EIR.¹⁸³ With the implementation of the WPCP Master Plan, the

¹⁸¹ Illingworth & Rodkin, Inc. *Downtown Sunnyvale Specific Plan Amendments Air Quality & Greenhouse Gas Assessment*. October 1, 2019.

¹⁸² City of Sunnyvale. "Sustainability." Accessed: August 23, 2019. Available at: <https://sunnyvale.ca.gov/people/sustainability/default.htm>.

ADWF processing capacity of the WPCP would be reduced from the current 29.5 mgd to 19.5 mgd.¹⁸⁴

The projected wastewater flows for the WPCP in 2035 is 19.5 mgd of ADWF. Projected flows were based on historic and existing flow data and population and growth assumptions in the City's LUTE. Under the adopted DSP (which is reflected in the population and growth assumptions in the LUTE), the six project sites are estimated to generate 0.08 mgd of ADWF. The project would generate an estimated net increase in 0.17 mgd of ADWF compared to the uses allowed on the sites under the adopted DSP. The WPCP's future planned, permitted capacity (19.5 mgd of ADWF) is equivalent to the projected 2035 ADWF (19.5 mgd), therefore, there would not available capacity to treat development that was not included in the population and growth assumptions of the City's LUTE. The project would result in a net increase in development (and wastewater) compared to what was assumed for the project sites in the City's LUTE (and WPCP Master Plan). Therefore, there is insufficient planned capacity at the WPCP to treat wastewater for existing and planned development and the proposed project.

The City will be updating the WPCP Master Plan in the near future to include sufficient treatment capacity for existing and planned development and additional growth including the proposed project. Subsequent environmental review for the WPCP Master Plan update shall be completed by the City. The specific design and improvements needed are unknown at this time, therefore, it is speculative to evaluate the environmental impacts of those undetermined improvements at this time.

Because there would be insufficient planned capacity at the WPCP to treat wastewater for existing and planned development and the proposed project, the cumulative impact to wastewater treatment is significant and unavoidable. **(Significant and Unavoidable Cumulative Impact)**

Sanitary Sewer System

The geographic area for cumulative sanitary sewer impacts is the area serviced by same sewer lines downstream of the project site. As discussed under Impact UTL-2, developer payment of the City's sewer connection fees shall fund necessary improvements to the sanitary sewer system to provide adequate capacity under cumulative plus project conditions.

As discussed under Impact UTL-2, CIPs are subject to separate environmental review. At the time the design and construction details of the CIPs are known, the City shall complete environmental review. Based on previous analyses for utility improvements located within existing rights-of-way in developed South Bay locations, the primary environmental effects are associated with construction and can be mitigated to a less than significant level. Mitigation measures for construction-related impacts (such as the ones identified in Sections 3.3 Air Quality, 3.4 Biological Resources, 3.5 Cultural Resources, 3.10 Hydrology and Water Quality, 3.13 Noise and Vibration in this EIR), are available to reduce construction-related impacts. **(Less than Significant Cumulative Impact)**

¹⁸⁴ City of Sunnyvale. Sunnyvale Water Pollution Control Plant Master Plan Draft Program Environmental Impact Report. February 2016.

Storm Drain System

The geographic area for cumulative storm drain impacts includes the project area, specifically areas upstream and downstream of the six project sites. Buildout of the cumulative projects would involve redevelopment of existing developed sites that are mostly developed and contain substantial impervious surfaces, and these projects would be required to conform to applicable General Plan goals, policies, and strategies regarding stormwater runoff, infrastructure, and flooding. It is possible the implementation of the cumulative projects would result in a net increase in pervious surfaces. In cases where individual projects would result in a net increase in impervious surfaces, the City would require improvements to the storm drain system to ensure the system operates adequately (see mitigation measure MM HYD-3.1).

As discussed under Impact UTL-4, CIPs are subject to separate environmental review. At the time the design and construction details of the CIPs are known, the City shall complete environmental review. Based on previous analyses for utility improvements located within existing rights-of-way in developed South Bay locations, the primary environmental effects are associated with construction and can be mitigated to a less than significant level. Mitigation measures for construction-related impacts (such as the ones identified in Sections 3.3 Air Quality, 3.4 Biological Resources, 3.5 Cultural Resources, 3.10 Hydrology and Water Quality, 3.13 Noise and Vibration in this EIR), are available to reduce construction-related impacts. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

Water Supply

The geographic area for cumulative water supply impacts is the City's service area. As described under Impact UTL-5, the WSA concluded that the City would have sufficient water supplies to meet the project's demand and all existing and projected development under normal, single dry year, and multiple dry year conditions; and that new or expanded water entitlements are not required. **(Less than Significant Cumulative Impact)**

Water System and Fire Flow

The geographic area for cumulative water system and fire flow impacts is the City's service area serviced. The cumulative impacts to the water system including fire flow is discussed under Impact UTL-5. As discussed under Impact UTL-5, developer payment of the City's water connection fee shall fund necessary improvements to the water system to provide adequate fire flow.

As discussed under Impact UTL-5, CIPs are subject to separate environmental review. At the time the design and construction details of the CIPs are known, the City shall complete environmental review. Based on previous analyses for utility improvements located within existing rights-of-way in developed South Bay locations, the primary environmental effects are associated with construction and can be mitigated to a less than significant level. Mitigation measures for construction-related impacts (such as the ones identified in Sections 3.3 Air Quality, 3.4 Biological Resources, 3.5 Cultural Resources, 3.10 Hydrology and Water Quality, 3.13 Noise and Vibration in this EIR), are available to reduce construction-related impacts. **(Less than Significant Cumulative Impact)**

Landfill Capacity

The geographic area for cumulative landfill impacts is the County. The LUTE EIR estimated that the City would generate approximately 245,500 cubic yards (or 0.25 million cubic yards) of solid waste per year. All cumulative projects, except for the proposed project, are consistent with the land use assumptions in the LUTE and, therefore, are included in the City's estimated solid waste generation of 0.25 million cubic yards per year. The project's net increase in solid waste generation of 0.005 million cubic yards per year does not substantially change the City's estimated generation of 0.25 million cubic yards at buildout of the General Plan.

As discussed under Impact UTL-6, the City has a contract to dispose solid waste through 2031. There is sufficient capacity at local landfills, including Kirby Canyon Landfill (15.7 million cubic yards), to accommodate solid waste generated post-2031. **(Less than Significant Cumulative Impact)**

SECTION 4.0 GROWTH-INDUCING IMPACTS

Impact GRO-1: The project would not foster or stimulate significant economic or population growth in the surrounding environment. **(Less than Significant Impact)**

DSP Amendments and Six Development Projects

The CEQA Guidelines require that an EIR identify the likelihood that a proposed project could “foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment” (Section 15126.2[d]). This section of the EIR is intended to evaluate the impacts of such growth in the surrounding environment. Examples of projects likely to have significant growth-inducing impacts include removing obstacle to population growth, for example by extending or expanding infrastructure beyond what is needed to serve the project. Other examples of growth inducement include increases in population that may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

The project would result in direct economic growth because the proposed uses include new employment, and other land uses that generate tax revenues for public services. The project would also result in direct population growth. Population and employment estimates for the buildout of the City, adopted DSP, and proposed project are summarized in Table 4.0-1. The buildout of the adopted General Plan (including adopted DSP) would result in a jobs/housing ratio of 1.73 jobs per housing unit.

As discussed in Section 3.14 Population and Housing, the residential population growth from the project would not constitute substantial population growth in the area because it would occur on an urbanized infill site currently served by existing roads, transit, utilities, and public services, is consistent with General Plan goals for focused and sustainable growth, and supports the intensification of development in a PDA. The project proposes a greater number of residential units and commercial/office square footages, resulting in greater population and employees, than what is planned in the General Plan. The increase in development would change the City’s jobs/housing ratio from 1.73 to 1.75 at buildout. The resulting increase in the City’s jobs/housing ratio is not considered substantial.

Table 4.0-1: Estimated Residential Population and Employee Projections Citywide and on the Six Project Sites			
	Estimated Dwelling Units	Estimated Residential Population	Estimated Jobs/Employees
Citywide*			
Sunnyvale General Plan 2035	72,100	174,500	124,410
Six Project Sites**			
Adopted DSP	93	198	705
Proposed Project	843	1,796	4,093
Notes: * City of Sunnyvale. <i>Land Use and Transportation Element Draft Environmental Impact Report</i> . (SCH#2012032003). August 2016. Table 3.2-5. ** Keyser Marston Associates. <i>Fiscal Impact Analysis of Requested Amendments to Downtown Specific Plan</i> . July 2018.			

The six project sites are located on urbanized, infill sites that are served by existing infrastructure, including roadways and utilities. The growth resulting from the implementation of the proposed project would increase the use of existing community service facilities (refer to Sections 3.15 Public Services and 3.16 Recreation). The project includes infrastructure improvements (i.e., roadway mitigation, and sewer system, storm drain, and water system improvements) to mitigate the project's impacts on community service facilities to a less than significant level (refer to Sections 3.17 Transportation/Traffic and 3.18 Utilities and Service Systems). Utility improvements would be sized to serve the project and existing and planned development, and would not be sized to have excess capacity. In addition, the project would pay all applicable impact fees and taxes, which would offset fiscal and service impacts to public facilities and services, including police and fire, schools, and parks. As a result, growth associated with the implementation of the project would not have a significant impact on community service facilities, nor would it make a cumulatively considerable contribution to such impacts, requiring construction of new facilities that could cause significant environmental effects.

For the reasons discussed above, the project would not result in significant indirect growth-including impacts. **(Less than Significant Impact)**

SECTION 5.0 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

This section was prepared pursuant to CEQA Guidelines Section 15126.2(c), which requires a discussion of the significant irreversible changes that would result from the implementation of a proposed project. Significant irreversible changes include the use of nonrenewable resources, the commitment of future generations to similar use, irreversible damage resulting from environmental accidents associated with the project, and irretrievable commitments of resources.

5.1.1 Use of Nonrenewable Resources

During construction and operation of the project, nonrenewable resources would be consumed. Unlike renewable resources, nonrenewable resources cannot be regenerated over time. Nonrenewable resources include fossil fuels and metals. Renewable resources, such as lumber and other wood byproducts, could also be used.

Energy, as discussed in more detail in Section 3.6 Energy, would be consumed during both the construction and operational phases of the project. The construction phase would require the use of nonrenewable construction material, such as concrete, metals, and plastics, and glass. Nonrenewable resources and energy would also be consumed during the manufacturing and transportation of building materials, site preparation, and construction of the buildings. The operational phase would consume energy for multiple purposes including building heating and cooling, lighting, appliances, and electronics. Energy, in the form of fossil fuels, would be used to fuel vehicles traveling to and from six project sites.

The project would result in a substantial increase in demand for nonrenewable resources; however, the project is subject to the standard California Code of Regulations Title 24 Part 6, CALGreen standards, and Sunnyvale Green Building requirements. The project would be consistent with the intent of applicable Climate Action Playbook plays to reduce energy consumption by creating high density mixed-use development near transit (Play 3.1) and implementing a TDM program (Play 3.2). In addition, as discussed in Section 3.6 Energy, the electricity for the project would be provided by SVCE from sources that are 100 percent carbon-free. For these reasons, future projects would minimize the use of nonrenewable energy resources.

5.1.2 Commitment of Future Generations to Similar Use

The project would be developed on sites that are or have been previously developed for urban uses. Development of the proposed project would commit a substantial amount of resources to prepare the sites, construct the buildings, and operate them, but it would not result in development of previously undeveloped areas.

5.1.3 Irreversible Damage from Environmental Accidents

The project does not propose any new or uniquely hazardous uses, and its operation would not be expected to cause environmental accidents that would impact other areas. As discussed in Section 3.9 Hazards and Hazardous Materials, there are no significant unmitigatable hazards and hazardous materials conditions on-site or off-site that would substantially affect the public and surrounding environment. There are no significant unmitigatable geology and soils impacts from implementation of the project (refer to Section 3.7 Geology and Soils). For these reasons, the project would not result in irreversible damage that may result from environmental accidents.

SECTION 6.0 SIGNIFICANT AND UNAVOIDABLE IMPACTS

As discussed in detail in Section 3.0, the project would result in the following significant and unavoidable impacts:

- **Impact CR-1:** The project would cause a substantial change in the significance of a historic resource. **(Significant and Unavoidable Impact with Mitigation Incorporated)**
- **Impact NOI-4:** The project would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. **(Significant and Unavoidable with Mitigation Incorporated)**
- **Impact NOI-7:** The project would result in a cumulatively considerable noise or vibration impacts. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**
- **Impact TRN-1:** The project would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. **(Significant and Unavoidable Impact with Mitigation Incorporated)**
- **Impact TRN-2:** The project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. **(Significant and Unavoidable Impact with Mitigation Incorporated)**
- **Impact TRN-C:** The project would result in a cumulatively considerable contribution to a significant transportation impact. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**
- **Impact UTL-C:** The project would result in significant cumulative impacts to utilities and service systems. **(Significant and Unavoidable Cumulative Impact with Mitigation Incorporated)**

SECTION 7.0 ALTERNATIVES

CEQA requires that an EIR identify alternatives to a project as it is proposed. The CEQA Guidelines specify that the EIR should identify alternatives 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.” The purpose of the alternatives discussion is to determine whether there are alternatives of design, scope, or location which would substantially lessen the significant impacts, even if those alternatives “impede to some degree the attainment of the project objectives” or are more expensive (CEQA Guidelines Section 15126.6).

In order to comply with the purposes of CEQA, it is important to identify alternatives that reduce the significant impacts anticipated to occur if the project is implemented and try to meet as many of the project’s objectives as possible. The Guidelines emphasize a common sense approach – the alternatives should be reasonable, “foster informed decision making and public participation,” and focus on alternatives that avoid or substantially lessen the significant impacts. The range of alternatives selected for analysis is governed by the “rule of reason” which requires the EIR to discuss only those alternatives necessary to permit a reasoned choice. An EIR is not required to consider alternatives which are infeasible.

The three critical factors to consider in selecting and evaluating alternatives are, therefore: (1) the significant impacts from the proposed project which could be reduced or avoided by an alternative, (2) the project objectives, and (3) the feasibility of the alternatives available. These factors are discussed below.

7.1 FACTORS IN SELECTING AND EVALUATING ALTERNATIVES

7.1.1 Significant Impacts of the Project

As explained above, the CEQA Guidelines state that the alternatives analysis in an EIR should be limited to alternatives that would avoid or substantially lessen any of the significant effects of the project and achieve most of the basic project objectives. Alternatives also may be considered that further reduce impacts that can be mitigated to a less than significant level. Table 7.2-6 summarizes the project (and project alternatives) impacts, including significant and unavoidable impacts and less than significant impacts with mitigation incorporated.

An alternative site may be considered when impacts of the project might be avoided or substantially lessened. Only alternative locations that would avoid or substantially lessen any of the impacts of the project and meet most of the basic project objectives need to be considered for inclusion in the EIR (CEQA Guidelines Sections 15126.6[f] and [f][2][A]). Factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (CEQA Guidelines Section 15126.6[f][1]).

7.1.2 Project Objectives

While CEQA does not require that alternatives must be capable of meeting all of the project objectives, their ability to meet most of the basic objectives is considered relevant to their consideration. As identified in Section 2.4 Project Objectives, the City’s objectives for the project are as follows:

1. Enhance the prominence of downtown as the center of the community with the addition of iconic and high quality architecture.
2. Create an urban downtown containing a wide range of live/work options while supporting market trends for retail services and entertainment opportunities in an area that is adjacent to the transit center.
3. Maximize employment opportunities that are responsive to future job market needs, such as research and development and technology businesses, to enhance local economic vitality.
4. Maximize opportunities for higher-density housing to increase the number of new housing units that are affordable at a range of income levels and that serve a variety of household types to help address regional housing needs.
5. Create a distinct and strong sense of place by providing enhanced connections and dynamic gathering places while accommodating taller buildings with larger community gathering spaces.
6. Allow sufficient density and intensity to attract financially feasible private development that will support community benefits, such as parks, open space, affordable housing accessible to lower and moderate income households.
7. Create a district that promotes the use of a variety of sustainable transportation modes such as; bikes, pedestrian, ride-share, transit, and discourages the use of single-occupancy/private automobiles.
8. Maximize employment and housing density in proximity to major transit stops, consistent with the statewide sustainability goals of reducing vehicle miles traveled and minimizing greenhouse gas emissions per service population.

7.1.3 Feasibility of Alternatives

CEQA, the CEQA Guidelines, and case law interpreting CEQA and the CEQA Guidelines have found that feasibility can be based on a wide range of factors and influences. The Guidelines state that such factors can include (but are not necessarily limited to) the suitability of an alternate site, economic viability, availability of infrastructure, consistency with a general plan or with other plans or regulatory limitations, jurisdictional boundaries, and whether the project proponent can “reasonably acquire, control or otherwise have access to the alternative site (Section 15126.6[f][1]).”

7.2 SELECTION OF ALTERNATIVES

7.2.1 Alternatives Considered but Rejected for Further Analysis

7.2.1.1 *Alternative Location*

The project objectives focus on updating the land uses, standards, and density downtown. For this reason, locations outside of downtown were not considered further. Alternative sites within the downtown were considered but would not avoid the project's significant impacts. Redeveloping and increasing density on sites within the Murphy Station Heritage Landmark District would avoid the project's significant and unavoidable impact to Heritage Grove but would result in a more significant impact to a historic resource by substantially modifying the integrity of the historic district. Other sites downtown have recently been redeveloped and cannot accommodate the net increase in development the City desires with this project. For these reasons, alternative locations and sites were considered but rejected for further analysis.

7.2.2 Alternatives Selected

A discussion of the alternative selected is provided below and a summary of the development assumed under the alternatives selected compared to the proposed project is shown in Table 7.2-1.

Table 7.2-1: Development Summary of Project and Alternatives Selected				
	Land Use			
	Residential (units)	Commercial (square footage)	Office (square footage)	Hotel (rooms)
Proposed Project (DSP Amendments)	843	260,063	860,624	0
Alternatives Selected				
No Project/No New Development Alternative	20	181,000	8,000	0
No Project/New Development Alternative	93	181,000	17,896	200
Reduced Housing and Office Alternative	520	260,063	452,624	0
Design Alternative	843	260,063	860,624	0
Hotel and Reduced Office Development Alternative	843	260,063	714,000	200

7.2.2.1 *No Project Alternatives*

The CEQA Guidelines specifically require consideration of a “No Project” Alternative. The purpose of including a No Project Alternative is to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project. The Guidelines specifically advise that the No Project Alternative is “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” The Guidelines emphasize that an EIR should take a practical approach, and not “...create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment (Section 15126.6[e][3][B]).”

Under the No Project Alternative, the six project sites could remain as they are (i.e., developed with a total of 20 residential units, 181,000 square feet of commercial uses, and 8,000 square feet of office uses), or the sites could be redeveloped with uses consistent with the existing DSP zoning designation. The existing DSP zoning allows for the development of a total of 93 residential units, 181,000 square feet of commercial uses, 17,896 square feet of office uses, and 200 hotel rooms. For these reasons, there are two logical No Project alternatives for the project: (1) a No Project/No New Development Alternative and (2) a No Project/New Development Alternative. A summary of the development proposed under the project and No Project Alternatives is provided in Table 7.2-1.

7.2.2.2 *No Project/No New Development Alternative*

The No Project/No New Development Alternative assumes that the six project sites would remain as they are today; developed with a total of 20 residential units, 181,000 square feet of commercial uses, and 8,000 square feet of office uses. This alternative does not, however, preclude the development of these sites that is consistent with the adopted DSP (which is discussed in Section 7.2.2.3 No Project/New Development Alternative).

Comparison of Environmental Impacts

Because the No Project/No New Development Alternative would not result in changes to existing conditions, this alternative would avoid all of the environmental impacts of the project.

Relationship to Project Objectives

The No Project/No Development Alternative would partially meet Objective 2 because the downtown already contains a range of uses near a transit center; however, the density is low and suburban in nature.

The No Project/No New Development Alternative would not meet the other seven project objectives because it would not enhance the prominence downtown with new high-density, iconic, and high-quality development (Objective 1), redevelop the six, underutilized project sites to maximize employment and housing opportunities in proximity to major transit stops (Objectives 3, 4, and 8), intensify land use while providing enhanced connections and large community gathering places (Objective 5), incentivize new development that would provide community benefits (Objective 6), or create sufficient critical mass to discourage single-occupancy vehicle trips (Objective 7).

Conclusion

The No Project/No New Development Alternative would avoid all of the environmental impacts of the project. The No Project/No New Development Alternative would partially meet Objective 2 and would not meet the other seven project objectives (Objectives 1 and 3 through 8).

7.2.2.3 *No Project/New Development Alternative*

This alternative assumes that the project is not approved and the project sites are redeveloped consistent with the adopted DSP. Under the adopted DSP, a total of 93 residential units, 181,000 square feet of commercial uses, 17,896 square feet of office uses, and 200 hotel rooms could be developed on the sites.

Comparison of Environmental Impacts

While the No Project/Development Alternative would result in the development of 200 hotel rooms, it has less residential, commercial, and office development than the proposed project. The No Project/Development Alternative would have 750 fewer residential units, 79,063 fewer commercial square feet, and 842,728 fewer office square feet than the proposed project. The No Project/New Development Alternative would be less dense than the proposed project. The No Project/New Development Alternative would avoid the project's significant LOS impacts.¹⁸⁵ Given the overall reduced density of development, it may be feasible to design the No Project/New Development Alternative to avoid impacts to Heritage Grove (thereby, avoiding the project's significant impact to a historic resource).

The No Project/New Development Alternative would result in lesser construction noise impacts than the proposed project because the construction duration would be shorter (given the lesser amount of development), although the construction noise would be at the same maximum intensity as the proposed project. This alternative would also result in lesser population and housing impacts than the proposed project because this alternative would develop fewer residential units. In addition, since the No Project/New Development Alternative would result in redevelopment of the six project sites consistent with the adopted DSP, the alternative would not require amendments to the DSP. For this reason, the No Project/New Development Alternative would have lesser land use and planning impacts than the proposed project's (which requires amendments to the DSP) less than significant land use and planning impacts.

The No Project/New Development Alternative would result in the same or similar impacts as the proposed project related to aesthetics¹⁸⁶, air quality, energy, public services, recreation, utility and service systems, and the physical conditions of the sites. Impacts related to the physical conditions of the site include impacts to agricultural and forestry resources, biological resources, archaeological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, and exterior noise.

¹⁸⁵ Caldera, Ryan. Transportation Engineer/Planner, Fehr & Peers. Personal Communications. June 28, 2019.

¹⁸⁶ Per SB 743, aesthetic impacts are less than significant for development on the project sites.

While the No Project/New Development Alternative would result in less total GHG emissions than the proposed project because the alternative would develop less and generate fewer vehicle trips, the No Project/New Development Alternative that is less densely populated would result in greater GHG emissions per service population than the proposed project. The No Project/New Development Alternative would result in a GHG emissions per service population of 6.4 compared to the project's GHG emissions per service population of 2.5 in operational year 2024.¹⁸⁷

Relationship to Project Objectives

The No Project/New Development Alternative would partially meet Objectives 1, 2, and 5 through 7. This alternative would partially meet Objective 1 because it would allow for new development that could have iconic and high quality architecture; however, the prominence of downtown as the center of the community would not be enhanced given the minimal amount of net new development that would occur under this alternative.

The No Project/New Development Alternative would partially meet Objective 2 because the development allowed under the adopted DSP includes a range of uses near a transit center; however, the density is suburban in nature rather than urban. The alternative would partially meet Objective 5 because development under this alternative could provide connections and large community gathering spaces; however, the development density is low and would not sustain a constant and present critical mass the City desires in downtown to create a strong and distinct sense of place.

The alternative would partially meet Objective 6 because it could attract private development that could support community benefits; however, additional housing and office development (beyond what is allowed under this alternative) would provide greater community benefits and a more financially robust downtown.¹⁸⁸ The No Project/New Development Alternative would partially meet Objective 7 by developing a mix of uses in an area served by existing pedestrian, bicycle, and transit facilities; however, the density of development allowed under this alternative would not create sufficient critical mass to substantially discourage single-occupancy vehicle trips.

Compared to the proposed project, the No Project/New Development Alternative would result in 1,753 fewer residences, 3,411 fewer office jobs, and 197 fewer commercial jobs. While the No Project/New Development Alternative would allow for incremental employment and housing opportunities in proximity to major transit stops compared to existing conditions, the opportunities would not be maximized (Objectives 3, 4, and 8) as much as under the proposed project.

Conclusion

The No Project/New Development Alternative would avoid the project's significant traffic LOS impacts and could avoid the project's significant impact to a historic resource. This alternative would result in lesser construction noise, population and housing, and land use and planning impacts than the proposed project. The No Project/New Development Alternative would result in the same or

¹⁸⁷ CalEEMod modeling completed by Illingworth & Rodkin, Inc. The per capita assumption assumes 198 residents and 704 jobs/employees. Residents based on 2.13 residents per household in the DSP area (assuming no vacancies); jobs based on 400 square feet/retail employee and 250 square feet/office employee. (Source: Keyser Marston Associates. *Fiscal Impact Analysis of Requested Amendments to Downtown Specific Plan*. July 2018.).

¹⁸⁸ Keyser Marston Associates. *Sunnyvale Town Center Market Assessment*. December 2015.

similar impacts to aesthetics, air quality, energy, agricultural and forestry resources, biological resources, archaeological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, exterior noise, public services, recreation, and utility and service systems. The No Project/New Development Alternative would have greater GHG impacts than the proposed project.

The No Project/New Development Alternative would partially meet Objectives 1, 2, and 5 through 7. The No Project/New Development Alternative would not meet Objectives 3, 4, and 8.

7.2.2.4 *Reduced Housing and Office Alternative*

The purpose of the Reduced Housing and Office Alternative is to lessen the project's significant intersection LOS impacts. The Reduced Housing and Office Alternative includes 520 residential units, 260,063 square feet of commercial uses, and 408,000 square feet of office uses. A summary of the development proposed under the project and Reduced Housing and Office Alternative is shown in Table 7.2-2.

As shown in Table 7.2-2, the Reduced Housing and Office Alternative includes 323 fewer residential units, the same amount of commercial square feet, and 452,624 fewer office square feet. The Reduced Housing and Office Alternative includes 62 percent of the project's residential units, almost the same amount of commercial square footage as the project, and about 47 percent of the project's office square footage.

Table 7.2-2: Development Under the Proposed Project and Reduced Housing and Office Alternative			
	Residential Units	Commercial Square Feet	Office Square Feet
A. Proposed Project (DSP Amendments)	843	260,063	860,624
B. Reduced Housing and Office Alternative	520	260,063	408,000
<i>Difference (A – B)</i>	323	0	452,624

Comparison of Environmental Impacts

Given the overall reduced density of development, it may be feasible to design the Reduced Housing and Office Alternative to avoid adversely impacting Heritage Grove (thereby avoiding the project's significant impact to a historic resource).

A traffic analysis of the Reduced Housing and Office Alternative is included in Appendix I. A summary of the trip generation for the project compared to the Reduced Housing and Office Alternative is shown in Table 7.2-3.

Table 7.2-3: Summary of Project and Reduced Housing and Office Alternative Estimated Net Vehicle Trips							
	Net Average Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
A. Proposed Project (DSP Amendments)	13,250	870	316	1,186	430	994	1,424
B. Reduced Housing and Office Alternative	8,142	423	173	596	298	557	855
<i>Difference (B-A)</i>	-5,108	-447	-143	-590	-132	-437	-569
Note: Existing uses generate 6,967 average daily trips, 180 average AM peak hour trips, and 702 average PM peak hour trips. Source: Fehr & Peers. <i>Sunnyvale Downtown Specific Plan Amendments Project Final Transportation Impact Analysis</i> . March 19, 2019 (revised).							

Compared to the proposed project, the Reduced Housing and Office Alternative would result in 5,108 fewer average daily trips, 590 fewer AM peak hour trips, and 569 fewer PM peak hour trips. A summary of the significant LOS intersection impacts under the proposed project and Reduced Housing and Office Alternative is shown in Table 7.2-4.

Table 7.2-4: Summary of Significant LOS Intersection under the Project and Reduced Housing and Office Alternative			
Study Intersection	Peak Hour	Impact Under:	
		Project	Reduced Housing and Office Alternative
Background Plus Project Conditions			
26. Mathilda Avenue/Indio Avenue	AM	✓	-
	PM	✓	✓
55. De Anza Boulevard/Homestead Road	AM	✓	✓
	PM	-	-
76. Lawrence Expressway/Homestead Road	AM	-	-
	PM	✓	-
Cumulative Plus Project Conditions			
19. Hollenbeck Avenue/Remington Drive	AM	-	-
	PM	✓	-
20. Hollenbeck Avenue/Fremont Avenue	AM	-	-
	PM	✓	✓
26. Mathilda Avenue/Indio Avenue	AM	✓	-
	PM	✓	✓

Table 7.2-4: Summary of Significant LOS Intersection under the Project and Reduced Housing and Office Alternative			
Study Intersection	Peak Hour	Impact Under:	
		Project	Reduced Housing and Office Alternative
27. Mathilda Avenue/California Avenue	AM PM	✓ ✓	✓ ✓
29. Mathilda Avenue/Washington Avenue	AM PM	✓ ✓	✓ ✓
30. Mathilda Avenue/McKinley Avenue	AM PM	✓ -	- -
33. Mathilda Avenue/El Camino Real	AM PM	✓ -	- -
38. Washington Avenue/Frances Street	AM PM	- ✓	- ✓
52. Sunnyvale-Saratoga Road/Remington Drive	AM PM	✓ ✓	✓ ✓
53. Sunnyvale-Saratoga Road/Fremont Avenue	AM PM	✓ ✓	- ✓
55. De Anza Boulevard/Homestead Road	AM PM	✓ ✓	- -
60. Fair Oaks Avenue/Duane Avenue	AM PM	- ✓	- -
76. Lawrence Expressway/Homestead Road	AM PM	✓ ✓	- -
Notes: ✓ = yes significant impact; - = no significant impact			

Under background plus project conditions, the Reduced Housing and Office Alternative would avoid the project's significant impact at:

- Intersection 26: Mathilda Avenue/Indio Avenue – AM peak hour
- Intersection 76: Lawrence Expressway/Homestead Road – PM peak hour

Under cumulative plus project conditions, the Reduced Housing and Office Alternative would avoid the project's significant impact at:

- Intersection 19: Hollenbeck Avenue/Remington Drive – PM peak hour
- Intersection 26: Mathilda Avenue/Indio Avenue – AM peak hour
- Intersection 30: Mathilda Avenue/McKinley Avenue – AM peak hour
- Intersection 33: Mathilda Avenue/El Camino Real – AM peak hour
- Intersection 53: Sunnyvale-Saratoga Road/Fremont Avenue – AM peak hour

- Intersection 55: De Anza Boulevard/Homestead Road – AM and PM peak hours
- Intersection 60: Fair Oaks Avenue/Duane Avenue – PM peak hour
- Intersection 76: Lawrence Expressway/Homestead Road – AM and PM peak hours

As discussed in Section 3.17 Transportation/Traffic, the project would have a significant impact at one freeway segment (SR 237, Mathilda Avenue to Fair Oaks Avenue). The Reduced Housing and Office Alternative would also result in a significant impact on the same freeway segment as the proposed project.

As described above and shown in Table 7.2-2, the Reduced Housing and Office Alternative would be less dense than the proposed project. As a result, the Reduced Housing and Office Alternative would result in lesser construction noise impacts than the proposed project because the construction duration would be shorter (given the lesser amount of development), although the construction noise would be at the same maximum intensity as the proposed project. The reduced amount of development under the Reduced Housing and Office Alternative would also result in lesser population and housing and transportation impacts than the proposed project.

The Reduced Housing and Office Alternative would result in the same or similar impacts as the proposed project related to aesthetics, air quality, energy, public services, recreation, utilities and service systems, and the physical conditions of the sites. Impacts related to the physical conditions of the site include impacts to agricultural and forestry resources, biological resources, archaeological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, and exterior noise. The Reduced Housing and Office Alternative would result in the same land use impacts as the proposed project as it also requires amendments to the DSP.

While the Reduced Housing and Office Alternative would result in less total GHG emissions than the proposed project, because the alternative would develop less and generate fewer vehicle trips, the Reduced Housing and Office Alternative that is less densely populated would result in greater GHG emissions per service population than the proposed project. The Reduced Housing and Office Alternative would result in a GHG emissions per service population of 3.0 compared to the project's GHG emissions per service population of 2.5 in operational year 2024.¹⁸⁹

Relationship to Project Objectives

The Reduced Housing and Office Alternative would partially meet Objectives 1, 2, and 5 through 7. This alternative would partially meet Objective 1 because it would allow for new development that could have iconic and high quality architecture; however, the prominence of downtown as the center of community would not be substantially enhanced given the potential for additional housing and office capacity (such as is proposed under the project).

¹⁸⁹ CalEEMod modeling completed by Illingworth & Rodkin, Inc. The per capita assumption assumes 1,108 residents and 2,282 jobs/employees. Residents based on 2.13 residents per household in the DSP area (assuming no vacancies); jobs based on 400 square feet/retail employee and 250 square feet/office employee. (Source: Keyser Marston Associates. *Fiscal Impact Analysis of Requested Amendments to Downtown Specific Plan*. July 2018.).

The Reduced Housing and Office Alternative would partially meet Objective 2 because the development allowed under this alternative includes a range of uses near a transit center; however, greater housing and office density would better support the retail downtown.¹⁹⁰ The alternative would partially meet Objective 5 because development under this alternative could provide enhanced connections and large community gathering spaces; however, additional housing and office development (beyond what is allowed under this alternative) would sustain a constant and present critical mass the City desires in downtown to create a strong and distinct sense of place.

The alternative would partially meet Objective 6 because new development could attract private development that could support community benefits; however, additional housing and office development (beyond what is allowed under this alternative) would be required to provide greater community benefits and a more financially robust downtown.¹⁹¹ The Reduced Housing and Office Alternative would partially meet Objective 7 by developing a mix of uses in an area served by existing pedestrian, bicycle, and transit facilities; however, increasing the density of development beyond what is allowed under this alternative would better discourage single-occupancy vehicle trips.

While the Reduced Development Alternative would allow for additional employment and housing opportunities in proximity to major transit stops compared to existing conditions, the opportunities would not be maximized (Objectives 3, 4, and 8) as much as under the proposed project.

Conclusion

Overall, the Reduced Housing and Office Alternative could avoid the project's impact to a historic resource and would result in lesser construction noise, population and housing, and transportation impacts than the project. This alternative would result in the same or similar impacts to aesthetics, air quality, energy, agricultural and forestry resources, biological resources, archaeological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, exterior noise, public services, recreation, and utility and service systems. The Reduced Housing and Office Alternative would result in greater GHG emissions per service population than the project.

The Reduced Housing and Office Alternative would partially meet Objectives 1, 2, and 5 through 7. The Reduced Housing and Office Alternative would not meet Objectives 3, 4, and 8.

¹⁹⁰ Keyser Marston Associates. *Sunnyvale Town Center Market Assessment*. December 2015.

¹⁹¹ Ibid.

7.2.2.5 *Design Alternative*

The purpose of the Design Alternative is to avoid the project's significant and unavoidable impact to a historic resource. As discussed in Section 3.5 Cultural Resources, under Impact CR-1, the project could result in the removal or relocation of one or more of the heritage trees on the Macy's and Redwood Square site. The Design Alternative would require future development of the Macy's and Redwood Square site be designed to avoid impacting the heritage trees. The total residential, commercial, and office development would be the same under this alternative as the proposed project.

Comparison of Environmental Impacts

As discussed above, the Design Alternative would require future development on the Macy's and Redwood Square site to be designed to avoid impacting the heritage trees. This alternative, therefore, would avoid the project's significant and unavoidable impact to a historic resource (i.e., the heritage trees). Since the land uses and development intensity proposed under the project would remain the same under this alternative, the Design Alternative would have the same or similar impacts as the project to all other environmental resources (i.e., aesthetics, agricultural and forestry resources, air quality, energy, geology and soils, GHG emission, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise and vibration, population and housing, public services, recreation, transportation, and utilities and service systems).

Relationship to Project Objectives

The Project Design Alternative would meet most of the project objectives. This alternative would meet: Objective 1 by enhancing the prominence of downtown as the center of the community with high-density development that could have iconic and high-quality architecture; Objective 2 by having high-density, mixed-use development downtown near a transit center; Objectives 3, 4, and 8 by maximizing employment and housing opportunities near major transit stops; Objective 6 by allowing high-density development that could support a variety of community benefits; and Objective 7 by creating a dense, urban downtown that has the critical mass to discourage single-occupancy vehicle trips.

The Project Design Alternative would partially meet Objective 5 by having high-density development that could create a distinct and strong sense of place with enhanced connections and community gathering places; however, the size of the community gathering space around Heritage Grove would likely be minimized with limited visibility and accessibility. It is likely that the community gathering space around Heritage Grove under this alternative would be surrounded by buildings to the north, east, and west, and only be accessible from the south (rather from the south and east as shown in Figure 2.3-7).

Conclusion

The Design Alternative would avoid the project's significant and unavoidable impact to cultural resources. This alternative would result in the same or similar impacts to all other environmental resources. The Project Design Alternative would meet most of the project objectives (Objectives 1 through 4, and 6 through 8) and partially meet Objective 5.

7.2.2.6 Hotel and Reduced Office Development Alternative

While not an alternative derived to minimize an identified impact, in the event the City wanted to retain the ability to develop the 200 hotel rooms allowed by the adopted DSP, the amount of office development proposed by the project would need to be reduced by 146,624 feet (from 860,624 square feet to 714,000 square feet) to result in the same or lesser transportation impacts as the proposed project.¹⁹² For this reason, the Hotel and Reduced Office Alternative includes 200 hotel rooms, 843 residential units, 260,063 square feet of commercial space, and 714,000 square feet of office space.

Comparison of Environmental Impacts

The trip generation for the project compared to the Hotel and Reduced Office Alternative is shown in Table 7.2-5.

Compared to the proposed project, the Hotel and Reduced Office Alternative would result in four fewer average daily trips, 84 fewer AM peak hour trips, and 63 fewer PM peak hour trips. The Hotel and Reduced Office Alternative, therefore, generates similar (though fewer) vehicle trips than the project and would result in the same transportation impacts as the proposed project.

Table 7.2-5: Project and Hotel and Reduced Office Alternative Estimated Net Vehicle Trips			
	Net Average Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips
A. Proposed Project (DSP Amendments)	13,250	1,186	1,424
B. Hotel and Reduced Office Alternative	13,246	1,102	1,361
<i>Difference (A – B)</i>	<i>-4</i>	<i>-84</i>	<i>-63</i>
Note: Existing uses generate 6,967 average daily trips, 180 average AM peak hour trips, and 702 average PM peak hour trips. Source: Fehr & Peers. <i>Trip Generation Estimates – Less Office</i> . May 2019.			

Since this alternative has a similar development intensity as the proposed project, the alternative would result in the same or similar impacts to most environmental resources (i.e., aesthetics, agriculture and forestry resources, air quality, biological resources, archaeological resource, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise and vibration, population and housing, public service, and recreation). Given the slightly different mix and intensity of uses proposed under the Hotel and Reduced Office Alternative compared to the proposed project, this alternative would result in greater electricity and natural gas demand (approximately 2,120,370 kWh and 32,455,210 kBtu) than the project (approximately 1,894,040 kWh and 21,987,810 kBtu), and a greater GHG emissions per

¹⁹² A trip generation sensitivity calculation was completed by Fehr & Peers to determine, if 200 hotel rooms were included in the project, how much office development could occur and stay within the trip generation estimates for the project. The analysis determined the development of 714,000 square feet of office development could occur with 200 hotel rooms, 843 residential units, and 260,063 square feet of commercial uses to be within the trip generation estimates for the project. Source: Fehr & Peers. *Trip Generation Estimates – Less Office*. May 2019.

service population of 2.7 compared to the project's 2.5 GHG emissions per service population in operational year 2024.¹⁹³

Relationship to Project Objectives

The Hotel and Reduced Office Development Alternative would meet most of the project objectives. This alternative would meet: Objective 1 by enhancing the prominence of downtown as the center of the community with high-density development that could have iconic and high-quality architecture; Objective 2 by having high-density, mixed-use development downtown near a transit center; Objectives 4 by maximizing housing opportunities; Objective 5 by having high-density development that could create a distinct and strong sense of place with enhanced connections and large community gathering places; Objective 6 by allowing high-density development that could support a variety of community benefits; and Objective 7 by creating a dense, urban downtown that has the critical mass to discourage single-occupancy vehicle trips.

Compared to the proposed project, the Hotel and Reduced Office Development Alternative would result in a decrease in 586 office jobs and an increase in 180 hotel jobs.¹⁹⁴ This alternative, therefore, would result in a net decrease in 406 jobs compared to the proposed project. For this reason, while the Hotel and Reduced Office Development Alternative would allow for additional employment and housing opportunities in proximity to major transit stops compared to existing conditions, the employment opportunities would not be maximized (Objectives 3 and 8) as much as under the proposed project.

Conclusion

The Hotel and Reduced Office Alternative could avoid the project's significant impact to a historic resource and result in the same or similar impacts to all other environmental resources as the project except for GHG emissions. This alternative would result in a greater GHG per service population than the proposed project.

The Hotel and Reduced Office Development Alternative would meet most of the project objectives (Objectives 1, 2, and 4 through 7) and would not meet Objectives 3 and 8.

¹⁹³ CalEEMod modeling completed by Illingworth & Rodkin, Inc. The per capita assumption assumes 1,796 residents and 3,687 jobs/employees. Residents based on 2.13 residents per household in the DSP area (assuming no vacancies); jobs based on 400 square feet/retail employee, 250 square feet/office employee, and 0.9 employee per hotel room. (Source: Keyser Marston Associates. *Fiscal Impact Analysis of Requested Amendments to Downtown Specific Plan*. July 2018.).

¹⁹⁴ Compared to the proposed project, this alternative would result in a net decrease in 146,624 square feet of office space and a net increase in 200 hotel rooms. The number of jobs was calculated assuming the following: 250 office square feet/employee and 0.9 employee per hotel room.

7.2.3 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 to the proposed project is the No Project/No Development Alternative because all of the project's significant environmental impacts would be avoided. However, Section 15126.6(e)(2) states that "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." In addition to the No Project/No Development Alternative (as well as the No Project/New Development Alternative), the Reduced Housing and Office Alternative is the environmentally superior alternative to the project.

Table 7.2-6: Summary of Project and Project Alternative Impacts

Impacts	Project	Project Alternatives				
		No Project/No New Development	No Project/New Development	Reduced Housing and Office	Design Alternative	Hotel with Reduced Office Alternative
Aesthetics	LTS	NI	LTS	LTS	LTS	LTS
Agriculture and Forestry Resources	NI	NI	NI	NI	NI	NI
Air Quality						
• Construction-Related Air Pollutants Emissions	SM	NI	SM	SM	SM	SM
• Operational Air Pollutant Emissions	SM	NI	SM	SM	SM	SM
• Construction Health Risk	SM	NI	SM	SM	SM	SM
Biological Resources (nesting birds)	SM	NI	SM	SM	SM	SM
Cultural Resources						
• Historic Resources	SU	NI	NI	NI	NI	NI
• Archaeological Resources	SM	NI	SM	SM	SM	SM
Energy	SM	NI	SM	SM	SM	SM
Geology and Soils	LTS	NI	LTS	LTS	LTS	LTS
Greenhouse Gas Emissions	SM	NI	SM	SM	SM	SM
Hazards and Hazardous Materials	SM	NI	SM	SM	SM	SM
Hydrology and Water Quality	SM	NI	SM	SM	SM	SM
Land Use and Planning	LTS	NI	LTS	LTS	LTS	LTS
Mineral Resources	NI	NI	NI	NI	NI	NI

Table 7.2-6: Summary of Project and Project Alternative Impacts

Impacts	Project	Project Alternatives				
		No Project/No New Development	No Project/New Development	Reduced Housing and Office	Design Alternative	Hotel with Reduced Office Alternative
Noise and Vibration						
• Operational Noise	SM	NI	SM	SM	SM	SM
• Construction-Related Noise	SU	NI	SU	SU	SU	SU
• Cumulative Construction-Related Noise	SU	NI	SU	SU	SU	SU
Population and Housing	LTS	NI	LTS	LTS	LTS	LTS
Public Services	LTS	NI	LTS	LTS	LTS	LTS
Recreation	LTS	NI	LTS	LTS	LTS	LTS
Transportation (intersection and freeway LOS)	SU	NI	LTS	SU	SU	SU
Utilities and Service Systems						
• Construction of sewer system, storm drain, and water system improvements	SM	NI	SM	SM	SM	SM
• Cumulative wastewater treatment capacity	SU	NI	NI	SU	SU	SU

Table 7.2-6: Summary of Project and Project Alternative Impacts

Impacts	Project	Project Alternatives				
		No Project/No New Development	No Project/New Development	Reduced Housing and Office	Design Alternative	Hotel with Reduced Office Alternative
Meets All Project Objectives?	Yes	Partially	Partially	Partially	Partially	Partially
• Objective 1	Yes	No	Partially	Partially	Yes	Yes
• Objective 2	Yes	Partially	Partially	Partially	Yes	Yes
• Objective 3	Yes	No	No	No	Yes	No
• Objective 4	Yes	No	No	No	Yes	Yes
• Objective 5	Yes	No	Partially	Partially	Partially	Yes
• Objective 6	Yes	No	Partially	Partially	Yes	Yes
• Objective 7	Yes	No	Partially	Partially	Yes	Yes
• Objective 8	Yes	No	No	No	Yes	No
Notes: SU = Significant unavoidable impact; SM = Significant impact, but can be mitigated to a less than significant level; LTS = Less than significant impact; and NI = No impact. Bold text indicates being environmentally superior to the proposed project where the impact is to a lesser extent.						

SECTION 8.0 ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACM	asbestos containing material
ADWF	average dry weather flow
AFY	acre feet per year
BAAQMD	Bay Area Air Quality Management District
Bicycle Plan	2006 Sunnyvale Bicycle Plan
BIG	Build It Green
Btu	British thermal units
CalARP	California Accidental Release Prevention
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
Cal Water	California Water Service Company
CA MUTCD	California Manual on Uniform Traffic Control Devices
Cal/OSHA	California Occupational Safety and Health Administration
CARB	California Air Resources Board
CBC	California Building Code
CBSC	California Building Standards Code
CDFW	California Department of Fish and Wildlife
CDP	Citywide Deficiency Plan
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFCs	Chlorofluorocarbons
CGS	California Geological Survey
CH ₄	methane
CIPs	Capital Improvement Projects
Class II Bikeways	Designated bike lanes

Class III Bikeways	Designated bike routes
CLUP	Comprehensive Land Use Plan
CMP	Congestion Management Program
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalents
CPDS	Potable Water System Comprehensive Preliminary Design Study Report
CUPA	Certified Unified Program Agency
CRHR	California Register of Historical Resources
dBA	A-weighted decibel
d/D	Maximum Flow Depth/Pipe Diameter
DNL	Day-Night Level
Downtown EIR	2003 Downtown Improvement Program Update EIR and subsequent addenda (SCH# 1988110816)
DPM	diesel particulate matter
DPS	Department of Public Safety
DSP	Downtown Specific Plan
DTSC	Department of Toxic Substances Control
du/ac	dwelling units per acre
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
EMFAC	EMission FACtors
ESA	Environmental Site Assessment
ESLs	Environmental Screening Levels
EV	electric vehicle
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FTA	United States Department of Transportation's Federal Transit Administration
FRAP	Fire and Resource Assessment Program

FUHSD	Fremont Union High School District
General Plan	City of Sunnyvale General Plan
GHGs	greenhouse gases
GWDR	General Waste Discharge Requirements
GWh	gigawatt-hours
HCM	Highway Capacity Manual
HDDT	heavy-duty diesel truck
HFCs	hydrofluorocarbons
HI	Hazard Index
HOV	high-occupancy vehicle
HSP	Health Safety Plan
HVAC	heating, ventilation, and air conditioning
IFC	International Fire Code
in/sec	inches per second
ITE	Institute of Transportation Engineers
I-280	Interstate 280
kBtu	Kilo-British thermal unit
kW	kilowatt
kWh	kilowatt per hour
LEED	Leadership in Energy and Environmental Design
L_{eq}	Equivalent Noise Level
$L_{eq(1-hr)}$	hourly equivalent noise level
L_{max}	maximum A-weighted
LID	Low Impact Development
LOS	level of service
LUST	Leaking Underground Storage Tank
LUTE	Land Use and Transportation Element, Sunnyvale General Plan
MBTA	Migratory Bird Treaty Act
MDD+FF	maximum daily demand with fire flow
MEI	maximally exposed individual
MERV	Minimum Efficiency Reporting Value
mgd	million gallons per day
MMBtu	million btu

MT	metric tons
MTCO ₂ e	metric tons of CO ₂ e
MMTCO ₂ e	million metric tons of CO ₂ E
MND	Mitigated Negative Declaration
MUTCD	2014 California Manual on Uniform Traffic Control Devices
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NPDES	National Pollutant Discharge Elimination System
mpg	miles per gallon
mph	miles per hour
MRP	Municipal Regional Stormwater NPDES Permit
MTC	Metropolitan Transportation Commission
NAHC	Native American Heritage Commission
NOD	Notice of Determination
NOI	Notice of Intent
NOP	Notice of Preparation
NO _x	nitrogen oxides
NO ₂	nitrogen dioxide
N ₂ O	nitrous oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OITC	Outdoor-Indoor Transmission Class
O ₃	ground-level ozone
Pb	Lead
PCB	Polychlorinated biphenyls
PCE	tetrachloroethylene
PDA	Priority Development Areas
PFCs	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PHD	peak hour demand
PM	particulate matter
PM _{2.5}	fine particulate matter
PM ₁₀	coarse particulate matter

PPV	Peak Particle Velocity
psi	pounds per square inch
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RHNA	Regional Housing Needs Allocation
ROG	reactive organic gases
RMS	root mean square
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCCDEH	Santa Clara County Department of Environmental Health
SCS	Sustainable Communities Strategy
SF	square feet
SF ₆	sulfur hexafluoride
SFHA	Special Flood Hazard Areas
SFPUC	San Francisco Public Utilities Commission
SGR	student generation rates
SHMA	Seismic Hazards Mapping Act
SHPO	State Office of Historic Preservation
SFPUC	San Francisco Public Utilities Commission
SLIC	Spills, Leaks, Investigation and Cleanup
SMARA	Surface Mining and Reclamation Act
SMaRT Station	Sunnyvale Materials Recovery and Transfer Station
SMC	Sunnyvale Municipal Code
SMC Title 19	Zoning Code
SMP	Soil Management Plan
SO ₂	Sulfur dioxide
SO _x	sulfur oxides
SR	State Route
SR 82	El Camino Real
SSD	Sunnyvale School District
SSMP	Sewer System Management Plan
STC	Sound Transmission Class

STCM	Sunnyvale Town Center Mall
SVCE	Silicon Valley Clean Energy
SVE	Soil Vapor Extraction
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
Tcf	trillion cubic feet
TDM	Transportation Demand Management
TIA	Transportation Impact Analysis
TIF	traffic impact fee
Title 24	California Code of Regulations
TMU	Transit Mixed-Use
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USTs	underground storage tanks
US 101	US Highway 101
UWMP	urban water management plan
Valley Water	Santa Clara Valley Water District
V/C	volume-to-capacity ratio
VdB	vibration decibels
VMS	Vapor Mitigation Systems
VMT	vehicle miles traveled
vph	vehicles per hour
VTa	Santa Clara Valley Transportation Authority
Williamson Act	California Land Conservation Act
WPCP	Donald M. Sommers Water Pollution Control Plant
WSA	Water Supply Assessment
WUMP	Water Utility Master Plan
WWMP	2015 Wastewater Collection System Master Plan
ZVI	Zero Valent Iron
2017 CAP	Bay Area 2017 Clean Air Plan
µg/m ³	micrograms per cubic meter

SECTION 9.0 REFERENCES

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SECTION 10.0 LEAD AGENCY AND CONSULTANTS

10.1 LEAD AGENCY

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