



PLANNING COMMISSION AGENDA REPORT

Meeting Date: August 15, 2019

Subject: Proposed Five-Story Multiple-Family Building with 21-28 units at 4898 El Camino Real

Prepared by: Sean K. Gallegos, Associate Planner

Initiated by: Applicant and Owner – Mircea Voskerician

Attachments:

- A. Draft Resolution
- B. Applicant Materials
 - Updated Density Bonus Report
- C. Draft Planning Commission Meeting Minutes, August 1, 2019
- D. Planning Commission Agenda Report, August 1, 2019
- E. Updated Traffic Impact Analysis
- F. Updated Air Quality and Greenhouse Gas Emissions Assessment
- G. Updated Noise Study
- H. Updated Project Plans

Staff Recommendation:

Recommend to the City Council approval of design review, use permit and subdivision applications D19-0002, CUP19-0001 and TM19-0002 for the 21- or 28-unit project per the findings and conditions contained in the resolution.

Environmental Review:

The project is exempt from environmental review as in-fill development in accordance with Section 15332 of the California Environmental Quality Act of 1970 as amended.

Project Description:

This is a development proposal that includes a Design Review, Use Permit and Subdivision application for a new five-story, multiple-family residential building with a rooftop common area and a two-level underground parking garage. The project includes 21 condominium units, but an alternative with up to 28 units has been offered for consideration. The existing site includes a one-story commercial building currently occupied with administrative office, medical office, private school, personal service and retail uses at 4898 El Camino Real.

The 21-unit proposal is offering four affordable units – two moderate income and two very-low income – in exchange for a 35 percent density bonus, development incentives to allow for increased height and a reduced front yard setback, and a waiver for the height of the elevator tower.

The alternative design, which includes 28 units, is offering four affordable units – two moderate income and four very-low income – in exchange for an 87 percent density bonus, development incentives to allow for increased height and a reduced front yard setback, and a waiver for the height of the elevator tower.

Background

On August 1, 2019 the Planning Commission held a public hearing to consider the proposed five-story multiple-family building. Following a presentation by the applicant and project architect, and public comment from two residents, who raised concerns regarding the lack of a robust landscaping plan, the 72-foot height of the building, potential traffic and parking impacts to the immediate area, the roof deck could create potential impacts to surrounding properties, and the lack of one or two bedroom units in the development. The Commission discussed the proposed project, and after raising concern related to the project’s bulk, vertical emphasis and exterior materials, the Commission voted unanimously to continue the application and with the following comments and direction:

- The horizontal banding from the railing and equitone contributes to a “super frame” or “super block” effect, which accentuates the overall mass and bulk of the design;
- The overall massing of the structure should be reduced;
- The railing should be broken-up or modified to create multiple elements to reduce overall massing;
- The metal railing should be lightened up and/or be a more architecturally interesting detail;
- The tower should be evaluated to improve the transition of materials. Any revision should be careful to avoid the creation of unwanted or unrelated design element;
- The window sizes on the tower should be revised to break-up the repetitive nature of the window layout and size;
- The plan set should provide details on the window (depth and scale) interfaces with the wall;
- The stair tower height should be reduced to a maximum height of 68 feet (12 feet above the roof deck);
- The garage entry should be secured with a gate;
- The building elevations should include more wood and a greater mix of materials; and
- The landscape plan should add more trees and plantings along Jordan Avenue and along the rear of the property.

The Commission also expressed support for the Applicant providing an alternative design with a 28-units back to the Commission for their consideration. The draft meeting minutes and agenda report from the August 1, 2019 meeting are included for reference (Attachments C and D).

Discussion/Analysis

Design Review

A detailed and comprehensive review of the proposed 21-unit project is contained in the August 1, 2019 staff report (Attachment C). Since the Commission provided specific direction for design and materials changes, this discussion will focus on those changes. In response to the Commission’s direction, the project design has been updated as follows:

- The superframe banding thickness was reduced and trespa horizontal siding was added to reduce the overall bulk and mass of the building;
- The overall width of balconies was reduced to diminish overall bulk and mass, and the equitone railing material was replaced with a thickened metal and equally spaced rails to create a more residential styled design;
- The elevator tower eliminated the stucco transition along the third through fifth floors, and the stucco material was replaced with trespa horizontal siding to create a more integrated tower element;
- The trespa horizontal siding was added to create a more uniform transition to the stucco and equitone siding on the front, side and rear elevations;
- The window styles were modified along all elevations to break-up the repetitive nature of the original design;
- The stair tower was reduced to a maximum height of 68 feet;
- Architectural section details are provided for the windows to reflect their transition with adjacent materials;
- The garage entry was secured with a gate; and
- The landscape plans (Sheet L2) were updated with substantial street tree canopy, including three new bisbane box trees, one western redbud tree and two new two japanese maple trees along Jordan Avenue to improve overall landscaping along the streetscape.

The overall project design and composition has been changed from the one that was originally reviewed by the Commission. The mix of the exterior materials and the overall design composition has been updated in an attempt to address the Commission's concerns. Street trees are generous along Jordan Avenue where possible to avoid conflicts with utilities and building overhangs. The landscape revisions along Jordan Avenue respond to the Commissions direction regarding landscaping. In staff's opinion, the changes have improved the overall project design and appear to have addressed the Commission's direction. Overall, as evidenced in this discussion and as further supported by the findings contained in Exhibit A of the resolution, the project has met the City's required design review findings. The resolution for the 21-unit condominium project is provided in in the Planning Commission Agenda Report dated August 1, 2019 (Attachment A), and the resolution for the alternative design with 28-unit condominium units is provided as Attachment C.

The project complies with the Design Controls for the CT Zoning because the proposal has architectural integrity and has an appropriate relationship to the heights, massing, and styles of the buildings in the immediate area. Overall, as evidenced in this discussion and comprehensive review of the proposed 21-unit project in the April 4, 2019 staff report and as further supported by the findings contained in Exhibit A of the resolution (Attachment A), the project has met the City's required design review findings.

Affordable Housing - Density Bonus and Development Incentives

A detailed and comprehensive review of the Density Bonus and Development Incentives related to the proposed 21-unit development is contained in the August 1, 2019 staff report (Attachment C). As an alternative to the 21-unit project, the Applicant is proposing 28 units within the same building. The seven additional of units would include two affordable units (very-low income) and result in all of the units being reduced in size. A project with 28 units would require a density bonus of 87 percent,

which exceeds the 35 percent outlined in State Law and the City's Affordable Housing Ordinance. However, the City's Ordinance does allow the Commission and Council to consider the granting of density bonuses above 35 percent if an appropriate number of additional affordable units are offered.

The alternative design proposes six affordable units. Chapter 14.28 of the Municipal Code requires a minimum of 15 percent of the units be affordable, with a majority of the units designated as affordable at the moderate-income level (two units) and the remaining units designated as affordable at the low or very-low income level (one unit). Since the base density for the project is 15 dwelling units, the project must provide 2.25 (rounded up to three) affordable units. By the alternative development proposing two moderate income units and four very-low income unit, the project is in compliance with the City's Affordable Housing Ordinance.

Under the State's Density Bonus Regulations (Section 65915 of the California Government Code), the project qualifies for a density bonus if it provides at least five percent very-low income units. With four affordable units at the very-low income level and two affordable units at the moderate level, the project is providing 27 percent of its base density as affordable at the very-low income level and a total of 40 percent affordable. Since providing 27 percent very-low income units qualifies the project for a 35 percent density bonus, the project is significantly exceeding the maximum as specified in State Law or the City's Affordable Housing Ordinance. However, both State Law and the City's Ordinance allow for the City to grant a density bonus over 35 percent if an appropriate number of additional affordable units are proposed. In this case, the Applicant is seeking a density bonus of 87 percent in exchange for providing 40 percent of the base density as affordable.

In addition to the density bonus, since the project is providing more than 15 percent of its units as affordable at the very-low income level, it qualifies for three development incentives per State Law and City Ordinance. To help guide incentives requested by developers and ensure that the incentives do not result in any adverse impacts, the City adopted a list of "on-menu" incentives or concessions. However, per State Law and City Ordinance, a project may still request any incentive or concession that they deem appropriate in exchange for the affordable units being provided (off-menu). In this case, the project is seeking a height incentive to allow the project to exceed the maximum height limit of 45 feet by 11 feet (on-menu) and a 20 percent reduction in the front yard setback (on-menu). The Project is entitled to a third incentive but is not seeking one.

Under Government Code Section 65915(e) and Los Altos Municipal Code Section 14.28.040(F), the City must grant the requested incentives unless it can make specific negative findings. Under the Ordinance, the City has determined that "on-menu" incentives would not have a specific, adverse impact on public health and safety or the physical environment, which is one of three potential findings necessitating denial of the request, thus one of the following two findings would need to be made to deny the request:

- The concession or incentive does not result in identifiable and actual cost reductions, consistent with the definition of "concession" or "incentive," to provide for affordable housing costs, as defined in Health & Safety Section 50052.5, or for rents for the targeted units to be set as specified in subsection (I).
- The concession or incentive would be contrary to state or federal law.

There is not sufficient evidence currently in the record to make either of the other required findings for denial, i.e., that the incentive or concession would not result in identifiable and actual cost reductions to provide for affordable housing costs or would be contrary to state or federal law. Therefore, staff recommends the granting of the Applicant's requests.

The project is also seeking a waiver under Government Code Section 65915(e) and Los Altos Municipal Code Section 14.28.040(H) to allow the height of its elevator tower to go beyond the 12-foot limit. Per State Law and City Ordinance, the City must grant a requested waiver or development standard reduction unless it can make one or more the following findings:

- The waiver or reduced development standard would not have the effect of physically precluding the construction of a development meeting the criteria of this section at the densities or with the incentives permitted under this section.
- The waiver or reduced development standard would have a specific, adverse impact upon health, safety, or the physical environment, and for which there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact.
- The waiver or reduced development standard would have an adverse impact on any real property that is listed in the California Register of Historical Resources.
- The waiver or reduced development standard would be contrary to state or federal law.

This waiver request appears appropriate and reasonable for a project of this size and scope. There is sufficient evidence currently in the record that the development standard (absent the requested waiver) would have the effect of physically precluding the construction of the development meeting the criteria of the State Density Bonus Law or the Los Multiple-Family Affordable Housing Ordinance at the densities or with the incentives permitted thereunder was confirmed in the Density Bonus Report. The concession or incentive would not have a specific, adverse impact upon public health and safety or the physical environment or on any real property that is listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact without rendering the development unaffordable to very low-income and moderate-income households. Therefore, staff recommends the granting of the Applicant's requests.

A Density Bonus Report that supports the density bonus for either the 21-unit or 28-unit project, the two development incentives and the waiver requests was prepared by the Applicant and is included in Attachment B.

Subdivision

The project includes a Tentative Map for Condominium purposes. The subdivision would result in 21 or 28 residential condominium units and associated private and common areas. The subdivision (21 or 28 units) conforms to the permitted General Plan and Zoning Code densities as modified by State law. The subdivision is not injurious to public health and safety, and is suitable for the proposed type of development, and the subdivision provides proper access easements for ingress, egress, public utilities and public services.

Environmental Review

The project site, which is 0.39 acres in size, is considered a small in-fill site that is substantially surrounded by urban uses and does not contain significant natural habitat for endangered species.

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The development proposal is consistent with the General Plan and Zoning Ordinance, does not result in any significant effects related to traffic, noise, air or water quality, and is adequately served by all required utilities and public services. Therefore, in accordance with Section 15332 of the California Environmental Quality Act (CEQA) Guidelines the project is exempt from further environmental review.

As outlined in the updated traffic report prepared by Hexagon Transportation Consultants (Attachment E), the proposed 28-unit project will generate 152 average daily trips as compared with the property's existing uses, which include a mix of office and commercial uses, that generate 80 average daily trips. Therefore, the net increase will be 72 average daily trips. With regard to traffic, Implementation Program C8 in the General Plan's Circulation Element requires a transportation impact analysis (TIA) for projects that result in 50 or more net new daily trips. The updated traffic report for the 28-unit project was prepared consistent with a TIA level report.

Project impacts were evaluated relative to the intersection of El Camino Real and Jordan Avenue, and it was found that the project would not create a significant impact at the intersection under any scenarios. The intersection of El Camino Real and Jordan Avenue would operate at LOS C⁺ during the AM peak hour and LOS B during the PM peak hour under both existing plus project conditions and near-term plus project conditions. Due to the minimal increase in traffic and the fact that the El Camino Real-Jordan Avenue intersection does not appear to have any level of service issues, the project will not result in any traffic impacts. It should also be noted that the traffic report was updated to accurately reflect the existing uses: retail use, administrative office, and private school; and the updated mix of uses did not alter the data or analysis in the report.

With regard to air quality, since the project is located on a State Highway, the proposed 28-unit (alternative) project could potentially expose long-term residents to air pollution and the project's construction has the potential to create short-term air pollution impacts. An updated air quality and greenhouse gas emission assessment were prepared for the project by Illingworth & Rodkin (Attachment F), and the assessment provides appropriate mitigation measures for controlling dust and exhaust during construction, air filtration for the dwellings, and construction equipment emission guidelines. The project will also comply with all applicable requirements outlined in the City's Climate Action Plan checklist.

With regard to noise, due to the site's proximity to a State Highway, an updated noise study was prepared by Illingworth & Rodkin (Attachment G) for the 28-unit project. To ensure that there are no significant noise impacts, the study recommends mitigation measures that specify certain types of exterior glazing, and supplemental ventilation, and rooftop mechanical equipment noise controls so that the noise levels do not exceed City standards. Appropriate conditions of approval to ensure that the project is designed to comply with the noise study mitigation measures are included.

Overall, as documented above, the project's technical studies support the finding that either project (21 or 28 units) will meet the criteria and conditions to qualify for as an in-fill development project that is exempt from further environmental review.

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Public Contact and Correspondence

Since this item was continued to a date certain meeting, additional public notifications were not required; however, the public notice posting at the property was updated to include this meeting. At the time of publication, staff had not received any correspondence from any nearby property owners or tenants regarding this project.

Options

The Planning Commission can recommend approval, approval with modifications, or denial of the proposed project. Once the Planning Commission makes a recommendation, the Project will be forwarded to the City Council for consideration and final action.

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ATTACHMENT A

RESOLUTION NO. 2019-__

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LOS ALTOS MAKING FINDINGS, ADOPTING AN EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AND APPROVING THE DESIGN REVIEW, USE PERMIT AND SUBDIVISION APPLICATIONS FOR A NEW 21-UNIT (OR 28-UNIT) MULTI-FAMILY PROJECT AT 4898 EL CAMINO REAL

WHEREAS, the City of Los Altos received a development application from Mircea Voskerician (Applicant), for a new 21-unit (or 28-unit) multiple-family residential building at 4898 El Camino Real that includes Design Review D19-0002, Use Permit CUP-19-0001 and Subdivision TM19-0002, referred to herein as the “Project”; and

WHEREAS, said Project is located in the CT District, which allows multiple-family housing as a conditional use at a maximum density of 38 dwelling units per net acre of land; and

WHEREAS, said Project has a net site area of 0.39 acres (16,919 square feet), which will allow for a base residential density of 15 dwelling units; and

WHEREAS, the Applicant is offering two moderate income and two very-low income affordable housing units for sale as part of the Project; and

WHEREAS, the Applicant’s proposed unit mix would consist of:

- (a) 27 percent of its total units as affordable units, with 13 percent of the units affordable at the very-low income level, thereby entitling the project to qualify for two incentives, and additional concessions and waivers pursuant to Los Altos Municipal Code Section 14.28.040 and Government Code Section 65915, *et seq.*; or
- (b) 40 percent of its total units as affordable units, with 27 percent of the units affordable at the very-low income level, thereby entitling the project to qualify for two incentives, and additional concessions and waivers pursuant to Los Altos Municipal Code Section 14.28.040 and Government Code Section 65915, *et seq.*; and

WHEREAS, the Applicant is seeking two incentives under Government Code Section 65915(e) and Los Altos Municipal Code Section 14.28.040 to allow: a) a building with a primary height of 56 feet, where the Code allows for 45 feet; and b) a front yard setback of 20 feet, where the Code requires a front yard setback of 25 feet; and

WHEREAS, the Applicant is seeking a further waiver under Government Code Section 65915(e) to allow: the elevator tower to be 17.5 feet above the roof, where the Code allows such structures to be 12 feet above the roof; and

WHEREAS, the Applicant is seeking a:

- (a) 35 percent density bonus, and the above described incentives and waiver to allow development of the Project pursuant to Government Code 65915 and Los Altos Municipal Code Section 14.28.040; or
- (b) 87 percent density bonus and the above-described incentives and waivers to allow development of the Project pursuant to Government Code 65915 and Los Altos Municipal Code Section 14.28.040(E)(7), which allows the City to grant a density bonus greater than the

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35 percent provided as of right for projects providing more than 27 percent of its units as affordable at the very-low income level; and

WHEREAS, the Project is exempt from environmental review as in-fill development in accordance with Section 15332 of the California Environmental Quality Act of 1970 as amended (“CEQA”); and

WHEREAS, said Project has been processed in accordance with the applicable provisions of the California Government Code and the Los Altos Municipal Code; and

WHEREAS, on June 26, 2019, the Complete Streets Commission held a public meeting on the Project and at the conclusion of the meeting voted to recommend approval to the Planning Commission and City Council; and

WHEREAS, on July 10, 2019 the Applicant installed story poles on the site per the story pole plan that was approved by the Community Development Director on June 13, 2019; and

WHEREAS, on July 17, 2019 the City gave public notice of the Planning Commission’s public hearing on the proposed Project by advertisement in a newspaper of general circulation and to all property owners and business tenants within a 500-foot radius; and

WHEREAS, on August 1, 2019 and August 15, 2019, the Planning Commission conducted a duly-noticed public hearing at which members of the public were afforded an opportunity to comment upon the Project, and at the conclusion of the hearing, the Planning Commission recommended that the City Council ____ the Project; and

WHEREAS, on _____, 2019, the City Council held a duly noticed public meeting as prescribed by law and considered public testimony and evidence and recommendations presented by staff related to the Project; and

WHEREAS, all the requirements of the Public Resources Code, the State CEQA Guidelines, and the regulations and policies of the City of Los Altos have been satisfied or complied with by the City in connection with the Project; and

WHEREAS, the findings and conclusions made by the City Council in this Resolution are based upon the oral and written evidence presented as well as the entirety of the administrative record for the proposed Project, which is incorporated herein by this reference. The findings are not based solely on the information provided in this Resolution; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW THEREFORE, BE IT RESOLVED, that the City Council of the City of Los Altos hereby approves the Project subject to the findings and the conditions of approval attached hereto as “Exhibit A” and “Exhibit B,” and incorporated by this reference.

I HEREBY CERTIFY that the foregoing is a true and correct copy of a Resolution passed and adopted by the City Council of the City of Los Altos at a meeting thereof on the __ day of _____, 2019 by the following vote:

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AYES:
NOES:
ABSENT:
ABSTAIN:

Lynette Lee Eng, MAYOR

Attest:

Jon Maginot, CMC, CITY CLERK

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EXHIBIT A -1 (21-UNIT)

FINDINGS

1. ENVIRONMENTAL REVIEW FINDINGS. With regard to environmental review, in accordance with Section 15332 of the California Environmental Quality Act Guidelines, based on the whole record before it, including, without limitation, the analysis and conclusions set forth in the staff reports, testimony provided at the proposed Project's public hearings, and the supporting technical studies, which include: 1) a Traffic Report by Hexagon Transportation Consultants (June 2019); 2) Air Quality and Greenhouse Gas Assessment by Illingworth and Rodkin, Inc. (February 2019); and 3) Noise and Vibration Assessment by Illingworth & Rodkin, Inc (February 2019), the City Council finds and determines that the following Categorical Exemption findings can be made:
 - a. The Project is consistent with the applicable General Plan designation and all applicable General Plan policies as well as with the applicable zoning designation (Commercial Thoroughfare) and regulations, including density bonus, incentives and waivers, for the production of affordable housing;
 - b. The Project occurs within City limits on a site of no more than five acres that is substantially surrounded by urban uses and there is no record that the site has value as habitat for endangered, rare or threatened species;
 - c. Approval of the Project will not result in any significant effects relating to traffic, noise, air quality, or water quality and the completed technical studies and staff analysis contained in the agenda report support this conclusion; and
 - d. The Project has been reviewed and it is found that the site can be adequately served by all required utilities and public services.
2. DESIGN REVIEW FINDINGS. With regard to Design Review Application D19-0002, the City Council finds, in accordance with Section 14.76.060 of the Los Altos Municipal Code, as follows:
 - a. The Project meets the goals, policies and objectives of the General Plan with its level of intensity and residential density within the El Camino Real corridor, and all Zoning Code site standards and design criteria applicable for a project in the CT District;
 - b. The Project has architectural integrity and has an appropriate relationship with other structures in the immediate area in terms of height, bulk and design because the proposal has architectural integrity and has an appropriate relationship heights, massing, and styles of the buildings in the immediate area. The building fronts directly on to El Camino Real, with an exterior side frontage on Jordan Avenue, where the larger scale is more appropriate, and the project utilizes high quality materials that support its architectural style and is appropriately articulated and scaled to relate to the larger buildings on the El Camino Real corridor;
 - c. Building mass is articulated to relate to the human scale, both horizontally and vertically as evidenced in the design of the projecting overhangs, bay windows and balconies, the building elevations have variation and depth and avoid large blank wall surfaces, and the project has incorporated elements that signal habitation, such as identifiable entrances, overhangs, bay windows and balconies because the building was designed to relate to the human scale with a

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landscaped entry plaza and a two-story entry lobby. These features create a human scale at the main building entry. The stone veneer at the first level creates a strong building base. The large horizontal balconies break up the vertical building mass to bring life to the streets. The horizontal building mass is broken up with the two-story stepping element at the corner and the deep recess at the secondary stair tower;

- d. The Project's exterior materials and finishes convey high quality, integrity, permanence and durability, and materials are used effectively to define building elements. Materials, finishes, and colors have been used in a manner that serves to reduce the perceived appearance of height, bulk and mass, and are harmonious with other structures in the immediate area because the exterior building materials appropriately define the building elements and convey the project's quality, integrity, durability and permanence. The project color palate defines building elements and soften the overall appearance. The use of El Dorado stone veneer, Trespa siding, Equitone panels and control joints in the stucco conveys a sense of quality materials and supports the articulation to create smaller elements and reduced bulk and mass;
 - e. The landscaping is generous and inviting, the landscape and hardscape complements the building and is well integrated with the building architecture and surrounding streetscape, and the landscape includes substantial street tree canopy because the proposed landscape and hardscape elements are designed to complement the proposed building design by introducing raised planter walls, linear wood benches and landscaping with accent trees to respond to the Architectural façade and street frontage. The landscaping includes various levels with smaller plantings near the sidewalk with taller species and raised planters as it moves toward the face of the building. The landscaping includes substantial street tree canopy including one new street trees in the public right-of-way, one new western redbud tree in the front yard, two new specimen Brisbane box and two western redbud box trees in the exterior side yard along Jordan Avenue, and three western redbud trees in the rear yard;
 - f. Signage, which is limited to the building address number and other required directional signage, will be designed to complement the building architecture in terms of style, materials, colors and proportions;
 - g. Mechanical equipment is screened from public view by the building parapet and is designed to be consistent with the building architecture in form, material and detailing; and
 - h. Service, trash and utility areas are screened from public view by their locations in the building garage and behind fencing in the side yards, and consistent with the building architecture in materials and detailing.
3. USE PERMIT FINDINGS. With regard to Use Permit CUP19-0001, the City Council finds, in accordance with Section 14.80.060 of the Municipal Code, as follows:
 - a. The proposed location of the multiple-family residential use is desirable and essential to the public comfort, convenience, prosperity, and welfare in that there are a limited number of sites that can accommodate new housing, the CT District has anticipated and planned for new housing along the El Camino Real corridor and the project provides housing at a variety of affordability levels;

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- b. That the proposed location of the multiple-family residential use is in accordance with the objectives of the Zoning Code since the project provides for community growth along sound lines, it is harmonious and convenient in relation to the surrounding land uses, it does not create any significant traffic impacts, it will help the City meet its affordable housing goals, it will protect and enhance property values and it will enhance the City's distinctive character with a high-quality building design in a commercial thoroughfare context;
 - c. That the proposed location of the multiple-family residential use, under the circumstances of the particular case and as conditioned, will not be detrimental to the health, safety, comfort, convenience, prosperity, or welfare of persons residing or working in the vicinity or injurious to property or improvements in the vicinity; and
 - d. That the proposed multiple-family residential use complies with the regulations prescribed for the CT District and the general provisions contained in Chapter 14.02.
4. SUBDIVISION FINDINGS. With regard to Subdivision TM19-0002, the City Council finds, in accordance with Section 66474 of the Subdivision Map Act of the State of California, as follows:
- a. The proposed condominium subdivision is consistent with the General Plan;
 - b. The Project site is physically suitable for this type and density of development in that the project meets all applicable Zoning requirements except where a density bonus and development incentives have been granted;
 - c. The design of the condominium subdivision and the proposed improvements are not likely to cause substantial environmental damage, or substantially injure fish or wildlife; and no evidence of such has been presented;
 - d. The design of the condominium subdivision is not likely to cause any serious public health problems because conditions have been added to address noise, air quality and life safety concerns; and
 - e. The design of the condominium subdivision will not conflict with any public access easements as none have been found or identified on this site.
5. AFFORDABLE HOUSING AND DENSITY BONUS FINDINGS. With regard to the offered below market rate units and requested density bonus, incentives, waivers and parking requirement alteration, the City Council finds, in accordance with Los Altos Municipal Code Section 14.28.040, as follows:
- a. The applicant is offering two moderate income units and two very low income units for sale and, 27 percent of the Project's base density, which qualifies the project for a density bonus, incentives, waivers and a parking requirement alteration;
 - b. Per Table DB 3 in Section 14.28.040(C)(1)(b), a project that offers 11 percent or more of its total units (base density) as very-low income restricted affordable units shall be granted a density bonus of 35 percent, and per Table DB 4 in Section 14.28.040(C)(1)(b), a project that offers 10 percent or more of its total units (base density) as very-low income restricted

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affordable units shall be granted two (2) incentives. Since the project is providing 13 percent of its total units as affordable at the very-low income level, the City shall grant a density bonus of at least 35 percent and two (2) incentives;

- a. For its incentives, the project is requesting the City allow: a) a building with a primary height of 56 feet, where the Code allows for 45 feet; and b) a front yard setback of 20 feet, where the Code requires a front yard setback of 25 feet. The height incentive is considered an “on-menu” incentive and the rear yard setback incentive is considered one (1) “on-menu” incentives (20 percent decrease in a setback). Per Government Code Section 65915(e) and Section 14.28.040(F) Incentive Standards, the City has determined that the incentive would not have a specific adverse impact upon public health and safety or the physical environment or upon a listed historical resource. There is sufficient evidence currently in record that the incentive or concession would result in identifiable and actual cost reductions to provide for affordable housing costs and it would not be contrary to state or federal law;
- b. Per Section 14.28.040(G)(2)(a), the City shall allow a minimum parking requirement, inclusive of handicapped and guest parking, of two (2) onsite parking space for each three-bedroom unit and 2.5 onsite parking spaces for each four-bedroom unit if requested by the applicant. Since the project is providing 55 onsite parking spaces, where a minimum of 45 onsite parking spaces is required, it is exceeding the minimum permitted by the Code;
- c. Per Government Code Section 65915(e) and Section 14.28.040(H)(1), a project can request a waiver or reduction of development standards that have the effect of physically precluding the construction of a development in addition to the density bonus and incentives permitted by the Code. Consistent with these requirements, the Applicant is seeking waivers to allow: a) the elevator tower to be 17.5 feet above the roof, where the Code allows such structures to be 12 feet above the roof. With regard to the waiver for the elevator height to be 17.5 feet, the City has determined the waiver is supported by the fact that the implementation of the Zoning Code standards physically precludes the construction of the development and the facilities are required in order to provide the necessary amenities and accessibility for the building. Evidence has not been presented that the waiver will have a specific, adverse impact upon health, safety, or the physical environment, or an adverse impact on any listed historic resource or will be contrary to state or federal law.
- d. The basis to grant the waiver is supported by the fact that they are required in order to provide the necessary amenities and accessibility for a building of this size and density, they will not have a specific, adverse impact upon health, safety, or the physical environment, they will not have an adverse impact on any listed historic resources and will not be contrary to state or federal law; and

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EXHIBIT A – 2 (28-UNIT)

FINDINGS

2. ENVIRONMENTAL REVIEW FINDINGS. With regard to environmental review, in accordance with Section 15332 of the California Environmental Quality Act Guidelines, based on the whole record before it, including, without limitation, the analysis and conclusions set forth in the staff reports, testimony provided at the proposed Project’s public hearings, and the supporting technical studies, which include: 1) a Traffic Report by Hexagon Transportation Consultants (June 2019); 2) Air Quality and Greenhouse Gas Assessment by Illingworth and Rodkin, Inc. (February 2019); and 3) Noise and Vibration Assessment by Illingworth & Rodkin, Inc (February 2019), the City Council finds and determines that the following Categorical Exemption findings can be made:
 - a. The Project is consistent with the applicable General Plan designation and all applicable General Plan policies as well as with the applicable zoning designation (Commercial Thoroughfare) and regulations, including density bonus, incentives and waivers, for the production of affordable housing;
 - b. The Project occurs within City limits on a site of no more than five acres that is substantially surrounded by urban uses and there is no record that the site has value as habitat for endangered, rare or threatened species;
 - c. Approval of the Project will not result in any significant effects relating to traffic, noise, air quality, or water quality and the completed technical studies and staff analysis contained in the agenda report support this conclusion; and
 - d. The Project has been reviewed and it is found that the site can be adequately served by all required utilities and public services.
2. DESIGN REVIEW FINDINGS. With regard to Design Review Application D19-0002, the City Council finds, in accordance with Section 14.76.060 of the Los Altos Municipal Code, as follows:
 - i. The Project meets the goals, policies and objectives of the General Plan with its level of intensity and residential density within the El Camino Real corridor, and all Zoning Code site standards and design criteria applicable for a project in the CT District;
 - j. The Project has architectural integrity and has an appropriate relationship with other structures in the immediate area in terms of height, bulk and design because the proposal has architectural integrity and has an appropriate relationship heights, massing, and styles of the buildings in the immediate area. The building fronts directly on to El Camino Real, with an exterior side frontage on Jordan Avenue, where the larger scale is more appropriate, and the project utilizes high quality materials that support its architectural style and is appropriately articulated and scaled to relate to the larger buildings on the El Camino Real corridor;
 - k. Building mass is articulated to relate to the human scale, both horizontally and vertically as evidenced in the design of the projecting overhangs, bay windows and balconies, the building elevations have variation and depth and avoid large blank wall surfaces, and the project has incorporated elements that signal habitation, such as identifiable entrances, overhangs, bay windows and balconies because the building was designed to relate to the human scale with a

ATTACHMENT A

landscaped entry plaza and a two-story entry lobby. These features create a human scale at the main building entry. The stone veneer at the first level creates a strong building base. The large horizontal balconies break up the vertical building mass to bring life to the streets. The horizontal building mass is broken up with the two-story stepping element at the corner and the deep recess at the secondary stair tower;

- l. The Project's exterior materials and finishes convey high quality, integrity, permanence and durability, and materials are used effectively to define building elements. Materials, finishes, and colors have been used in a manner that serves to reduce the perceived appearance of height, bulk and mass, and are harmonious with other structures in the immediate area because the exterior building materials appropriately define the building elements and convey the project's quality, integrity, durability and permanence. The project color palate defines building elements and soften the overall appearance. The use of El Dorado stone veneer, Trespa siding, Equitone panels and control joints in the stucco conveys a sense of quality materials and supports the articulation to create smaller elements and reduced bulk and mass;
 - m. The landscaping is generous and inviting, the landscape and hardscape complements the building and is well integrated with the building architecture and surrounding streetscape, and the landscape includes substantial street tree canopy because the proposed landscape and hardscape elements are designed to complement the proposed building design by introducing raised planter walls, linear wood benches and landscaping with accent trees to respond to the Architectural façade and street frontage. The landscaping includes various levels with smaller plantings near the sidewalk with taller species and raised planters as it moves toward the face of the building. The landscaping includes substantial street tree canopy including one new street trees in the public right-of-way, one new western redbud tree in the front yard, three new specimen Brisbane box, two Japanese maple and one western redbud box trees in the exterior side yard along Jordan Avenue, and three western redbud trees in the rear yard;
 - n. Signage, which is limited to the building address number and other required directional signage, will be designed to complement the building architecture in terms of style, materials, colors and proportions;
 - o. Mechanical equipment is screened from public view by the building parapet and is designed to be consistent with the building architecture in form, material and detailing; and
 - p. Service, trash and utility areas are screened from public view by their locations in the building garage and behind fencing in the side yards, and consistent with the building architecture in materials and detailing.
3. USE PERMIT FINDINGS. With regard to Use Permit CUP19-0001, the City Council finds, in accordance with Section 14.80.060 of the Municipal Code, as follows:
- e. The proposed location of the multiple-family residential use is desirable and essential to the public comfort, convenience, prosperity, and welfare in that there are a limited number of sites that can accommodate new housing, the CT District has anticipated and planned for new housing along the El Camino Real corridor and the project provides housing at a variety of affordability levels;

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- f. That the proposed location of the multiple-family residential use is in accordance with the objectives of the Zoning Code since the project provides for community growth along sound lines, it is harmonious and convenient in relation to the surrounding land uses, it does not create any significant traffic impacts, it will help the City meet its affordable housing goals, it will protect and enhance property values and it will enhance the City's distinctive character with a high-quality building design in a commercial thoroughfare context;
 - g. That the proposed location of the multiple-family residential use, under the circumstances of the particular case and as conditioned, will not be detrimental to the health, safety, comfort, convenience, prosperity, or welfare of persons residing or working in the vicinity or injurious to property or improvements in the vicinity; and
 - h. That the proposed multiple-family residential use complies with the regulations prescribed for the CT District and the general provisions contained in Chapter 14.02.
4. SUBDIVISION FINDINGS. With regard to Subdivision TM19-0002, the City Council finds, in accordance with Section 66474 of the Subdivision Map Act of the State of California, as follows:
- f. The proposed condominium subdivision is consistent with the General Plan;
 - g. The Project site is physically suitable for this type and density of development in that the project meets all applicable Zoning requirements except where a density bonus and development incentives have been granted;
 - h. The design of the condominium subdivision and the proposed improvements are not likely to cause substantial environmental damage, or substantially injure fish or wildlife; and no evidence of such has been presented;
 - i. The design of the condominium subdivision is not likely to cause any serious public health problems because conditions have been added to address noise, air quality and life safety concerns; and
 - j. The design of the condominium subdivision will not conflict with any public access easements as none have been found or identified on this site.
5. AFFORDABLE HOUSING AND DENSITY BONUS FINDINGS. With regard to the offered below market rate units and requested density bonus, incentives, waivers and parking requirement alteration, the City Council finds, in accordance with Los Altos Municipal Code Section 14.28.040, as follows:
- a. The applicant is offering two moderate income units and four very low income units for sale and, 27 percent of the Project's base density, which qualifies the project for a density bonus, incentives, waivers and a parking requirement alteration;
 - e. The Applicant is seeking an 85 percent density bonus and the above-described incentives and waivers to allow development of the Project pursuant to Government Code 65915 and Los Altos Municipal Code Section 14.28.040(E)(7), which allows the City to grant a density

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bonus greater than the 35 percent provided as of right for projects providing more than 27 percent of its units as affordable at the very-low income level;

- f. Per Table DB 4 in Section 14.28.040(C)(1)(b), a project that offers 10 percent or more of its total units (base density) as very-low income restricted affordable units shall be granted two (2) incentives. Since the project is providing 13 percent of its total units as affordable at the very-low income level, the City shall grant a density bonus of at least 35 percent and two (2) incentives;
- g. For its incentives, the project is requesting the City allow: a) a building with a primary height of 56 feet, where the Code allows for 45 feet; and b) a front yard setback of 20 feet, where the Code requires a front yard setback of 25 feet. The height incentive is considered an “on-menu” incentive and the rear yard setback incentive is considered one (1) “on-menu” incentives (20 percent decrease in a setback). Per Government Code Section 65915(e) and Section 14.28.040(F) Incentive Standards, the City has determined that the incentive would not have a specific adverse impact upon public health and safety or the physical environment or upon a listed historical resource. There is sufficient evidence currently in record that the incentive or concession would result in identifiable and actual cost reductions to provide for affordable housing costs and it would not be contrary to state or federal law;
- h. Per Section 14.28.040(G)(2)(a), the City shall allow a minimum parking requirement, inclusive of handicapped and guest parking, of two (2) onsite parking space for each three-bedroom unit and 2.5 onsite parking spaces for each four-bedroom unit if requested by the applicant. Since the project is providing 55 onsite parking spaces, where a minimum of 45 onsite parking spaces is required, it is exceeding the minimum permitted by the Code;
- i. Per Government Code Section 65915(e) and Section 14.28.040(H)(1), a project can request a waiver or reduction of development standards that have the effect of physically precluding the construction of a development in addition to the density bonus and incentives permitted by the Code. Consistent with these requirements, the Applicant is seeking waivers to allow: a) the elevator tower to be 17.5 feet above the roof, where the Code allows such structures to be 12 feet above the roof. With regard to the waiver for the elevator height to be 17.5 feet, the City has determined the waiver is supported by the fact that the implementation of the Zoning Code standards physically precludes the construction of the development and the facilities are required in order to provide the necessary amenities and accessibility for the building. Evidence has not been presented that the waiver will have a specific, adverse impact upon health, safety, or the physical environment, or an adverse impact on any listed historic resource or will be contrary to state or federal law.
- j. The basis to grant the waiver is supported by the fact that they are required in order to provide the necessary amenities and accessibility for a building of this size and density, they will not have a specific, adverse impact upon health, safety, or the physical environment, they will not have an adverse impact on any listed historic resources and will not be contrary to state or federal law; and

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EXHIBIT B

CONDITIONS

GENERAL

1. **Approved Plans**

The project approval is based upon the plans received on August 8, 2019, except as modified by these conditions.

2. **Affordable Housing**

The applicant shall offer the City four (4) below market rate units as follows:

- a. Two (2) three-bedroom units at the moderate-income level; and
- b. Two (2) three-bedroom units at the very low-income level.

3. **Upper Story Lighting**

Any exterior lighting above the ground floor on the sides and rear of the building and on the rooftop deck shall be shrouded and/or directed down to minimize glare.

4. **Encroachment Permit**

An encroachment permit and/or an excavation permit shall be obtained prior to any work done within the public right-of-way and it shall be in accordance with plans to be approved by the City Engineer. *Note: Any work within El Camino Real will require applicant to obtain an encroachment permit with Caltrans prior to commencement of work.*

5. **Public Utilities**

The applicant shall contact electric, gas, communication and water utility companies regarding the installation of new utility services to the site.

6. **Americans with Disabilities Act**

All improvements shall comply with Americans with Disabilities Act (ADA).

7. **Stormwater Management Plan**

The applicant shall submit a complete Stormwater Management Plan (SWMP) and a hydrology calculation showing that 100% of the site is being treated; is in compliance with the Municipal Regional Stormwater NPDES Permit (MRP). Applicant shall provide a hydrology and hydraulic study, and an infeasible/feasible comparison analysis to the City for review and approval for the purpose to verify that MRP requirements are met.

8. **Sewer Lateral**

Any proposed sewer lateral connection shall be approved by the City Engineer.

9. **Transportation Permit**

A Transportation Permit, per the requirements specified in California Vehicle Code Division 15, is required before any large equipment, materials or soil is transported or hauled to or from the construction site.

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10. Indemnity and Hold Harmless

The applicant/owner agrees to indemnify, defend, protect, and hold the City harmless from all costs and expenses, including attorney's fees, incurred by the City or held to be the liability of the City in connection with the City's defense of its actions in any proceedings brought in any State or Federal Court, challenging any of the City's action with respect to the applicant's project.

PRIOR TO SUBMITTAL OF BUILDING PERMIT

11. Green Building Standards

The applicant shall provide verification that the project will comply with the City's Green Building Standards (Section 12.26 of the Municipal Code) from a qualified green building professional.

12. Property Address

The applicant shall provide an address signage plan as required by the Building Official.

13. Water Efficient Landscape Plan

Provide a landscape documentation package prepared by a licensed landscape professional showing how the project complies with the City's Water Efficient Landscape Regulations.

14. Air Quality Mitigation

The applicant shall implement and incorporate the air quality mitigations into the plans as required by the report prepared by Illingsworth & Rodin, Inc., dated February 8, 2019.

15. Noise Mitigation

The applicant shall implement and incorporate the conditions and noise mitigation measures into the plans as required by the report by Illingsworth & Rodin,, dated February 8, 2019.

16. Rooftop Deck

Provide design details for the rooftop deck sufficient enough to verify that the space can operate in compliance with the performance standards proscribed by Municipal Code Section 14.50.160.

PRIOR TO FINAL MAP RECORDATION

17. Covenants, Conditions and Restrictions

The applicant shall include provisions in the Covenants, Conditions and Restrictions (CC&Rs) as follows:

- a. Storage on private patios and decks shall be restricted; and rules for other objects stored on private patios and decks shall be established with the goal of minimizing visual impacts.
- b. Long-term maintenance and upkeep of the landscaping and street trees, as approved by the City, shall be a duty and responsibility of the property owners. Specifically, the landscape buffer, including both trees and landscaping, along the rear property line shall be permanently maintained as required by the CT District per Municipal Code Section 14.50.110(C).
- c. The rooftop deck shall be permanently maintained in accordance with the performance standards for Rooftop Uses in the CT District as currently proscribed by Municipal Code Section 14.50.160.
- d. Both parking spaces in a tandem space shall be owned by the same unit and cannot be owned or used by separate units.

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18. **Public Utility Dedication**

The applicant shall dedicate public utility easements as required by the utility companies to serve the site.

PRIOR TO ISSUANCE OF BUILDING PERMIT

19. **Final Map Recordation**

The applicant shall record the final map. Plats and legal descriptions of the final map shall be submitted for review by the City Land Surveyor. Applicant shall provide a sufficient fee retainer to cover the cost of the map review by the City.

20. **Payment of Fees**

The applicant shall pay all applicable fees, including but not limited to sanitary sewer impact fees, parkland dedication in lieu fees, traffic impact fees, affordable housing impact fees, public art impact fee and map check fee plus deposit as required by the City of Los Altos Municipal Code.

21. **Affordable Housing Agreement**

The Applicant shall execute and record an Affordable Housing Agreement, in a form approved and signed by the Community Development Director and the City Attorney, that offers four (4) below market rate units, for a period of at least 55-years, as defined in Condition No. 2. The below market rate units shall be constructed concurrently with the market rate units, shall be provided at the location on the approved plans, and shall not be significantly distinguishable with regard to design, construction or materials.

22. **Performance Bond**

The applicant shall submit a cost estimate for the improvements in the public right-of-way and shall submit a 100-percent performance bond and 50-percent labor and material bond (to be held 6 months until acceptance of improvements) for the public right-of-way work.

23. **Maintenance Bond**

A one-year, ten-percent maintenance bond shall be submitted upon acceptance of improvements in the public right-of-way.

24. **Storm Water Filtration Systems**

The applicant shall insure the design of all storm water filtration systems and devices are without standing water to avoid mosquito/insect infestation.

25. **Grading and Drainage Plan**

The applicant shall submit detailed plans for on-site and off-site grading and drainage plans that include drain swales, drain inlets, rough pad elevations, building envelopes, and grading elevations for review and approval by the City Engineer.

26. **Sewage Capacity Study**

The applicant shall show sewer connection to the City sewer main and submit calculations showing that the City's existing 27-inch sewer main will not exceed two-thirds full due to the additional sewage capacity from proposed project. For any segment that is calculated to exceed two-thirds full for average daily flow or for any segment that the flow is surcharged in the main

ATTACHMENT A

due to peak flow, the applicant shall upgrade the sewer line or pay a fair share contribution for the sewer upgrade to be approved by the City Engineer.

27. **Construction Management Plan**

The applicant shall submit a construction management plan for review and approval by the Community Development Director and the City Engineer. The construction management plan shall address any construction activities affecting the public right-of-way, including but not limited to excavation, traffic control, truck routing, pedestrian protection, material storage, earth retention and construction vehicle parking. A Transportation Permit, per the requirements in California Vehicle Code Division 15, is required before any large equipment, materials or soil is transported or hauled to or from the site. Applicant shall pay the applicable fees before the transportation permit can be issued by the Traffic Engineer.

28. **Solid Waste Ordinance Compliance**

The applicant shall be in compliance with the City's adopted Solid Waste Collection, Remove, Disposal, Processing & Recycling Ordinance (LAMC Chapter 6.12) which includes a mandatory requirement that all commercial and multi-family dwellings provide for recycling and organics collection programs.

29. **Solid Waste and Recyclables Disposal Plan**

The applicant shall contact Mission Trail Waste Systems and submit a solid waste and recyclables disposal plan indicating the type, size and number of containers proposed, and the frequency of pick-up service subject to the approval of the Engineering Division. The applicant shall also submit evidence that Mission Trail Waste Systems has reviewed and approved the size and location of the proposed trash enclosure. The enclosure shall be designed to prevent rainwater from mixing with the enclosure's contents and shall be drained into the City's sanitary sewer system. The enclosure's pad shall be designed to not drain outward, and the grade surrounding the enclosure designed to not drain into the enclosure. In addition, applicant shall show on plans the proposed location of how the solid waste will be collected by the refusal company. Include the relevant garage clearance dimension and/or staging location with appropriate dimensioning on to plans.

30. **Sidewalk Lights**

The applicant shall maintain the existing light fixture and/or install new light fixture(s) in the El Camino Real and Jordan Ave. sidewalk as directed by the City Engineer.

31. **Tree Protection**

The applicant shall implement and incorporate the tree protection measures into the plans and on-site as required by staff and in accordance with the report by Kielty Arborist Services dated January 3, 2019.

PRIOR TO FINAL OCCUPANCY

32. **Condominium Map**

The applicant shall record the condominium map as required by the City Engineer.

32. **Landscape and Irrigation Installation**

All on- and off-site landscaping and irrigation shall be installed and approved by the Community Development Director and the City Engineer. Provide a landscape Certificate of Completion,

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signed by the project's landscape professional and property owner, verifying that the trees, landscaping and irrigation were installed per the approved landscape documentation package.

33. **Signage and Lighting Installation**

The applicant shall install all required signage and on-site lighting per the approved plan. Such signage shall include the disposition of guest parking, the turn-around/loading space in the front yard and accessible parking spaces.

34. **Green Building Verification**

The applicant shall submit verification that the structure was built in compliance with the California Green Building Standards pursuant to Section 12.26 of the Municipal Code.

35. **Acoustical Report**

The applicant shall submit a report from an acoustical engineer ensuring that the rooftop mechanical equipment meets the City's noise regulations.

36. **Sidewalk in Public Right-of-Way**

The applicant shall install new sidewalk, vertical curb and gutter, and driveway approaches from property line to property line along the frontage of El Camino Real and Jordan Avenue as shown on the approved plans and as required by the City Engineer.

37. **Public Infrastructure Repairs**

The applicant shall repair any damaged right-of-way infrastructures and otherwise displaced curb, gutter and/or sidewalks and City's storm drain inlet shall be removed and replaced as directed by the City Engineer or his designee. The applicant is responsible to resurface (grind and overlay) half of the street along the frontage of El Camino Real and Jordan Ave. if determined to be damaged during construction, as directed by the City Engineer or his designee. *Note: Any work within the El Camino Real will require applicant to obtain encroachment permit with Caltrans prior to commencement of work.*

38. **Maintenance Bond**

A one-year, ten-percent maintenance bond shall be submitted upon acceptance of improvements in the public right-of-way.

39. **SWMP Certification**

The applicant shall have a final inspection and certification done and submitted by the Engineer who designed the SWMP to ensure that the treatments were installed per design. The applicant shall submit a maintenance agreement to City for review and approval for the stormwater treatment methods installed in accordance with the SWMP. Once approved, City shall record the agreement.

40. **Stop Sign**

Install a "STOP" sign and stop bar at the garage exit to advise motorists to STOP before exiting the driveway.

41. **Warning Sign**

Install a "Car Coming" warning sign should be provided on the wall next to the parking garage entrance to alert pedestrians and bicyclists of vehicles exiting the garage.

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42. **Bicycle Pathway**

A pathway (painted) shall be shown on the lower level basement floor plan to delineate a pathway from the elevator to the bicycle storage lockers on the lower basement level.

43. **Red Zones**

The project plans show a red zone to the left of the driveway (when exiting). In addition, a red zone shall be painted 19 feet to the right of the driveway to provide adequate sight distance.

DRAFT

ATTACHMENT B

Applicant Materials

- Updated Density Bonus Report

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August 5th, 2019

Planning Department
Attn: Sean Gallegos
Los Altos City Hall
1 North San Antonio Road
Los Altos, CA 94022

4898 El Camino Real, Los Altos, CA, 94022

Density Bonus Report

21 and 28 Unit Options

The proposal for this building was a 21-unit project with four (4) for-sale BMR units offered at very-low and moderate income levels. Those BMR units are contained in 6,684 net square feet. We are asking for two On Menu incentives; a 20% front yard setback reduction and 11 ft increased height, both On-Menu incentives. The combination of the two incentives is what enables the density required to obtain the building size and BMR units.

| Number of BMR units and location | FOR SALE | FOR SALE |
|------------------------------------|----------|----------|
| Category (Moderate/Very Low) | Moderate | Very Low |
| 3 Bedroom (Units 101, 201- 2956SF) | | 2 |
| 3 Bedroom (Units 204, 305 -3728SF) | 2 | |
| 4 Units Overall at 6684 SF | 2 | 2 |

The gross cost of the proposed BMR units in the building is \$840 per square foot for the net living area. That adds up to approximately \$5.614M for the four (4) BMR units. This includes all hard construction costs, soft costs, and land valuation. The breakdown of that cost is \$478 per square foot for construction and \$362 per square foot for land cost. These figures are inclusive gross costs.

All those values are in 2019 dollars and not forecast to mid-2022 which is when these units are expected to actually sell. In fact, given the rapid rise in construction costs, since this project will not start construction until 2020, it is reasonable to expect these costs to be at least 6-8% higher, potentially more.

The value of the two (2) very-low income units is estimated to be \$372,000. The value of the two (2) moderate income units is estimated to be \$1,692,000. The project recovers \$2,064,000 overall and will see a net lost value of approximately \$3,550,000.

A distinctive advantage of these units is that they are larger and offer more bedrooms than the typical BMR unit mix. While most recent projects have had a substantial number of one and two bedroom units, this project offers all three bedroom units.

Basis for Density Bonus

Under existing city BMR guidelines, the density on this site is 15 units with a 15% affordability requirement which means 3 BMR units (by calculation actually 2.25 units). By requesting the combination of very low and moderate BMR units, the project is implementing 2 options to increase the density by 35% (permitted under state density bonus law) which is how we achieve 21 units overall. With 13.33 % Very Low Units the project is entitled to two incentives or concessions, and an unlimited number of applicable waivers for which the project requests one waiver (elevator housing height increase) . The result is an additional unit, which is 16.66% of the new units generated by the implementation of the density bonus. This project is providing 4 BMR units and is requesting a 35% Density Bonus, permissible under State DB law.

Because this project is providing larger living units than other projects nearby, the increase in density is necessary to offer the additional unit. The average unit size is approximately 1600 square feet, which would have been about 5,000 in three units. However, the additional unit requires another 1600 square feet which is almost exactly the gross square footage gained by 2nd incentive: 20% decrease in front setback.

The 20% decrease in front setback translates into a 5 feet gain multiplied by the width of the livable width of the building (65 feet) multiplied by five stories equals 1625 square feet. That square footage gain is almost entirely allocated to the new affordable unit.

Density Incentive Explanation

We requested that the front yard setback be reduced five feet from 25 feet to 20 feet. This is to enable a slightly larger building overall and align it's massing with other projects in the area.

The requested "on menu" 11 ft height incentive is to do one thing: ensure we achieve five floors with sufficient density to support the proposed BMR unit count and mix. The height requested is aligned with two existing projects already approved on El Camino Real/CT Zoning.

Incentives (10% very low = 2 incentives)

| | Standard | Requested |
|--|----------|-----------|
| 1. Front yard setback decrease (20% On Menu incentive) | 25' | 20' |
| 2. Height increase (11' On Menu incentive) | 45' | 56' |

Identifiable and Actual Cost Reductions

Government Code Section 65915(d)(1) provides that a "city, county, or city and county shall grant the concession or incentive requested by the applicant unless the city, county, or city and county makes a written finding, based upon substantial evidence" that (A)the incentive does not result in identifiable and actual cost reductions; (B) the incentive would have a specific adverse impact on public health,

safety, the physical environment, or historic resources; or (C) the incentive would be contrary to state or federal law.

Government Code Section 65915 (d)(4) provides that the city, county, or city and county shall bear the burden of proof for the denial of a requested concession or incentive. The requested height concession would not have a specific, adverse impact, upon health, safety, or the physical environment, nor would the requested concession be contrary to state or federal law.

Government Code Section 65915(r) provides the Density Bonus Law “shall be interpreted liberally in favor of producing the maximum number of total housing units.” The City Council has previously determined that the “on-menu incentives listed in LAMC 14.28.040 would not have a specific, adverse impact.” The requested concessions requested by this project: 1) 20% decrease on front yard setback and 2) 11’ height increase are both “On-Menu Incentives” referenced in LAMC 14.28.040(F)(1)(d).

The City has requested that applicant provide information concerning the “identifiable and actual cost reductions” that result from the requested incentive. As noted above, it is the City of Los Altos burden to demonstrate that a requested incentive or waiver would not result in an identifiable and actual cost reduction rather than the applicant’s burden to demonstrate that it would.

11 ft increases in height and 20% front set back decreases are specifically recognized in the City’s code as an incentive and therefore, it should be presumed by the City that a 11 ft height incentive and a 20% decrease on front yard setback would result in identifiable and actual cost reductions (See Gov’t Code §65915(o)(1); and LAMC 14.28.040(F)(1)(d).

CONCLUSION: Shifting the burden from City of Los Altos to the applicant to justify the need of ON MENU incentives and waivers “**Identifiable and Actual Cost Reductions**” would be inconsistent with the State Density Bonus Law and City of Los Altos zoning requirements. Applicant recommends the City of Los Altos modify their density bonus handout to make it “DB law state complaint” by eliminating those requirements for ON MENU initiatives to the applicant.

Nevertheless, a reasonable estimation documentation to support our application as set forth below:

Without the additional 11’ height incentive (to 56’) and 20% decrease on the front set back to approximate a 100% residential building, the project would lose four (4) market rate units because one floor of the four (4) residential units would not be able to fit within the 45’ height limit and 20% decrease in front set back equates (appx 1600SQFT) to another residential unit that would be lost.

Assuming a gross cost of the proposed below market rate unit of \$840 per square foot, including two below-ground parking spaces, the cost of providing the proposed below market rate units is \$5.641Million. This includes all pro-rata hard construction costs, soft costs, parking costs and land valuation. Since the construction costs are in 2019 dollars and not forecast to 2022 when these units are expected to be completed it is reasonable to assume that the cost of providing the proposed below market rate units will exceed \$5.641Million.

In conclusion, the incentive to increase the height from 45' to 56' results in "identifiable and actual cost reductions" totaling \$676,190 which helps subsidize the cost of the affordable units, as shown in the chart below.

| | | 56 FT height (21 Market rate units) (Per Unit) | 45 FT height (17 Market rate units) (Per Unit) |
|---|---------------|--|--|
| Gross Cost of BMR | \$5,614,000 | | |
| Sales Price of BMR units | \$2,064,000 | | |
| NET Cost of BMR units (21 Market Rate units) | (\$3,550,000) | (\$169,047) | (\$208,823) |
| Total Cost reduction from additional 4 Market Units | | (\$676,190) | |
| | | | |

In the alternative, because the existing 45' height limit would physically preclude the density bonus project, the requested height increase could also be approved as a waiver of a development standard under Government Code Section 65915(e)(1)

Waiver - Elevator Housing Tower Increase

An elevator is required to access the Occupied Roof deck per the CBC Accessibility regulations.

Waivers

1. Elevator Tower Height Increase 12' 17'-6"

Government Code Section 65915 (e)(1) – Waivers of Development Standards

Government Code Section 65915 (e)(1) provides, in part, that "in no case may a city, county, or city and county apply any development standard that will have the effect of physically precluding the construction of a development meeting the criteria of subdivision (b) at the densities or with the concessions or incentives permitted by this section. Further, "nothing in the [Density Bonus] statute requires the applicant to strip the project of amenities, such as a rooftop that would require a waiver of development standards. Standards may be waived that physically preclude construction of a housing development meeting the requirements for a density bonus, period. (§ 65915, subd.(e)(1).)The statute does not say that what must be precluded is a project with no amenities (i.e. Rooftop), or that amenities may not be the reason a waiver is needed." (Wollmer v. City of Berkeley (2011) 193 Cal.App.4th1329, 1346– 1347.

Applicant is requesting a waiver of a development standard to allow the height of the elevator override for the residential building to exceed the 12' height exception for elevator overrides by 5'6" to a total structure height of 73'6" (comprised of the 56' height limit, with the requested 11' incentive, plus the 12' allowed height exception for elevator overrides, plus the requested 5'6" waiver of development standard). An elevator is required to access the occupied roof deck per the CBC ADA accessible access requirements. Due to the required height of the elevator tower to provide the ADA accessible access, we have placed it towards the front of the building. This location allows the taller tower to be hidden by

the staircase tower from El Camino Real pedestrian and vehicular views by the building. The requested elevator tower increase is based on the minimum height required to install the elevator with the 8 levels of stops. There is 14'-7" of clearance required from the floor level of the highest stop to the underside of the hoist beam. The hoist beam for the elevator sits above that required clearance and below the roof of the elevator shaft. The roof structure itself is +/-18". The proposed residential building cannot be constructed without the 5'6" waiver of development standard for elevator override and the failure to grant the waiver would preclude the construction of the common open space roof deck with the required ADA accessible access.

Elevator sections and manufacturer's cut sheets have been provided in the package on sheets A14 and A15 for reference. This same elevator model and specs shown in the current plans match the elevator used and approved by city on Altos One (4856 El Camino Real, Los Altos) 52 units and 21 units for 4880 El Camino Real Los Altos development.

21 Unit Option

Project Description

GENERAL PLAN DESIGNATION: Commercial Thoroughfare
ZONING: CT (Commercial Thoroughfare)
PARCEL SIZE: 0.434 acres (18,919 square feet)
 Rear Ingress/ Egress Easement of 2000 square feet
 0.388 acres (16,919 net square feet)
MATERIALS: Painted plaster cement siding, Equitone siding accents and railings, architectural metal panels, glass balconies railings, stone faced planters.

| | Existing | Proposed | Required/Allowed |
|------------------|-----------------|----------------------------|--------------------------------|
| SETBACKS: | | | |
| Front | 50' | 20'(20% on menu incentive) | 25' |
| Rear Grading | N/A | 20' | No Limit |
| Right side | 5 feet | 10' to 22' | 4' Min. / 15'-0" Ave. |
| Left side | 0 feet | 4'-6" to 43' | 4' Min. / 7'-6" Ave. |
| Rear | 42' | 20' | 0' |
| Height Limit | +/-22' | 56'(11' on menu incentive) | 45' |
| PARKING: | n/a | 55 spaces | 47 spaces (with density bonus) |
| DENSITY: | n/a | 53 du / ac | 38 du / ac |

AFFORDABLE HOUSING

- Lot Size: 16,919 / 43560 = .388 ac
 Allowable Density: .434 ac x 38 du/ac = 14.74 = 15 Units
- Affordable Housing per LAMC
 15 du x 15% BMR = 2.25 = 3 BMR

DENSITY BONUS

- Affordable Units/BMR's: 4 units
- 2 moderate / 2 very low: (2 very low / 15 = 13.33 % = 35 % Density Bonus)
- 15 units x 35 % = 21 units
- Proposed Building Configuration:
 - (16) 3 bedroom 2 bathroom units
 - (5) 4 bedroom 3.5 bathroom units
- Proposed BMR Units:
 - (2) 3 bedroom /2 bathroom moderate income
 - (2) 3 bedroom /2 bathroom very low income

21 vs 28 Unit Option

The 28 unit option qualifies for a 3rd incentive while applicant offers 6 BMR's but applicant does not seek to exercise it. Applicant also believes that this 28 unit option is more on line with what city council wanted to see on residential development where a mix of smaller, medium size and larger units can appeal to a larger number of buyers. FAR is increased by about 471SF going to the 28 unit option due to alignment of the upper level units to the lower level units. Basically we can fit 28 units into the same building that fits 21 unit so Form, Fit and Function remain unchanged while also being able to fully park all units per the Density Bonus Ordinance.

| | 21 | 28 | Required/Allowed |
|----------------------|----------------------------|----------------------------|-------------------------|
| SETBACKS: | | | |
| Front | 20'(20% on menu incentive) | 20'(20% on menu incentive) | 25' |
| Rear Grading | 20' | 20' | No Limit |
| Right side | 10' to 22' | 10' to 22' | 4' Min. / 15'-0" Ave. |
| Left side | 4'-6" to 43' | 4'-6" to 43' | 4' Min. / 7'-6" Ave. |
| Rear | 20' | 20' | 0' |
| Height Limit | 56'(11' on menu incentive) | 56'(11' on menu incentive) | 45' |
| FAR: | 47,587/16,919 = 2.81 | 48,058 /16,919 = 2.84 | N/A |
| BMR'S: | 4 Units | 6 Units | |
| BMR SF TOTAL: | 6,684 SF | 6,616 SF | |
| DENSITY: | 54 du / ac | 72 du / ac | 38 du / ac |
| INCENTIVES: | 2 Allowed / 2 Used | 3 Allowed / 2 Used | |
| WAIVERS: | 1 (Elevator Height) | 1 (Elevator Height) | |

AFFORDABLE HOUSING

- Lot Size: 16,919 / 43560 = .388 ac
Allowable Density: .434 ac x 38 du/ac = 14.74 = 15 Units
- Affordable Housing per LAMC
15 du x 15% BMR = 2.25 = 3 BMR

DENSITY BONUS (21 Units)

- Affordable Units: 4 units
- 2 moderate / 2 very low: (2 very low / 15 = 13.33 % = 35 % Density Bonus)
- 15 units x 35 % = 21 units
- Proposed Building Configuration:
 - (16) 3 bedroom 2 bathroom units
 - (5) 4 bedroom 3.5 bathroom units
- Proposed BMR Units:
 - (2) 3 bedroom /2 bathroom moderate income
 - (2) 3 bedroom /2 bathroom very low income

DENSITY BONUS (28 Units)

- Affordable Units: 6 units
- 2 moderate / 4 very low: (4 very low / 15 = 27 % = 85 % Density Bonus)
- 15 units x 85 % = 28 units
- Proposed Building Configuration:
 - (4) 1 bedroom 1 bathroom units
 - (5) 2 bedroom 1 bathroom units
 - (5) 2 bedroom 2 bathroom units
 - (14) 3 bedroom 2 bathroom units
- Proposed BMR Units:
 - (3) 1 bedroom /1 bathroom very low income
 - (1) 2 bedroom /1 bathroom very low income
 - (1) 2 bedroom /1 bathroom moderate income
 - (1) 3 bedroom /2 bathroom moderate income

| Number of BMR units and location | FOR SALE | FOR SALE |
|--|-----------------|-----------------|
| Category (Moderate/Very Low) | Moderate | Very Low |
| 1 Bedroom (Units 202B,302B, 402B - 2610SF) | | 3 |
| 3 Bedroom (Units 204 - 1906SF) | 1 | |
| 2 Bedrooms (Unit 301- 1050SF) | 1 | |
| 2 Bedrooms (Unit 101- 1050SF) | | 1 |
| 6 Units Overall at 6616 SF | 2 | 4 |

Density Incentive Explanation

We requested that the front yard setback be reduced five feet from 25 feet to 20 feet. This is to enable a slightly larger building overall and align it’s massing with other projects in the area.

The requested “on menu” 11 ft height incentive is to do one thing: ensure we achieve five floors with sufficient density to support the proposed BMR unit count and mix. The height requested is aligned with two existing projects already approved on El Camino Real/CT Zoning.

Incentives (10% very low = 2 incentives, 3rd allowed incentive not exercised by applicant)

| | Standard | Requested |
|--|----------|-----------|
| 1. Front yard setback decrease (20% On Menu incentive) | 25’ | 20’ |
| 2. Height increase (11’ On Menu incentive) | 45’ | 56’ |

Identifiable and Actual Cost Reductions

Government Code Section 65915(d)(1) provides that a “city, county, or city and county shall grant the concession or incentive requested by the applicant unless the city, county, or city and county makes a written finding, based upon substantial evidence” that (A)the incentive does not result in identifiable and actual cost reductions; (B) the incentive would have a specific adverse impact on public health, safety, the physical environment, or historic resources; or (C) the incentive would be contrary to state or federal law.

Government Code Section 65915 (d)(4) provides that the city, county, or city and county shall bear the burden of proof for the denial of a requested concession or incentive. The requested height concession would not have a specific, adverse impact, upon health, safety, or the physical environment, nor would the requested concession be contrary to state or federal law.

Government Code Section 65915(r) provides the Density Bonus Law “shall be interpreted liberally in favor of producing the maximum number of total housing units.” The City Council has previously determined that the “on-menu incentives listed in LAMC 14.28.040 would not have a specific, adverse impact.” The requested concessions requested by this project: 1) 20% decrease on front yard setback and 2) 11’ height increase are both “On-Menu Incentives” referenced in LAMC 14.28.040(F)(1)(d).

The City has requested that applicant provide information concerning the “identifiable and actual cost reductions” that result from the requested incentive. As noted above, it is the City of Los Altos burden to demonstrate that a requested incentive or waiver would not result in an identifiable and actual cost reduction rather than the applicant’s burden to demonstrate that it would.

11 ft increases in height and 20% front set back decreases are specifically recognized in the City’s code as an incentive and therefore, it should be presumed by the City that a 11 ft height incentive and a 20% decrease on front yard setback would result in identifiable and actual cost reductions (See Gov’t Code §65915(o)(1); and LAMC 14.28.040(F)(1)(d).

CONCLUSION: Shifting the burden from City of Los Altos to the applicant to justify the need of ON MENU incentives and waivers “**Identifiable and Actual Cost Reductions**” would be inconsistent with the State Density Bonus Law and City of Los Altos zoning requirements. Applicant recommends the City of Los Altos modify their density bonus handout to make it “DB law state complaint” by eliminating those requirements for ON MENU initiatives to the applicant.

Both 21 and 28 unit options offers similar SQFT in BMR’s 6684SF for 21 units, captured in 4 BMR’s and 6616SF for 28 units, captured in 6 BMR’s. See 21 unit building analysis.

Waiver - Elevator Housing Tower Increase

An elevator is required to access the Occupied Roof deck per the CBC Accessibility regulations.

Waivers

- | | | |
|-----------------------------------|-----|--------|
| 1. Elevator Tower Height Increase | 12’ | 17’-6” |
|-----------------------------------|-----|--------|

Government Code Section 65915 (e)(1) – Waivers of Development Standards Government Code

Section 65915 (e)(1) provides, in part, that “in no case may a city, county, or city and county apply any development standard that will have the effect of physically precluding the construction of a development meeting the criteria of subdivision (b) at the densities or with the concessions or incentives permitted by this section. Further, “nothing in the [Density Bonus] statute requires the applicant to strip the project of amenities, such as a rooftop that would require a waiver of development standards. Standards may be waived that physically preclude construction of a housing development meeting the requirements for a density bonus, period. (§ 65915, subd.(e)(1).)The statute does not say that what must be precluded is a project with no amenities (i.e. Rooftop), or that amenities may not be the reason a waiver is needed.” (Wollmer v. City of Berkeley (2011) 193 Cal.App.4th1329, 1346– 1347.

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Elevator sections and manufacturer's cut sheets have been provided in the package on sheets A14 and A15 for reference. This same elevator model and specs shown in the current plans match the elevator used and approved by city on Altos One (4856 El Camino Real, Los Altos) 52 units and 21 units for 4880 El Camino Real Los Altos development.

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MINUTES OF A REGULAR MEETING OF THE PLANNING COMMISSION OF THE CITY OF LOS ALTOS, HELD ON THURSDAY, AUGUST 1, 2019 BEGINNING AT 7:00 P.M. AT LOS ALTOS CITY HALL, ONE NORTH SAN ANTONIO ROAD, LOS ALTOS, CALIFORNIA

ESTABLISH QUORUM

PRESENT: Chair Samek, Vice-Chair Lee Commissioners Ahi, Bodner, Bressack, Marek and Meadows

STAFF: Community Development Director Biggs, Senior Planner Golden and City Attorney Lee

PUBLIC COMMENT ON ITEMS NOT ON THE AGENDA

None.

STUDY SESSION

1. 19PPR-0002 – Ismail Unlu – 376 First Street

Design Review Study Session for a proposed four-story multiple-family building consisting of 15 residential units and one level of underground parking with a mechanical parking lift system.
Project Planner: Golden

Senior Planner Golden presented the staff report.

Project architect Brett Bailey gave an overview of the project and talked about the Klaus Puzzle Lift system is the only system to provide 9' x 18' parking, trash location, and the three type of unit designs.

Public Comment

Resident Jon Baer said this modern architecture would fit in better on El Camino Real than downtown; the Hodge podge of architecture along First Street is not good; and asked if the parking is based on BMR units or are if they are asking for a waiver that will exacerbate the problem.

Resident and President of the HOA at 396 First Street, Paul Frattini, stated we are losing a tremendous restaurant downtown; is concerned about the roof deck, height of the building, light pollution and noise; First Street lacks landscaping; and is concerned about the South elevation.

Resident of 396 First Street, Phil Underwood, stated that parking is a serious issue; discussed the trash and recycling collection location; is concerned about height and the common deck use; concerned about short-term rentals; and said there is a lack of landscaping at First Street.

Resident Eric Steinle stated his concern over the roof top deck, and without the deck the elevator tower would be decreased in height.

Commission Discussion

The Commission discussed the project and provided the following comments:

- Commissioner Ahi:
 - Concerned with the overall height, not consistent with other projects;

- The front entrance is misoriented;
 - The dark gray stair tower feels heavy – look at materials and they need to be more dynamic;
 - Windows need more orientation – awnings etc.;
 - Gable elements should project more;
 - The balcony facing south has no awning above and should have a feature above it; and
 - Look at the Foothill elevation and use shorter windows for privacy.
- Vice-Chair Lee:
 - Good material palette and use of real wood;
 - Loss of opportunity not having entry on First Street;
 - Garage needs to have a gate or some closure;
 - Contemporary gables don't feel integrated into the design;
 - Color palette could be modified – remove dark grays and add lighter colors;
 - Height concern with the elevator towers – explore elevator technologies; and
 - Needs window articulation and quality fenestration.
- Commissioner Bodner:
 - Likes a lot of the elements of the building;
 - Orientation is awkward with the elevator tower on the side;
 - Should have a gate on the garage that should be decorative;
 - Soften laser cut entry trellis;
 - Maybe okay on height to get variation from other projects;
 - Add one-bedroom units;
 - Supports projection of the balconies of the upper stories; and
 - Should be more generous with landscaping on First Street.
- Commissioner Meadows:
 - Needs more landscaping on First and Foothill;
 - Front of building should be oriented to First Street;
 - Needs formal lobby;
 - Adjacent development will impact the entry;
 - Likes the materials used;
 - Windows are very large and might impact resident's privacy;
 - Should provide examples of other projects; and
 - Concerned about large expanse of stucco.
- Commissioner Bressack:
 - Orientation of the building and garage is a missed opportunity;
 - Need to improve the front façade with a human scaled entrance;
 - Feels big and vertical in design – the gable roofs add vertical, but is not well integrated;
 - The material palette is good, but needs better landscape;
 - Needs to address relationship of abutting properties;
 - Plaster joints can be a good addition but needs more articulation; and
 - Roof deck should not impact neighboring properties.
- Commissioner Marek:
 - Agreed with comments made;
 - Concerned about the front entry; and
 - Lack of landscaping.

- Chair Samek:
 - Need to address the front façade;
 - Bike parking design feels urban;
 - Should consider adding a gate to the garage;
 - Pedestrian safety with the garage ramp;
 - Elevator tower feels massive and exacerbated because there are not gables at this location on the front elevation;
 - Height concern and how it's measured;
 - Concerned about roof decks at the property line and should be put on First like other proposed projects; and
 - Foothill and First Street elevations should be the primary elevations.

PUBLIC HEARING

2. D19-0002, CUP19-0001, TM19-0002 – Mircea Voskerician - 4898 El Camino Real

Design Review, Use Permit, and Subdivision applications for a new five-story, multiple-family, condominium building with 21 units, two levels of underground parking and a rooftop common area deck. The project includes four affordable units and is requesting a density bonus and development incentives to allow for increased building height and a reduced front yard setback. *Project Planner: Gallegos*

Associate Planner Gallegos presented the staff report, recommending approval to the City Council of design review, use permit and subdivision applications D19-0002, CUP19-0001 and TM19-0002 per the staff report findings and conditions contained in the resolution.

Project architect Jeff Potts of SDG Architects presented the project stating that the density went down from 23 to 21 percent; added 10 parking spaces to the required amount for a total of 55 spaces; and provided two bike lockers per unit.

Public Comment

Resident Anatol Shmelev stated there was not a substantial amount of greenery; a height of 72 feet is a tall building and much taller than the City has; traffic and safety a concern for children; and parking is an issue because three to four-bedroom units will have 3-4 cars each and it needs to be addressed.

Resident Eric Steinle stated that the roof top deck was a concern; a series of three and four-bedroom homes stacked; disappointment that there are no smaller units; and the CT zone mixed-use development takes place of commercial on El Camino Real and is the site of a terrible thing.

Commission Discussion

Commissioner Meadows thanked the applicant for paying attention to the Study Session comments; said the State Density Bonus law is compliant with Density Bonus Law; very exciting in many regards including exceeding the number of BMRs, parking spaces, bike parking and open space areas; nice to have BMRs of a larger size; the corner is much improved and appreciates the step backs; there is a lack of wood at the rear elevator and is inconsistent with the rest of the plans – wood should be on all elevators; rendering A16 is unattractive and adding wood would help; eliminate the Mexican Feather Grass from the landscape plan.

Commissioner Bressack noted her ex parte communication with the applicant; said the rear elevation is the least resolved and wishes the stair and building was lower; and the plan reflects the best part of the process.

Commissioner Marek gave his support for the project

Vice-Chair Lee said there is a lot going on architecturally; large volume and massing with no way to break down other than detailing; very horizontal accentuations with heavy handing; appears to be a super frame around the building; reads as one large super block; design is heavy, massive, and industrial in which other elements get lost because of this feature; the corner is successful, but liberate the tower; and asked how the window details interface with the wall and front elevation.

Commissioner Bodner noted her ex parte discussion with the project architect; this design is in the same place and appears too commercial/industrial looking; use more wood; rails broken up; not in support of super banding; concern with metal railing; the tower needs work and a better material mix; more trees are needed at the back off of Jordan Avenue; and believes units are large and would like to see smaller units/more units in the same building envelope .

Commissioner Ahi stated the roof top deck is beneficial; can justify additional height because the corner if successful with additional height; keep the stair towners at 68 feet; likes the changes made since the last meeting; the building feels heavy overall; window sizes on the tower can change to break up the repetitive nature; and the design is more dynamic with multiple balconies that make it look like multiple elements.

Chair Samek noted his ex parte communication with the applicant; concerned with the tower transition from gray material to wood; the back of the building needs attention; lighten up the railings look at the elevator tower heights at the First Street project; indifferent on unit size; design sizes provide same variability in the market; would support as designed with the number of units or change to smaller units; could support so long as parking is met; and color difference between the stone/hard surface material and stucco needs more differentiation.

Action: Upon motion by Commissioner Bressack, seconded by Commissioner Bodner, the Commission continued to the August 15, 2019 Planning Commission meeting.

The motion was approved (7-0) by the following vote:

AYES: Samek, Lee, Ahi, Bodner, Bressack, Marek and Meadows

NOES: None

ABSENT: None

DISCUSSION

3. OA District Conditional Use Determination

Request for the Planning Commission to issue a determination on if an animal clinic use is of the same general character as other conditional uses in the OA District and allow for a conditional use permit to be submitted. *Project Planner: Dabl*

Community Development Director Biggs presented the staff report, recommending approval of amendments to Zoning Code Chapters 14.78 and 14.80 to the City Council subject to the listed findings.

Public Comment

Project applicant and resident Abigail Ahrens spoke in favor of the determination.

Glynn Echerd of Los Altos Vet Clinic stated that the clinic closes at 6:00 PM and no animals stay overnight.

Melissa Neal of Los Altos Vet Clinic and resident of Los Altos spoke in support of the request.

Commercial real estate broker Tom Smith spoke in support of the determination.

Action: Upon motion by Commissioner Meadows, seconded by Commissioner Bressack, the Commission found that an Animal Clinic is of the same general.

The motion was approved (7-0) by the following vote:

AYES: Samek, Lee, Ahi, Bodner, Bressack, Marek and Meadows

NOES: None

ABSENT: None

COMMISSIONERS' REPORTS AND COMMENTS

Commissioner Bressack reported on the July 30, 2019 City Council meeting.

POTENTIAL FUTURE AGENDA ITEMS

Community Development Director Biggs reported on future agenda items.

ADJOURNMENT

Chair Samek adjourned the meeting at 10:35 P.M.

Jon Biggs
Community Development Director

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ATTACHMENT D

PLANNING COMMISSION AGENDA REPORT

Meeting Date: August 1, 2019

Subject: Proposed Five-Story, 21-Unit Multiple-Family Building at 4898 El Camino Real

Prepared by: Sean K. Gallegos, Associate Planner

Initiated by: Applicant and Owner – Mircea Voskerician

Attachments:

- A. Draft Resolution
- B. Applicant Materials
 - Cover Letter
 - Public Outreach Letter
 - Density Bonus Report
 - Climate Action Plan Checklist
 - Story Pole Certification and Approved Story Pole Plan
 - Office and Retail Report
- C. Planning Commission Study Session Minutes, February 21, 2019
- D. Complete Streets Commission Meeting Minutes, June 26, 2019
- E. Traffic Report
- F. Air Quality and Greenhouse Gas Emissions Assessment
- G. Noise Study
- H. Arborist Report
- I. Project Plans

Staff Recommendation:

Recommend to the City Council approval of design review, use permit and subdivision applications D19-0002, CUP19-0001 and TM19-0002 per the findings and conditions contained in the resolution.

Environmental Review:

The project is exempt from environmental review as in-fill development in accordance with Section 15332 of the California Environmental Quality Act of 1970 as amended.

Project Description:

This is a development proposal that includes a Design Review, Use Permit and Subdivision application for a new five-story, multiple-family residential building with 21 condominium units, a rooftop common area and a two-level underground parking garage. The existing site includes a one-story commercial building currently occupied with office, private school, personal service and retail uses at 4898 El Camino Real. The proposal is offering four affordable units – two moderate and two very-low – in exchange for a 35 percent density bonus, development incentives to allow for increased height

and a reduced front yard setback, and a waiver for the height of the elevator tower. The following tables summarizes the project’s technical details:

GENERAL PLAN DESIGNATION: Thoroughfare Commercial
ZONING: CT (Commercial Thoroughfare)
PARCEL SIZE: 16,919 square feet (0.39 acres)
MATERIALS: Sand finish stucco siding with Equitone cladding panels, Eldorado stone veneer and Trespa horizontal accent siding, metal frame canopies, metal frame windows and doors, and metal balcony railings

| | Existing | Proposed | Required/Allowed |
|----------------------------|-----------------|-----------------------------|-------------------------|
| FLOOR AREA: | 8,396 sq. ft. | 47,587 sq. ft. ¹ | N/A ² |
| SETBACKS: | | | |
| Front (El Camino Real) | 50 feet | 20 feet | 25 feet |
| Rear | 42 feet | 25.4 feet | N/A ³ |
| Exterior side (Jordan Ave) | 0 feet | 17.5 feet (avg.) | 15 feet (avg.) |
| Interior side | 5 feet | 8 feet (avg.) | 7.5 feet (avg.) |
| HEIGHT: | | | |
| Top of roof deck | 22 feet | 55.9 feet | 45 feet |
| Top of parapet wall | - | 61.5 feet | 57 feet |
| Stair towers | - | 69.1 feet | 57 feet |
| Elevator tower | - | 73.4 feet | 57 feet |
| PARKING: | 25 spaces | 55 spaces | 48 spaces |
| DENSITY: | | | |
| Total units | - | 21 units (54 du/ac) | 15 units (38 du/ac) |
| Affordable units | - | 4 units (27%) | 3 units (15%) |
| OPEN SPACE: | | | |
| Private | - | 271 square feet/unit | 50 square feet/unit |
| Public | - | 6,045 square feet | 1,600 square feet |

¹ This does not include the underground garage area.

² The CT District does not have a floor area ratio requirement.

³ The CT District does not require a rear yard setback when the site does not abut an R district.

The draft resolution contained in Attachment A includes the project’s findings and conditions of approval. The project’s Density Bonus Report, Climate Action Plan Checklist, along with a cover letter from the applicant, are included in Attachment B.

Background

Planning Commission Study Session

On February 21, 2019, the Planning Commission held a study session to review and provide feedback on the project's architectural and site design. Overall, the Commission, with only four members present, expressed general support for the project design, but noted that it should consider using an alternative for the glass railing, a different mix of colors to break up massing on the vertical elements, an improved mixture of exterior materials including less stucco, revisions to improve the human scale at the building's corner, improve the use and operation of the trash room and staging, consider a mixed-use building for the site and whether the family room was necessary for the development. A copy of the Planning Commission study session minutes is included as Attachment C.

Complete Streets Commission

On June 26, 2019, the Complete Streets Commission held a public meeting to consider the Project. As specified by the Zoning Code, the Commission is tasked with reviewing the bicycle, pedestrian, parking and traffic elements of a development application and providing an advisory recommendation to the Planning Commission and City Council. The Commission expressed general support for the project but expressed concern regarding the project increasing traffic on nearby residential streets, and an increase in traffic on streets like Jordan Avenue, potentially creating an unsafe path for school kids. Following the discussion, the Commission voted unanimously to recommend approval of the project to the Planning Commission and City Council. A copy of the Complete Streets Commission meeting minutes is included as Attachment D.

Story Pole Installation

On July 10, 2019, planning staff verified that the applicant's story pole plan was consistent with the City's adopted Story Pole Policy and approved the plan. On July 12, 2019, staff received a certification letter from the project's civil engineer verifying that the story poles had been installed per the approved plan. A copy of the certification letter and the approved story pole plan is included in Attachment B.

Discussion/Analysis

General Plan

The General Plan contains goals and policies for the El Camino Real Corridor in the Land Use Element, Community Design & Historic Resources Element, Economic Development Element, and Housing Element which emphasize increasing commercial vitality, intensification of development, developing housing, including affordable housing, improving the streetscape of the El Camino Real corridor and ensuring compatibility with adjacent residential land uses and nearby single-family neighborhoods.

The Housing Element encourages maximum densities of residential development as well as facilitating affordable housing. The project is proposing a density of 54 units per acre, which would exceed the maximum density allowed for the El Camino Real corridor (38 dwellings per acre) and includes four affordable dwelling units. The site is identified as an opportunity site in the Housing Element, with the potential to achieve up to 21 units. So, with proposed 21 units, four of which are affordable, the project would meet the General Plans' housing projection for this site.

The Land Use Element encourages intensification along the El Camino Real corridor while also requiring that new development be compatible with nearby residential land uses. The site is adjacent to multiple-family land uses to the south, which include two-story apartment buildings and medium density townhomes (Normandy Place Townhomes). The adjacent townhouse buildings are buffered from proposed development along the rear of the site by a parking lot and row of mature redwood trees that create a strong landscape buffer between the properties.

The project is also consistent with the Community Design & Historic Resources Element and Economic Development Element since it will be improving the streetscape of the El Camino Real corridor, is designed to be sensitive to the nearby residential neighborhood and will be improving economic vitality along the Corridor.

Zoning

The project is seeking incentives for increased building height and a reduced front yard setback, and a waiver for the height of the elevator tower, which are further discussed below. Beyond these requests, the project meets or exceeds the minimum site standards for the CT District and other applicable Zoning Code requirements. The front setback is 20 feet, where 25 feet is required. The interior (left) side setback ranges from approximately 4.5 to 53.5 feet, with an average setback of eight feet, where an average of 7.5 feet is required. The exterior side (adjacent to Jordan Avenue) setbacks range from 5.25 feet to 56.2 feet, with an average setback of 17.5 feet, where an average of 15 feet is required.

The CT District also requires multiple-family projects to provide permanently maintained open space, both private and common, as part of the development. For private open space, an average of 50 square feet per unit must be provided and a total of 1,600 square feet of common open space must be provided for projects with up to 25 units. As specified on Sheet A9A of the project plans, an average of 271 square of private open space per unit is being provided, and a total of 6,045 square feet of common open space is being provided. Thus, the project is exceeding the minimum standards required by Code.

As part of the common open space provided by the project, a 5,031 square-foot rooftop deck is proposed. This rooftop deck includes an outdoor kitchen, fire pits, and a variety of seating areas. To ensure that rooftop uses such as this do not create negative impacts with regard to noise, light or other related activities, the CT District has established performance standards for rooftop uses. While it appears that the proposed rooftop deck will be able to comply with all applicable performance standards, appropriate conditions of approval have been included to ensure that the roof deck is in compliance both in terms of construction and long-term operation.

The project is seeking a total of two development incentives and one waiver in exchange for providing affordable housing. The first incentive is a height increase to allow a building height of 56 feet, where the Code allows a height of 45 feet. The second incentive is for a reduced front yard setback of 20 feet, where the Code requires a setback of 25 feet. The waiver is to allow the elevator tower to be 17.5 feet above the roof deck, where the Code allows a maximum height of 12 feet.

The project is also seeking a density bonus to exceed the CT District's residential density of 38 dwelling units per acre. The project site is 0.39 acres in size, which results in an allowable base density of 15 units. Based on the number of affordable units that are being provided, the Applicant is requesting a density bonus of 35 percent, which would allow for six additional units to be built on the site, resulting in a total of 21 units. The density bonus, development incentives and waivers are discussed in more detail in the *Affordable Housing* section below.

With regard to on-site parking, since the project is providing affordable housing, it is subject to the parking standards specified in Section 14.28.040(G). Based on these standards, the project is required to provide two on-site parking spaces per each three-bedroom unit and 2.5 onsite parking spaces for each four-bedroom unit, which results in a minimum of 45 onsite parking spaces being required for this project. These parking standards could be further reduced since the project is within ½ mile of a major transit stop, but the Applicant has not requested this reduction. The project is proposing a total of 55 parking spaces, which includes 53 standard spaces and two accessible spaces in two levels of underground parking. Of these spaces, nine are specified for guest parking on the upper level of the underground garage. Overall, the proposed parking exceeds the minimum established by the Zoning Code.

Bicycle and Pedestrian Amenities

As recommended by the VTA guidelines, the project should provide at least seven Class I bicycle parking spaces and two Class II spaces. As specified on the Lower Level Basement Plan (Sheet A3A), a total of 21 individual lockers (Class I) and four electric bicycle racks with 110kW electrical outlets are provided in the underground parking garage. In addition, two bicycle racks with four spaces (Class II) are proposed at street level next to the building's front entrance on Jordan Avenue. Thus, the project is significantly exceeding the VTA Guidelines for bicycle parking spaces (see sheet A3C).

The project will replace the public sidewalk along its Jordan Avenue and El Camino Real frontages and improve the pedestrian environment at the intersection with Jordan Avenue. Along El Camino Real, the new sidewalk will be 7.5 feet wide, with a new street tree and landscaping along the back of the sidewalk. Along Jordan Avenue, the new sidewalk will be five feet wide, with two new street trees and landscaping along the back of the sidewalk. The driveway cut on Jordan Avenue is roughly in the same location as an existing driveway entrance near the southwest corner of the site and it will serve the underground garage parking garage. The project will remove the existing driveway on Jordan Avenue near the intersection of El Camino Real and the driveway along El Camino Real. The building's front entrance is accessed via a plaza from the back of the public sidewalk. Common areas with pedestrian amenities for the building's residents are provided in the rear yard of the site and on a roof deck. Overall, the project's bicycle and pedestrian amenities appear to meet or exceed all applicable City policies and guidelines.

Design Review

In order to approve the project, the Commission must make positive design review findings as outlined in Section 14.78.050 of the Municipal Code. These design review findings are summarized as follows:

- The project meets the goals, policies and objectives of the General Plan and complies with any Zoning Code design criteria for the CT District;

- The project has architectural integrity and an appropriate relationship with other structures in the immediate area in terms of height, bulk and design;
- The horizontal and vertical building mass is articulated to relate to the human scale; it has variation and depth of building elevations to avoid large blank walls; and the residential elements that signal habitation such as entrances, stairs, porches, bays and balconies;
- The exterior materials that convey high quality, integrity, permanence and durability, and materials are used effectively to define building elements such as base, body, parapets, bays, arcades and structural elements; and the materials, finishes, and colors have been used in a manner that serves to reduce the perceived appearance of height, bulk and mass, and are harmonious with other structures in the immediate area;
- The landscaping is generous and inviting, the landscape and hardscape complements the building and is well integrated with the building architecture and surrounding streetscape, and the landscape includes substantial street tree canopy;
- Any signage is appropriately designed to complement the building architecture; and
- Rooftop mechanical equipment and utility and trash areas are appropriately screened and integrated into the building's architectural design.

Overall, the project reflects a desired and appropriate development intensity for the CT District and the El Camino Real corridor. It achieves the maximum housing density permitted, which benefits the City's housing goals while also providing stepped massing from the rear property line and articulation along the front and sides to limit the perception of bulk and mass. The proposal meets General Plan Policy 4.3 and 4.4. These goals promote residential development on El Camino Real and affordable housing on El Camino Real. In addition, this project complies with the Design Controls for the CT Zoning because the proposal has architectural integrity and has an appropriate relationship to the heights, massing, and styles of the buildings in the immediate area. The building fronts directly on to El Camino Real where the larger scale is more appropriate, and the building materials and massing fit well within the context of the surrounding area.

The building was designed to relate to the human scale with a landscaped entry plaza and a two-story entry lobby. These features create a human scale at the main building entry. The stone veneer at the first level creates a strong building base. The large horizontal balconies break up the vertical building mass to bring life to the streets. The horizontal building mass is broken up with the two-story stepping element at the corner and the deep recess at the secondary stair tower.

The exterior building materials appropriately define the building elements and convey the project's quality, integrity, durability and permanence. The project color palate defines the building elements and soften the overall appearance. The use of El Dorado stone veneer, Trespa siding (an engineered wood-based façade material), Equitone panels (a fiber cement façade material) and control joints in the stucco conveys a sense of quality materials and supports the articulation to create smaller elements and reduced bulk and mass.

The landscape plan appears generous and inviting. The proposed landscape and hardscape elements are designed to complement the proposed building design by introducing raised planter walls, linear wood benches and landscaping with accent trees to respond to the architectural façade and street frontage. Street trees and generous understory plantings are proposed on El Camino Real and Jordan

Avenue where possible to avoid conflicts with utilities and building overhangs. The landscaping includes various levels with smaller plantings near the sidewalk with taller species and raised planters as it moves toward the face of the building. The landscaping includes substantial street tree canopy, including one new street trees in the public right-of-way, one new specimen western redbud tree in the front yard, two new specimen brisbane box and two new specimen western redbud box trees in the exterior side yard along Jordan Avenue, and three new specimen western redbud trees in the rear yard

The project does not propose any signage along the building frontage beyond an address number and directional signage as necessary by Code. The rooftop mechanical equipment is screened by architecturally integrated parapet walls, the ground level utilities are screened by the wood fencing and landscaping along the sides, and the trash area is located within the underground garage. Overall, as evidenced in this discussion and as further supported by the findings contained in Exhibit A of the resolution (Attachment A), the project has met the City's required design review findings.

CT District Design Controls

In addition to complying with the General Plan and standard design review findings, the project must address the CT District's design controls (Section 14.50.150), which speak to issues such as scale, building proportions, bulk, and screening rooftop mechanical equipment as follows:

- In terms of scale, because of the district's relationship to the larger region, a mixture of scales is appropriate with some elements scaled for appreciation from the street and moving vehicles and others for appreciation by pedestrians;
- The building element proportions, especially those at the ground level, should be kept close to a human scale by using recesses, courtyards, entries, or outdoor spaces;
- At the residential interface, building proportions should be designed to limit bulk and protect residential privacy, daylight and environmental quality; and
- Rooftop mechanical equipment should be screened from public view.

Overall, as discussed above, the project appears to have adequately addressed these design controls.

Affordable Housing - Density Bonus and Development Incentives

The project exceeds the City's affordable housing regulations by providing four affordable housing units, where three are required. Chapter 14.28 of the Municipal Code requires a minimum of 15 percent of the units be affordable, with a majority of the units designated as affordable at the moderate-income level (two units) and the remaining units designated as affordable at the low or very-low income level (one unit). Since the base density for the project is 15 dwelling units, the project must provide 2.25 (rounded up to three) affordable units. By providing two moderate income units and two very-low income unit, the project is in compliance with the City's Affordable Housing Ordinance.

Housing Element program 4.3.2 requires that affordable housing units generally reflect the size and number of bedrooms of the market rate units. In this case, the overall project is proposing four three-bedroom units. There will be two three-bedroom units designated affordable at the moderate-income level and two three-bedroom units at the very-low income level. The project proposes 12 three-bedroom market rate units and five four-bedroom market rate units, given the high percentage of

overall affordable units proposed, it appears that the proposed three-bedroom affordable housing units meets the intent of the program.

Under the State's density bonus regulations (Section 65915 of the California Government Code), the project qualifies for a density bonus if it provides at least five percent very-low income units. With two affordable units at the very-low income level and two affordable units at the moderate level, the project is providing 13 percent of its base density as affordable at the very-low income level and a total of 27 percent affordable. Since providing 11 percent very-low income units qualifies the project for a 35 percent density bonus, the project is exceeding the maximum as specified in State Law and the City's Affordable Housing Ordinance to achieve this level of density bonus.

Since the project is providing more than 10 percent of its units as affordable at the very-low income level, it qualifies for two development incentives per State Law and City Ordinance. To help guide incentives requested by developers and ensure that the incentives do not result in any adverse impacts, the City adopted a list of "on-menu" incentives or concessions. However, per State Law and City Ordinance, a project may still request any incentive or concession that they deem appropriate in exchange for the affordable units being provided (off-menu). In this case, the project is seeking a height incentive to allow the project to exceed the maximum height limit of 45 feet by 11 feet (on-menu) and a 20 percent reduction in the front yard setback (on-menu).

Under Government Code Section 65915(e) and Los Altos Municipal Code Section 14.28.040(F), the City must grant the requested incentive unless it can make specific negative findings. Under the Ordinance, the City has determined that "on-menu" incentives would not have a specific, adverse impact on public health and safety or the physical environment, which is one of three potential findings necessitating denial of the request, thus one of the following two findings would need to be made to deny the request:

- The concession or incentive does not result in identifiable and actual cost reductions, consistent with the definition of "concession" or "incentive," to provide for affordable housing costs, as defined in Health & Safety Section 50052.5, or for rents for the targeted units to be set as specified in subsection (I).
- The concession or incentive would be contrary to state or federal law.

There is not sufficient evidence currently in the record to make either of the other required findings for denial, i.e., that the incentive or concession would not result in identifiable and actual cost reductions to provide for affordable housing costs or would be contrary to state or federal law. Therefore, staff recommends the granting of the Applicant's requests.

The project is also seeking a waiver under Government Code Section 65915(e) and Los Altos Municipal Code Section 14.28.040(H) to allow the height of its elevator tower to go beyond the 12-foot limit. Per State Law and City Ordinance, the City must grant a requested waiver or development standard reduction unless it can make one or more the following findings:

- The waiver or reduced development standard would not have the effect of physically precluding the construction of a development meeting the criteria of this section at the densities or with the incentives permitted under this section.

- The waiver or reduced development standard would have a specific, adverse impact upon health, safety, or the physical environment, and for which there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact.
- The waiver or reduced development standard would have an adverse impact on any real property that is listed in the California Register of Historical Resources.
- The waiver or reduced development standard would be contrary to state or federal law.

This waiver request appears appropriate and reasonable for a project of this size and scope. There is sufficient evidence currently in the record that the development standard (absent the requested waiver) would have the effect of physically precluding the construction of the development meeting the criteria of the State Density Bonus Law or the Los Multiple-Family Affordable Housing Ordinance at the densities or with the incentives permitted thereunder was confirmed in the Density Bonus Report. The concession or incentive would not have a specific, adverse impact upon public health and safety or the physical environment or on any real property that is listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact without rendering the development unaffordable to very low-income and moderate-income households. Therefore, staff recommends the granting of the Applicant's requests.

A Density Bonus Report that supports the density bonus, development incentives and waiver requests was prepared by the Applicant and is included in Attachment B.

For reference, the moderate-income housing units would be limited in cost to be affordable to a household that makes no more than 120 percent of the County's median income and the very-low income housing units would be limited in cost to be affordable to a household that makes no more than 50 percent of the County's median income. The County's median family income for FY 2019 is \$131,400 per HCD calculations.

Use Permit

Since multiple-family residential uses are identified as a conditional use in the CT District, a use permit is required as part of the project approval. The location of the use is desirable in that it improves an underdeveloped property along the City's El Camino Real corridor with an appropriate amount of high-quality market rate and below market rate housing. The project meets other objectives specified in the Zoning Code, which include maintaining an appropriate relationship with adjacent land uses, maintaining a safe traffic circulation pattern, and providing a high-quality design that enhances the City's distinctive character.

Due to the location of the site along this section of the El Camino Real corridor and the mix of uses on the adjacent properties, it has limited commercial potential for the development of new retail or commercial space. However, given the housing targets set in the City's Housing Element, the City's Council's priority to see more affordable housing developed and the limited number of sites that can accommodate higher density housing projects, an all residential project at this location is desirable and essential for the City's comfort, convenience, prosperity and welfare, and in accordance with the overall objectives of the Zoning Code. A Vacancy Office and Retail Report that analyzes the office and retail market was prepared by the Applicant and is included in Attachment B.

Subdivision

The project includes a Tentative Map for Condominium purposes. The subdivision divides the building into 21 residential units and associated private and common areas. The subdivision conforms to the permitted General Plan and Zoning Code densities as modified by State law. The subdivision is not injurious to public health and safety, and is suitable for the proposed type of development, and the subdivision provides proper access easements for ingress, egress, public utilities and public services.

Environmental Review

The project site, which is 0.39 acres in size, is considered a small in-fill site that is substantially surrounded by urban uses and does not contain significant natural habitat for endangered species. The development proposal is consistent with the General Plan and Zoning Ordinance, does not result in any significant effects related to traffic, noise, air or water quality, and is adequately served by all required utilities and public services. Therefore, in accordance with Section 15332 of the California Environmental Quality Act (CEQA) Guidelines the project is exempt from further environmental review.

With regard to traffic, Implementation Program C8 in the General Plan's Circulation Element requires a transportation impact analysis (TIA) for projects that result in 50 or more net new daily trips. As outlined in the project's traffic report prepared by Hexagon Transportation Consultants (Attachment E), the proposed project will generate 114 average daily trips as compared with the property's existing uses, which include a mix of office and commercial uses, that generate 80 average daily trips. Since the net increase will only be 34 average daily trips, a full TIA is not required for this project.

Project impacts were evaluated relative to the intersection of El Camino Real and Jordan Avenue, it was found that the project would not create a significant impact at the study intersection under any scenarios. The intersection of El Camino Real and Jordan Avenue would operate at LOS C during the AM peak hour and LOS B during the PM peak hour under both existing plus project conditions and near-term plus project conditions. The intersection level of service calculation sheets are included in Appendix B in Attachment E. Due to the minimal increase in traffic and the fact that the El Camino Real-Jordan Avenue intersection does not have any level of service issues, the project will not result in any traffic impacts.

With regard to air quality, since the project is located on a State Highway, the project could potentially expose long-term residents to air pollution and the project's construction has the potential to create short-term air pollution impacts. To address these potential impacts, an air quality and greenhouse gas emission assessment was prepared for the project by Illingworth & Rodkin (Attachment F). The assessment provides appropriate mitigation measures for controlling dust and exhaust during construction, air filtration for the dwellings, and construction equipment emission guidelines. The report's recommended mitigations are included as conditions of approval. With regard to greenhouse gas emissions, the project does not exceed any of the significant thresholds as specified by the Bay Area Quality Management District's Clean Air Plan, so no mitigation measures are required. The Applicant has also completed the City's Climate Action Plan checklist for new development (Attachment B) and will be complying with all applicable requirements to ensure that the project support's the City's greenhouse gas emission reduction targets.

With regard to noise, due to the site's proximity to a State Highway, the project is located in an area that may expose its residents to higher noise levels and the project's rooftop mechanical equipment may generate off-site noise levels that exceed thresholds established in the City's Noise Control Ordinance. To address these potential noise impacts, a noise study was prepared by Illingworth & Rodkin (Attachment G). To ensure that there are no significant noise impacts, the study recommends mitigation measures that specify certain types of exterior glazing, and supplemental ventilation, and rooftop mechanical equipment noise controls so that the noise levels do not exceed City standards. Appropriate conditions of approval to ensure that the project is designed to comply with the noise study mitigation measures are included.

To evaluate potential tree impacts, an arborist report was prepared by Kieilty Arborist Services (Attachment H). The arborist report evaluated the condition of four existing juniper trees on the site and fifteen trees on adjoining properties and provided tree protection measures for the trees that are proposed to remain. All juniper trees proposed for removal are identified as being in fair to good health, but will be removed due to conflicting with the building foundation. The tree protection measures for the London plane sycamore tree (No. 5) on the neighboring property along the rear and a street tree along the El Camino frontage of 4906 El Camino Real have been appropriately incorporated in the conditions of approval.

Overall, as documented above, the project's technical studies support the finding that the project meets the criteria and conditions to qualify for as an in-fill development project that is exempt from further environmental review.

Public Contact and Correspondence

For this meeting, a public hearing notice was published in the *Town Crier* and mailed to the 403 property owners and business tenants within 500 feet of the site. A public notice billboard with color renderings was installed along the project's El Camino Real frontage and story poles to represent the corners of the building and the elevator tower were installed. A story pole certification letter from the project engineer is included as Attachment B.

In addition to the required public notification, the applicant has conducted specific outreach to the owners of the directly adjacent properties and tenants within 500 feet of the site, including the tenants in the Los Altos Court apartment buildings at 848-854 Jordan Avenue and the owners of the Normandy Place Townhomes at 889-899 Jordan Avenue. These outreach efforts are summarized in the applicant's cover letter (Attachment B). To-date, staff has not received any correspondence from any nearby property owners or tenants regarding this prospect.

Options

The Planning Commission can recommend approval, approval with modifications, or denial of the proposed project. Once the Planning Commission makes a recommendation, the Project will be forwarded to the City Council for consideration and final action.

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ATTACHMENT A-H

The following attachments may be viewed at the following weblink:

https://www.losaltosca.gov/sites/default/files/fileattachments/community_development/page/48258/4898_ecr_attachments.pdf

- A. Draft Resolution
- B. Applicant Materials
 - Cover Letter
 - Public Outreach Letter
 - Density Bonus Report
 - Climate Action Plan Checklist
 - Story Pole Certification and Approved Story Pole Plan
 - Office and Retail Report
- C. Planning Commission Study Session Minutes, February 21, 2019
- D. Complete Streets Commission Meeting Minutes, June 26, 2019
- E. Traffic Report
- F. Air Quality and Greenhouse Gas Emissions Assessment
- G. Noise Study
- H. Arborist Report

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HEXAGON TRANSPORTATION CONSULTANTS, INC.

August 5, 2019

Mr. Sean Gallegos
City of Los Altos
1 North San Antonio Road
Los Altos, CA 94022

Subject: Traffic Report for the Proposed Residential Project at 4898 El Camino Real, Los Altos

Dear Mr. Gallegos:

Hexagon Transportation Consultants, Inc. has completed this traffic report for the proposed residential project at 4898 El Camino Real, Los Altos (see Figure 1). The project is proposing a total of 28 residential units to replace the existing building on site that includes retail use (futon shop), administrative offices for a variety of businesses, a private school (Presto Vocational School of Nursing) and a spa. A site plan with the proposed 28 units is not available now. Figure 2 shows the proposed site plan with 21 units. The development with 28 units would include smaller size units, and the project access and circulation would be the same as with 21 units.

The purpose of this analysis is to identify any potentially significant traffic impacts at the intersection of El Camino Real and Jordan Avenue and to analyze roadway improvements that may be necessary to support the proposed uses. A trip generation analysis was conducted for the purpose of identifying the change in traffic due to the proposed development of the site. This study also includes an evaluation of site access and on-site circulation. The trip generation estimates and traffic impact analysis were calculated for the weekday AM and PM peak hours of traffic. The AM peak hour of traffic is generally between 7:00 and 9:00 AM, and the PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average day.

Scope of Study

The impacts of the project were evaluated following the standards and methodologies set forth by the City of Los Altos. The study determined the traffic impacts of the proposed residential development on the intersection of El Camino Real and Jordan Avenue during the weekday AM and PM peak hours of traffic (7:00-9:00 AM and 4:00-6:00 PM). The project driveway would be located on Jordan Avenue.

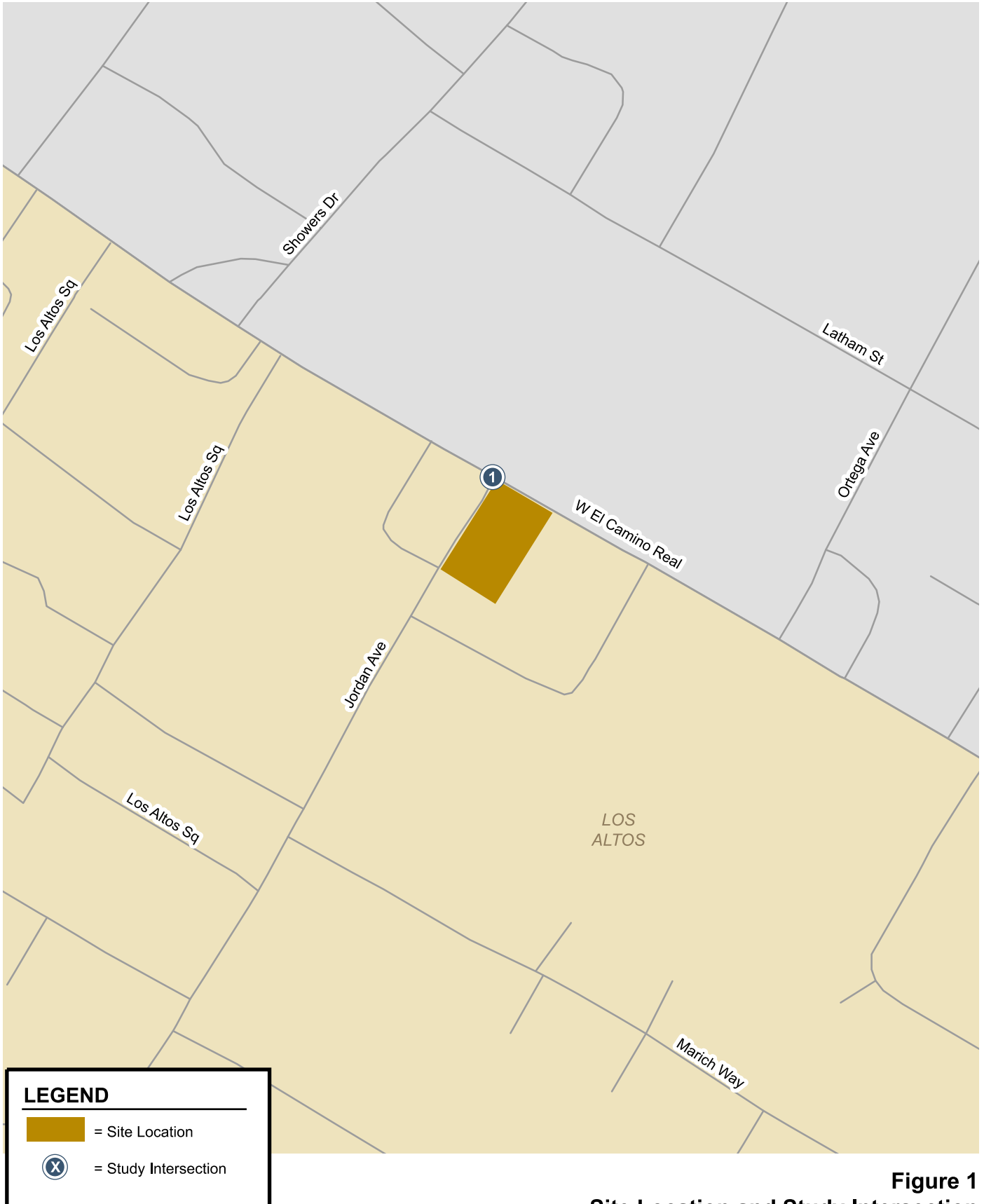


Figure 1
Site Location and Study Intersection

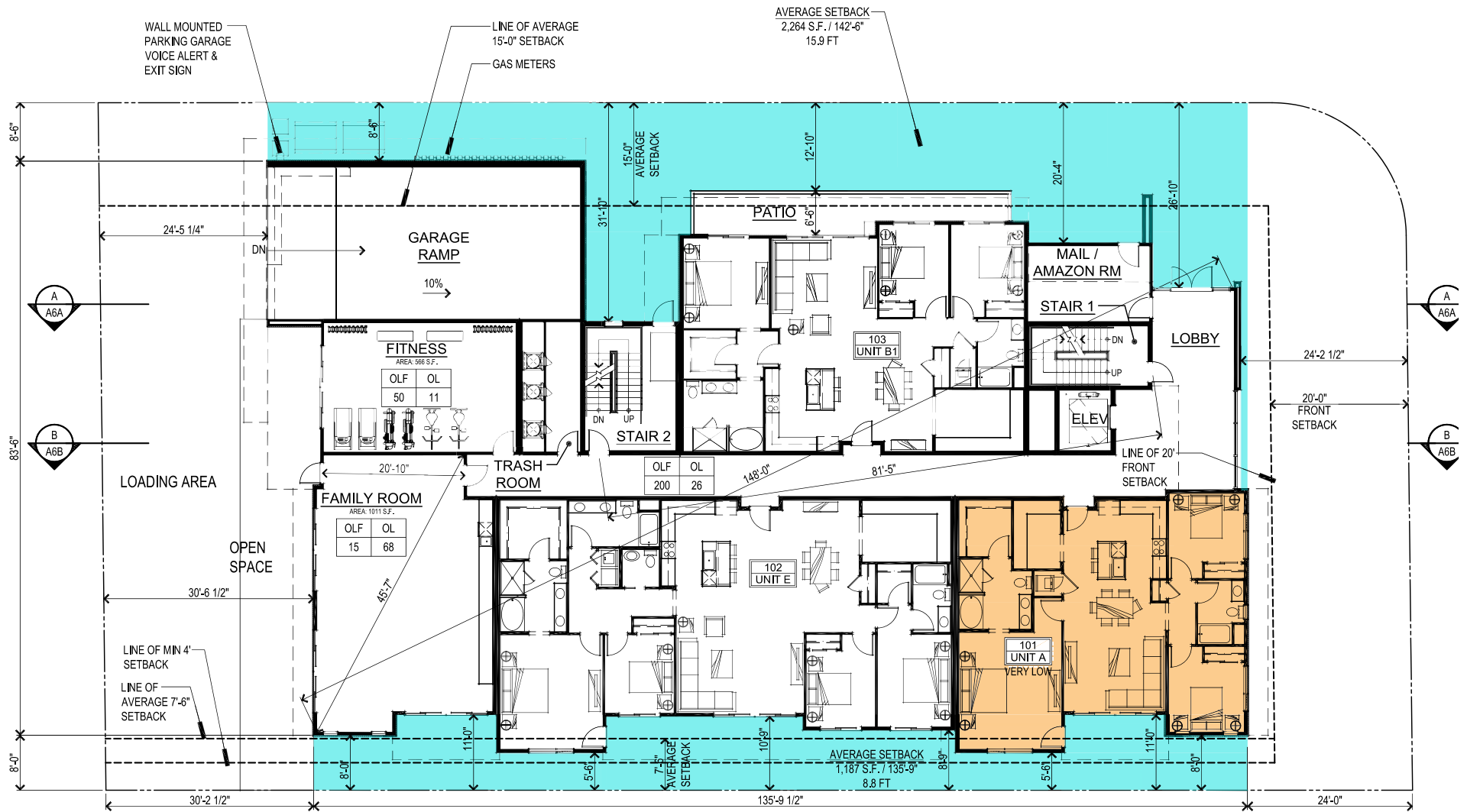


Figure 2
Proposed Site Plan



Traffic conditions at the study intersection were analyzed for the weekday AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak hours of commute traffic, which represent the peak hours of traffic for the roadway network and the peak period of trip generation for the proposed project. Traffic conditions were evaluated for the following scenarios:

- Scenario 1:** *Existing Conditions.* Existing traffic volumes were obtained from traffic counts conducted in May 2019 for this study.
- Scenario 2:** *Existing Plus Project Conditions.* Existing plus project traffic volumes were estimated by adding to existing traffic volumes the trips associated with the proposed development. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project impacts.
- Scenario 3:** *Near-Term Conditions.* Near-Term traffic volumes were estimated by applying a growth factor (2 percent per year) for two years to existing traffic volumes.
- Scenario 4:** *Near-Term plus Project Conditions.* Near-Term traffic volumes with the project were estimated by adding to near-term traffic volumes the additional traffic generated by the project. Near-term plus project conditions were evaluated relative to near-term conditions in order to determine potential project impacts.

Methodology

This section describes the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the analysis methodologies and the applicable level of service standards.

Level of Service Standards and Methodology

Traffic conditions at the study intersection were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The analysis methods are described below.

The City of Los Altos evaluates intersection levels of service using the TRAFFIX software, which is based on the Highway Capacity Manual (HCM) 2000 method, for signalized intersections. Since TRAFFIX is the level of service methodology for the CMP-designated intersections, the City of Los Altos employs the CMP default values for the analysis parameters. The HCM method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. This average delay can then be correlated to a level of service. Table 1 presents the current VTA level of service definitions for signalized intersections, which replaced the older standards found in the Los Altos General Plan. The City of Los Altos level of service standard for signalized intersections is LOS D or better.



Table 1
Signalized Intersection Level of Service Definitions Based on Delay

| Level of Service | Description | Average Control Delay Per Vehicle (sec.) |
|------------------|--|--|
| A | Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay. | 10.0 or less |
| B+ | Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay. | 10.1 to 12.0 |
| B | | 12.1 to 18.0 |
| B- | | 18.1 to 20.0 |
| C+ | Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping. | 20.1 to 23.0 |
| C | | 23.1 to 32.0 |
| C- | | 32.1 to 35.0 |
| D+ | The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable. | 35.1 to 39.0 |
| D | | 39.1 to 51.0 |
| D- | | 51.1 to 55.0 |
| E+ | This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently. | 55.1 to 60.0 |
| E | | 60.1 to 75.0 |
| E- | | 75.1 to 80.0 |
| F | This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels. | greater than 80.0 |

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p10-16. VTA Traffic Level of Service Analysis Guidelines (June 2003), Table 2.

Signalized Intersection Impact Criteria

According to City of Los Altos level of service standards, a development is said to create a significant adverse impact on traffic conditions at a signalized intersection if for either peak hour, either of the following conditions occurs:

1. The level of service at the intersection degrades from an acceptable level (LOS D or better for local intersections) under no-project conditions to an unacceptable level (LOS E or F for local intersections) under project conditions, or
2. The level of service at the intersection is an unacceptable level under no-project conditions and the addition of project trips causes the average critical delay to increase by four (4) or



more seconds and causes the critical-movement volume-to-capacity ratio (V/C) to increase by one percent (.01) or more.

A significant impact is said to be satisfactorily mitigated when measures are implemented that would restore intersection conditions to its level of service standard or to an average delay that is better than no-project conditions.

Existing Intersection Levels of Service

The existing lane configurations at the study intersections were obtained from field observations. Existing traffic volumes were obtained from traffic counts conducted on May 9, 2019. The existing AM and PM peak hour intersection volumes are shown graphically on Figure 3. Volumes under existing conditions are presented in Appendix A.

Intersection levels of service were evaluated against the Los Altos standards (see Tables 2). The results of the analysis show that the study intersection currently operates at acceptable levels during both AM and PM peak periods. The intersection level of service calculation sheets are included in Appendix B.

Table 2
Existing Intersection Level of Service Summary

| # | Intersection | LOS Standards | Peak Hour | Count Date | Existing | |
|---|-----------------------------|---------------|-----------|------------|-----------|-----|
| | | | | | Avg Delay | LOS |
| 1 | El Camino Real & Jordan Ave | D | AM | 5/9/2019 | 19.7 | B - |
| | | | PM | 5/9/2019 | 14.2 | B |

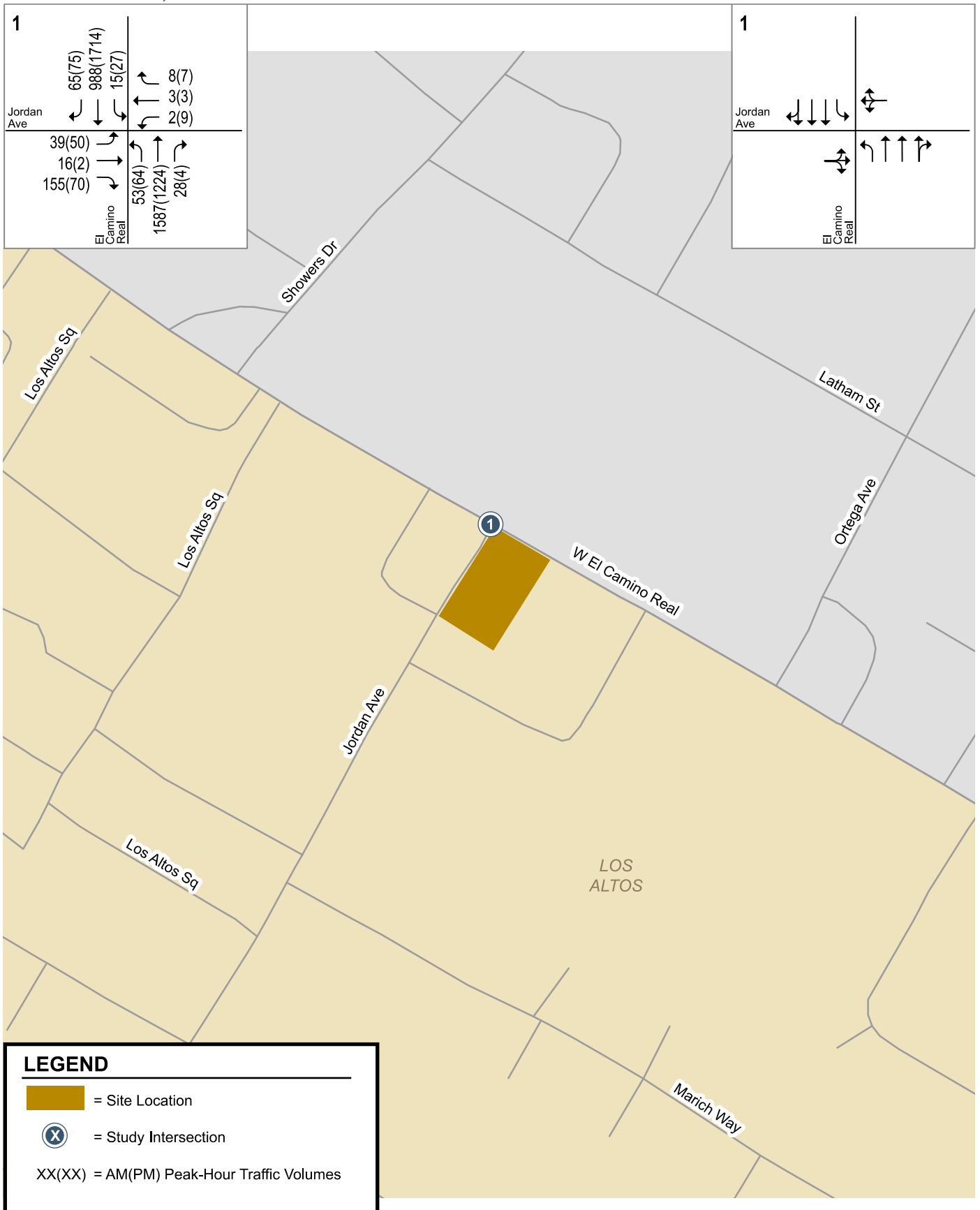


Figure 3
Existing Intersection Lane Configurations and Traffic Volumes



Near-Term Conditions

Near-term peak hour traffic volumes were estimated by applying a growth factor (2 percent per year) for five years to existing traffic volumes. Since there are numerous projects in the Cities of Los Altos and Mountain View that would add traffic, and El Camino Real is a major regional route, a 2 percent per year growth factor was used to represent the added traffic along El Camino Real. This is a very high growth factor and is expected to account for all known projects plus regional growth. Volumes under background conditions are presented in Appendix C. The results of the intersection level of service analysis under near-term conditions are summarized in Table 3. The results of the analysis show that the study intersection would operate at acceptable levels of service during both AM and PM peak periods under background conditions. The intersection level of service calculation sheets are included in Appendix B.

Table 3
Near-Term Condition Intersection Level of Service Summary

| # | Intersection | LOS Standards | Peak Hour | Existing | | Near-Term | |
|---|-----------------------------|---------------|-----------|-----------|-----|-----------|-----|
| | | | | Avg Delay | LOS | Avg Delay | LOS |
| 1 | El Camino Real & Jordan Ave | D | AM | 19.7 | B - | 20.0 | C+ |
| | | | PM | 14.2 | B | 14.3 | B |

Project Trip Generation

The magnitude of traffic generated by the project was estimated by multiplying the applicable trip generation rates by the size of the development. The Institute of Transportation Engineers (ITE) manual entitled *Trip Generation, 10th Edition* was used for the analysis. The trip generation rates used for the proposed development are based on the rates published for “Multi-Family Housing -- Mid-Rise” (ITE Code 221). Based on these rates, the proposed project would generate 114 daily trips with 8 trips during the AM peak hour and 9 trips during the PM peak hour (see Table 1).

Traffic counts at the existing site driveways were conducted on April 30, 2019 to quantify the peak-hour trips generated by the existing uses (see Appendix A). Based on the driveway counts, the existing uses on site generate 0 trips during the AM peak hour and 16 trips during the PM peak hour. These trips were deducted from the estimated number of trips generated by the proposed new residential development, which results in a net increase of 72 daily trips with 10 more trips in the AM peak hour and 4 fewer trips in the PM peak hour. The project trip generation estimates are presented in Table 4. Since the proposed project would add more than 50 new daily trips, a full transportation impact analysis was conducted per the Los Altos General Plan’s Circulation Element.



**Table 4
 Trip Generation Estimates for 4898 El Camino Real, Los Altos**

| Land Use | Size | Unit | Daily Rate | | AM Peak Hour | | | PM Peak Hour | | | | | |
|---|-------|-------|------------|-----------|--------------|----------|----------|--------------|-----------|----------|-----------|-----------|-----------|
| | | | Rate | Trips | Rate | In | Out | Trips | Rate | In | Out | Trips | |
| <i>Proposed Project</i> | | | | | | | | | | | | | |
| Residential ¹ | 28 | units | 5.44 | 152 | 0.36 | 3 | 7 | 10 | 0.44 | 7 | 5 | 12 | |
| <i>Existing Uses</i> | | | | | | | | | | | | | |
| Retail, office, school, & et al. ² | 8,396 | ksf | | 80 | | 0 | 0 | 0 | 0 | 8 | 8 | 16 | |
| <i>Total Existing</i> | 8,396 | ksf | | 80 | | 0 | 0 | 0 | | 8 | 8 | 16 | |
| Net Project | | | | | 72 | | 3 | 7 | 10 | | -1 | -3 | -4 |
| Notes: | | | | | | | | | | | | | |
| All rates are from: Institute of Transportation Engineers, <i>Trip Generation, 10th Edition, 2017</i> | | | | | | | | | | | | | |
| 1. Land Use Code 221: Multifamily Housing (Mid-Rise) (average rates, expressed in trips per unit) | | | | | | | | | | | | | |
| 2. Based on driveway counts at the existing site driveways on April 30, 2019. Daily estimated as 10 times average of AM and PM. | | | | | | | | | | | | | |

Project Trip Distribution and Assignment

The project trips were assigned to the surrounding roadway network based on existing travel patterns in the study area and the locations of complementary land uses (see Figure 4).

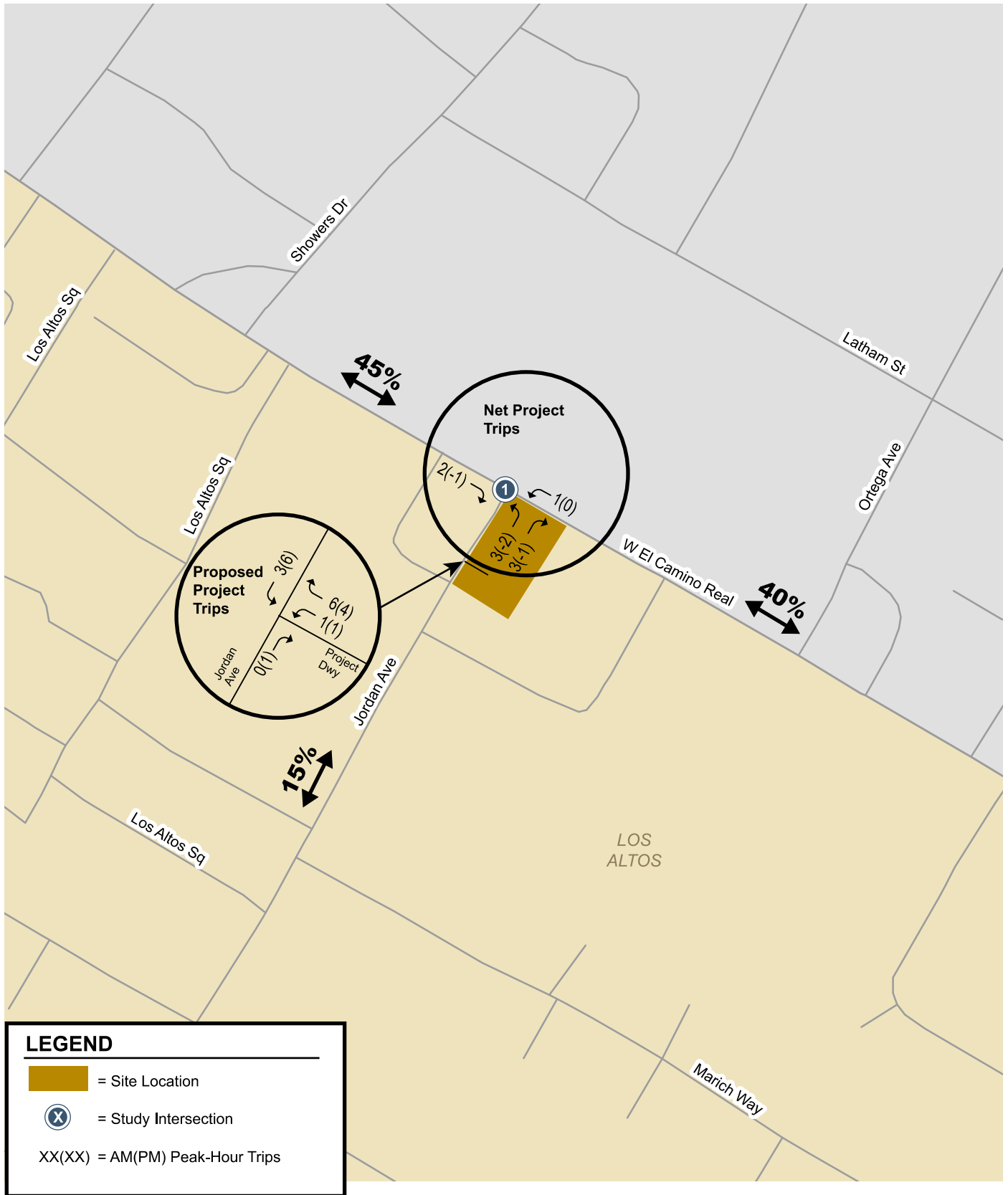


Figure 4
Project Trip Distribution Patterns and Project Trip Assignment



Project Conditions Intersection Levels of Service

Project impacts were evaluated relative to both (1) existing traffic volumes and (2) near-term traffic volumes. For the existing plus project scenario, the net new trips generated by the proposed developments were added to the existing traffic volumes to derive the existing plus project traffic volumes (see Figure 5). For the near-term plus project scenario, the net new trips generated by the proposed development were added to the near-term traffic volumes to derive the near-term plus project traffic volumes (see Figure 6).

The results of the analysis indicate that the project would not create a significant impact at the study intersection under any scenarios. Table 5 summarizes the results of the peak-hour intersection level of service analysis. The intersection of El Camino Real and Jordan Avenue would operate at LOS C during the AM peak hour and LOS B during the PM peak hour under both existing plus project conditions and near-term plus project conditions. The intersection level of service calculation sheets are included in Appendix B.

Table 5
Intersection Level of Service Summary

| # | Intersection | LOS Standards | Peak Hour | Existing | | Existing Plus Project | | | | Near-Term | | Near-Term Plus Project | | | |
|---|-----------------------------|---------------|-----------|-----------|-----|-----------------------|-----|----------------------|--------------------|-----------|-----|------------------------|-----|----------------------|--------------------|
| | | | | Avg Delay | LOS | Avg Delay | LOS | Incr. In Crit. Delay | Incr. In Crit. V/C | Avg Delay | LOS | Avg Delay | LOS | Incr. In Crit. Delay | Incr. In Crit. V/C |
| 1 | El Camino Real & Jordan Ave | D | AM | 19.7 | B - | 20.1 | C+ | 0.4 | 0.004 | 20.0 | C + | 20.4 | C + | 0.4 | 0.004 |
| | | | PM | 14.2 | B | 14.0 | B | -0.2 | -0.002 | 14.3 | B | 14.2 | B | -0.2 | -0.002 |

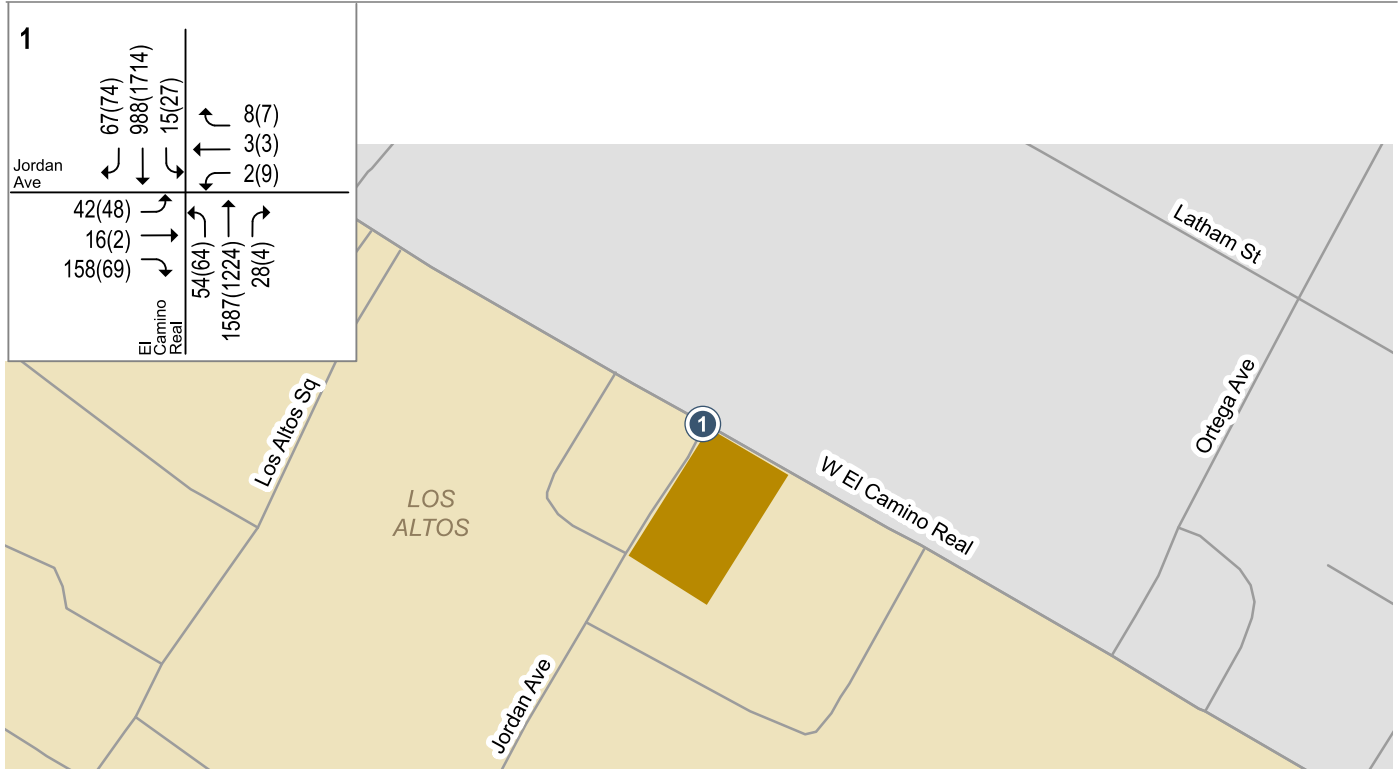


Figure 5
Existing Plus Project Traffic Volumes

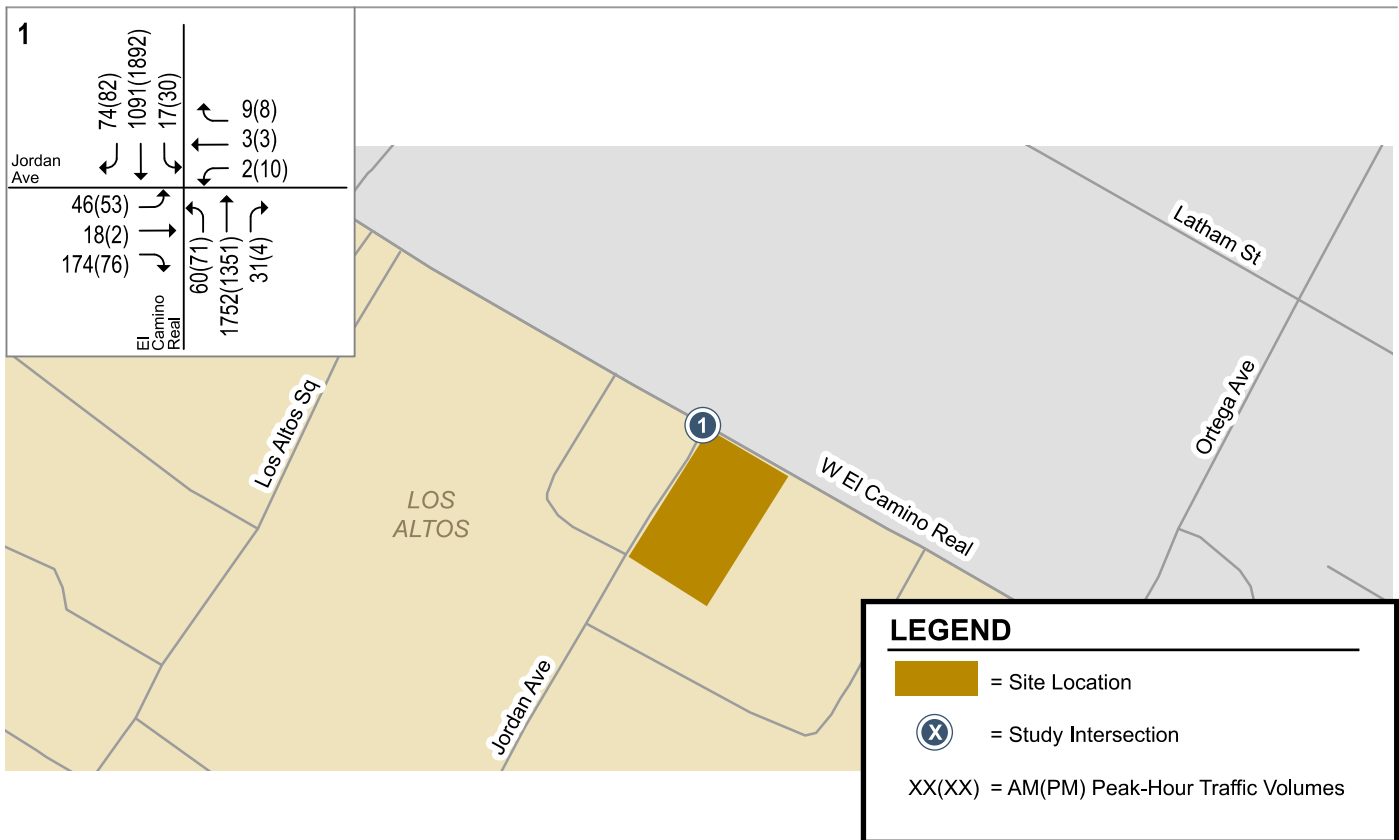


Figure 6
Near-Term Plus Project Traffic Volumes



Parking

The proposed project would provide 6 Below Market Rate (BMR) units, which is more than 10 percent of the total number of units. According to the Los Altos Municipal Code Ordinance 14.28.040 (C), the project would be eligible for a density bonus and would be qualified for a parking reduction. According to the Los Altos Municipal Code, Ordinance 14.28.040 (G), for any development eligible for a density bonus, upon the request of the developer, the city shall not impose a parking requirement, inclusive of handicapped and guest parking, of a development, that exceeds the following requirements:

- i. For zero to one bedroom, one onsite parking space.
- ii. For two to three bedrooms, two onsite parking spaces.
- iii. For four and more bedrooms, two and one-half parking spaces.

According to the city code, the project would require a total of 52 parking spaces (4 for one-bedroom units and 48 for two- and three-bedroom units). The site plan shows a two-level underground parking garage with a total of 55 parking spaces. Of the 55 parking spaces, there would be 53 regular spaces and 2 handicapped accessible spaces. The site plan also shows that 21 spaces would be installed with charging station for electric vehicles. Thus, the parking would meet the City requirement.

Project Site Circulation and Access

The project's site circulation and access were evaluated in accordance with generally accepted traffic engineering standards based on project plans dated July 2, 2019. The project would provide a single two-way driveway onto Jordan Avenue. Parking would be provided in a two-level basement garage as shown on Figures 7A and 7B. A description of the various design elements of the site circulation and access is provided below.

Driveway Design. The project driveway on Jordan Avenue would be approximately 20 feet wide leading in and out of the basement parking garage. This width is adequate for a low-volume, two-way driveway, and for truck access, as described below. The low volume of project traffic would result in only brief delays for exiting vehicles. Outbound vehicle queues would rarely exceed one or two vehicles. Sight distance at the project driveway would be adequate provided (1) the landscaping is kept at a low level within 10 feet of the curb face on Jordan Avenue and (2) sight distance is not blocked by parked vehicles. There already is a red zone to the left of the driveway (when exiting). In addition, a red zone would be painted for 24 feet to the right of the driveway to provide adequate sight distance. A stop sign and stop bar would be provided where the driveway intersects Jordan Avenue to help with the safety of pedestrians and bicycles. In addition, an audible and visible warning sign would be installed to alert pedestrians and bicycles when a vehicle is exiting the garage.

Ramp Design. The proposed garage ramps were measured to be 22 feet wide, which meets the minimum width for a two-way drive aisle set forth by the City of Los Altos Zoning Code (14.74.200). The proposed garage ramp is shown to have a maximum slope of 20% with 10% transitions on each side. These dimensions are acceptable. Commonly cited parking publications recommend grades of up to 16% on ramps where no parking is permitted, but grades of up to 20% are cited as acceptable when ramps are covered (i.e. protected from weather) and not used for pedestrian walkways. It should be noted that the vast majority of ramp users will be residents, and thus, will quickly become accustomed to steeper grades.



Garage Design. On each level of the parking garage, there would be two rows of parking to the west of the ramp. On both rows, parking would be provided at 90 degrees to the main drive aisle. The drive aisles through the parking garage are shown to be 26 feet wide, which would provide sufficient room for vehicles to enter or back out of the 90-degree parking stalls. Site access and circulation were evaluated using AutoTurn with vehicle turning movement templates for a typical AASHTO Passenger Car defined in AASHTO handbook 2011. Some examples of this type of vehicles are: 2018 Cadillac Escalade, 2018 GMC Yukon, 2018 Chevrolet Suburban, 2018 Ford Expedition, and 2018 Toyota Sequoia. The turning template check shows that passenger vehicles (18 feet in length) would be able to access, circulate, and exit the garage (see Figures 7A and 7B).

The plan specifies a total of 9 guest parking spaces within the upper level of the garage. 1 of those 9 parking spaces will be ADA accessible. The parking area has dead-end aisles, but there is 26 feet between the two rows of parking spaces, which would allow cars to make a multi-point turn to exit. Residents parking spaces would be assigned.

Truck Access. A 10' x 25' loading space is shown adjacent to the project driveway. This meets the City's minimum requirement of 10' x 25' for a loading area. Hexagon checked the turning radius with vehicle turning movement templates, and the results show that a small delivery truck (SU-30) would be able to back into and exit the loading area without any issues. Figure 8 shows a potential turning path created using AutoTurn with vehicle turning movement templates for a typical AASHTO vehicle.

Bike Parking. The Valley Transportation Authority (VTA) provides guidelines for bike parking in its publication *Bike Technical Guidelines*. Class I spaces are defined as spaces that protect the entire bike and its components from theft, such as in a secure designated room or a bike locker. Class II spaces provide an opportunity to secure at least one wheel and the frame using a lock, such as bike racks. For multi-family dwelling units, VTA recommends one Class I space per three dwelling units and one Class II space per 15 dwelling units. For the proposed project, this would equate to 10 Class I spaces and 2 Class II spaces. The project site plan shows a bicycle storage room on the lower level of the garage that would accommodate 21 bicycles and 4 bike racks with 110V electric outlets for charging electric bikes. The 20% grade of the bike ramp is too steep for bicycles, therefore cyclists would need to use the elevator to get to and from the bicycle storage room.

Pedestrian Access. The project would provide a paved walkway between the existing sidewalk on Jordan Avenue and the building entrance.

Generally, the design of the project site circulation and access is consistent with urban design practices. The presence of the garage ramp, short onsite drive aisles, and "confined" feel of the parking garage would serve to keep vehicles operating at very low speeds. In addition, the low traffic volume onsite means that the frequency of vehicle conflicts would be relatively low.

Conclusions

This analysis produced the following conclusions:

- The proposed development would not result in any significant impacts to the study intersection during the AM and PM peak hours under both existing plus project and near-term plus project conditions.



- Relative to the existing use, the project would generate 72 more daily trips, including 10 new trips during the AM peak hour and 4 fewer trips during the PM peak hour. The amount of additional traffic generated would be low, and there would be no impact on the greater transportation network.
- The project meets the city requirements for the number of parking spaces.
- Commonly cited parking publications recommend grades of up to 16% on ramps where no parking is permitted, but grades of up to 20% are cited as acceptable under conditions that are present here. The grade of the garage access ramp is acceptable.
- The proposed plan shows good circulation through the two levels of the garage. The drive aisle is shown to be 26 feet wide and would provide sufficient room for vehicles to back out of the 90-degree parking stalls. The vehicle turning paths would result in minimal encroachment, which is not expected to be a problem.
- The driveway is shown to be 20 feet, which will allow trucks to back into and exit the loading zone without any obstructions.
- Outbound at the project driveway on Jordan Avenue, the low volume of traffic would result in brief delays and short vehicle queues. Sight distance at the project driveway would be adequate provided (1) the landscaping is kept at a low level within 10 feet of the curb face on Jordan Avenue and (2) sight distance is not blocked by parked vehicles. Parking should be prohibited on Jordan Avenue within 15 feet west of the driveway. Currently, a 15-foot long red curb is marked on Jordan Avenue west of the project driveway. The site plan shows that the red curb west of the project driveway would be extended to 19 feet and a red zone would be painted for 24 feet to the right of the driveway to provide adequate sight distance.
- The project would exceed the bike parking standards recommended by VTA.

This concludes Hexagon's transportation analysis of the proposed project at 4898 El Camino Real.

Sincerely,

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Gary K. Black
President

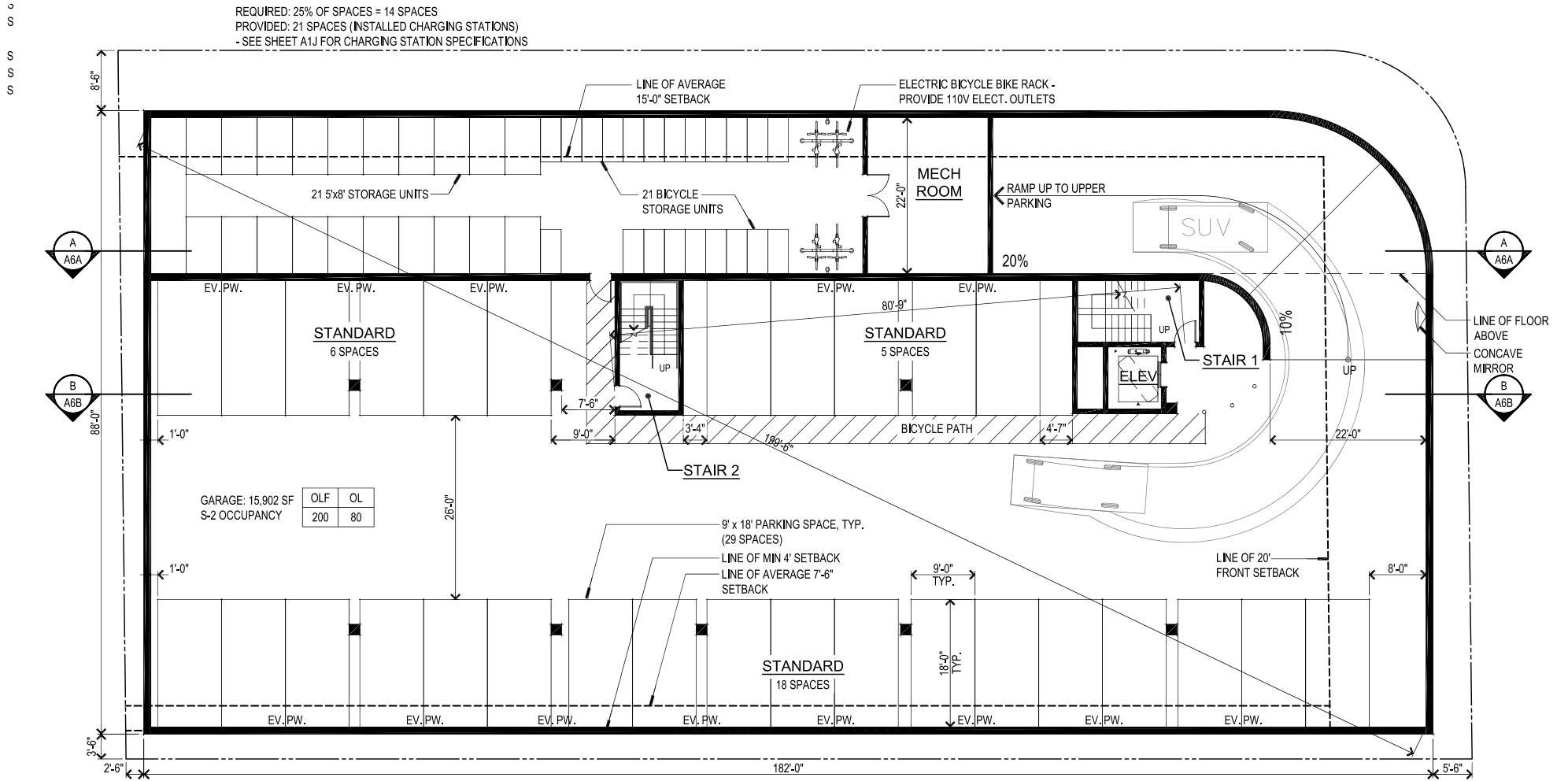


Figure 7A
 Lower Level Basement Turning Movements

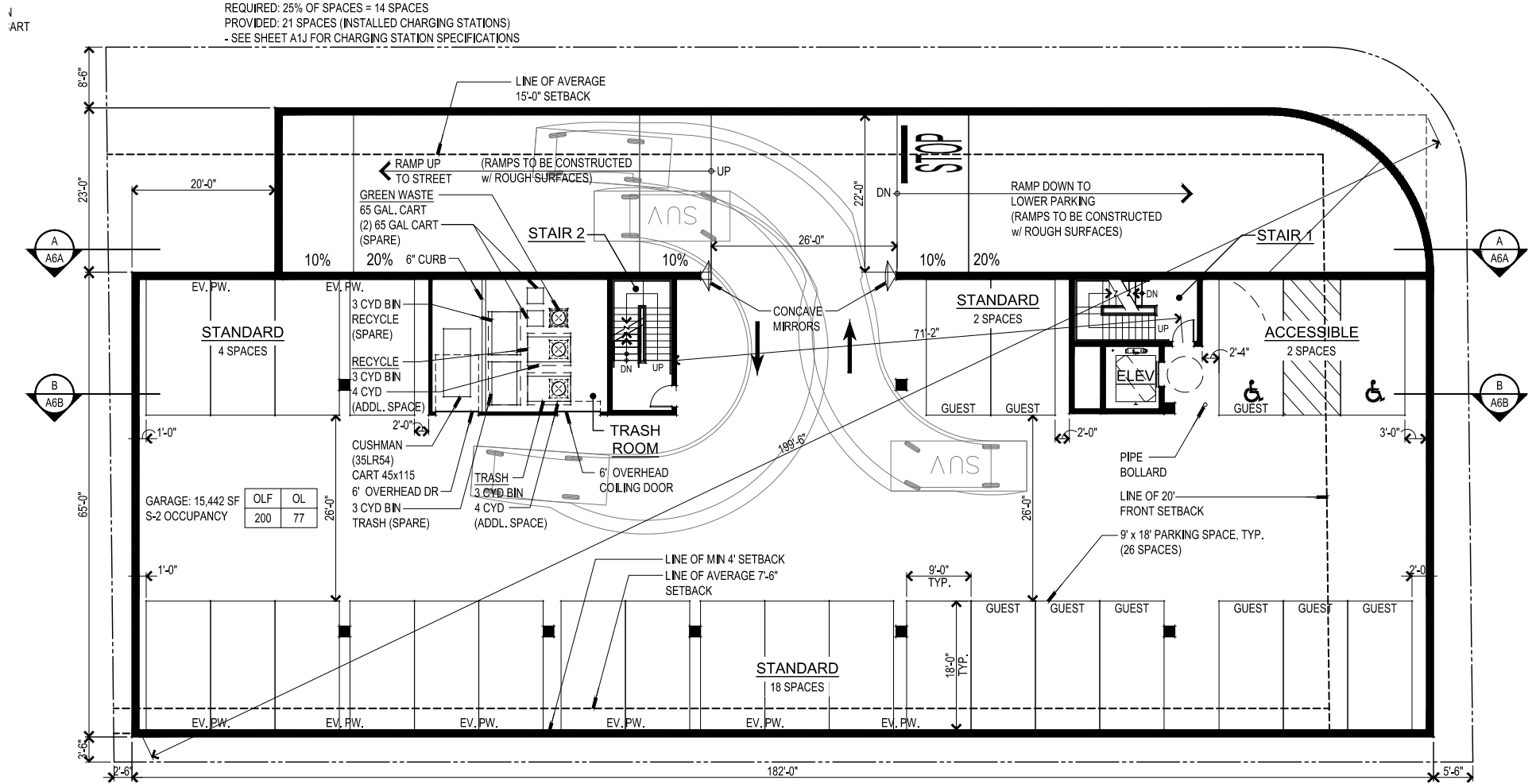


Figure 7B
 Upper Level Basement Turning Movements

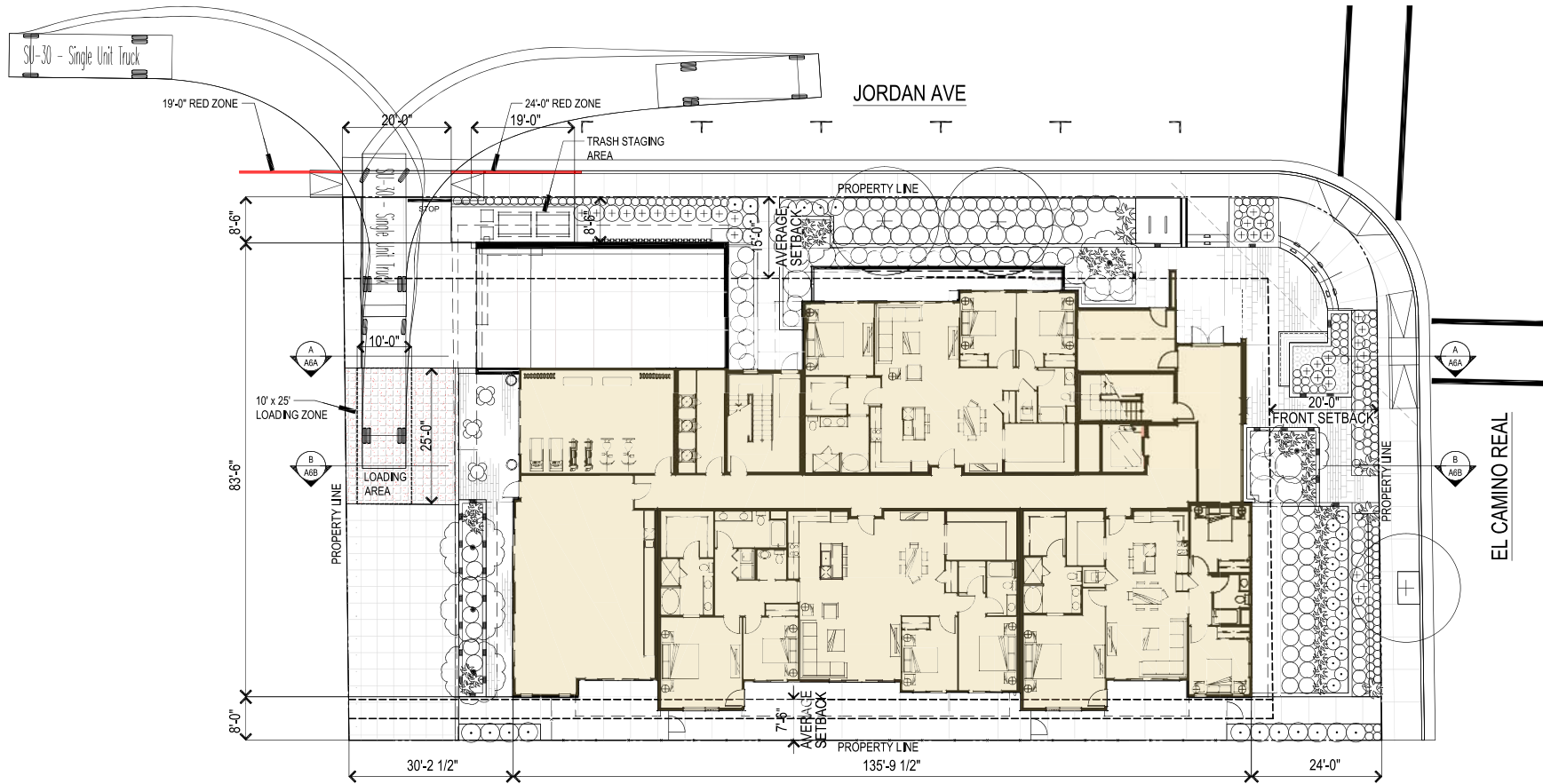


Figure 8
Loading Zone Turning Movement



Appendix A

Traffic Counts



(303) 216-2439
www.alltrafficdata.net

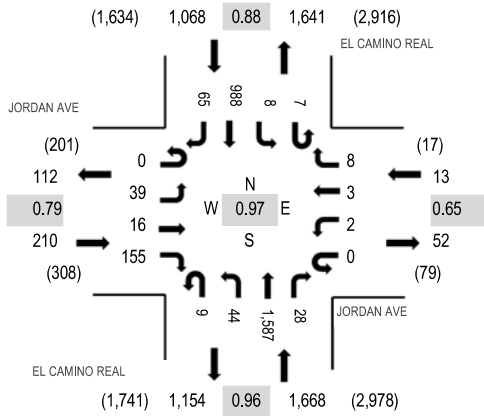
Location: 1 EL CAMINO REAL & JORDAN AVE AM

Date: Thursday, May 9, 2019

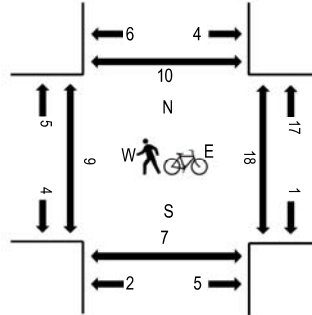
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

| Interval Start Time | JORDAN AVE Eastbound | | | | JORDAN AVE Westbound | | | | EL CAMINO REAL Northbound | | | | EL CAMINO REAL Southbound | | | | Total | Rolling Hour | Pedestrian Crossings | | | | |
|------------------------|-------------------------|------|------|-------|-------------------------|------|------|-------|------------------------------|------|------|-------|------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North | |
| 7:00 AM | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 265 | 4 | 1 | 0 | 83 | 10 | 377 | 1,978 | 3 | 3 | 0 | 0 |
| 7:15 AM | 0 | 6 | 1 | 7 | 0 | 0 | 0 | 1 | 1 | 1 | 8 | 299 | 6 | 0 | 1 | 96 | 11 | 437 | 2,334 | 2 | 2 | 0 | 2 |
| 7:30 AM | 0 | 3 | 2 | 15 | 0 | 1 | 0 | 1 | 1 | 1 | 9 | 315 | 3 | 3 | 1 | 148 | 8 | 510 | 2,636 | 0 | 1 | 2 | 2 |
| 7:45 AM | 0 | 3 | 3 | 52 | 0 | 0 | 1 | 0 | 0 | 0 | 8 | 377 | 6 | 0 | 0 | 177 | 27 | 654 | 2,890 | 2 | 5 | 0 | 0 |
| 8:00 AM | 0 | 6 | 1 | 42 | 0 | 0 | 1 | 0 | 3 | 7 | 417 | 8 | 1 | 2 | 224 | 21 | 733 | 2,959 | 2 | 1 | 2 | 0 | |
| 8:15 AM | 0 | 8 | 2 | 43 | 0 | 0 | 0 | 2 | 1 | 9 | 362 | 7 | 2 | 2 | 277 | 24 | 739 | | 1 | 6 | 0 | 7 | |
| 8:30 AM | 0 | 18 | 6 | 50 | 0 | 2 | 2 | 1 | 2 | 18 | 393 | 5 | 4 | 1 | 252 | 10 | 764 | | 1 | 8 | 0 | 2 | |
| 8:45 AM | 0 | 7 | 7 | 20 | 0 | 0 | 0 | 5 | 3 | 10 | 415 | 8 | 0 | 3 | 235 | 10 | 723 | | 5 | 2 | 2 | 0 | |

Peak Rolling Hour Flow Rates

| Vehicle Type | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | Total |
|--------------------|-----------|------|------|-------|-----------|------|------|-------|------------|------|-------|-------|------------|------|------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | |
| Articulated Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 5 | 0 | 12 |
| Bicycles on Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lights | 0 | 39 | 16 | 155 | 0 | 2 | 3 | 7 | 9 | 43 | 1,550 | 28 | 7 | 7 | 950 | 63 | 2,879 |
| Mediums | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 30 | 0 | 0 | 1 | 33 | 2 | 68 |
| Total | 0 | 39 | 16 | 155 | 0 | 2 | 3 | 8 | 9 | 44 | 1,587 | 28 | 7 | 8 | 988 | 65 | 2,959 |



(303) 216-2439
www.alltrafficdata.net

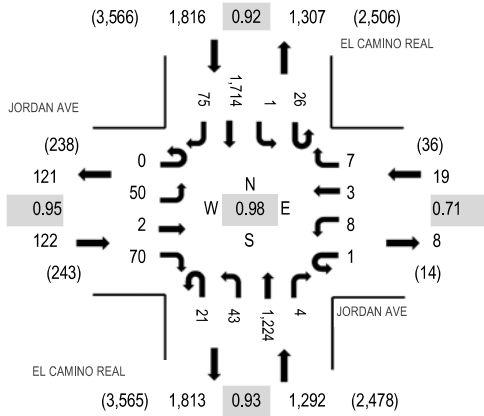
Location: 1 EL CAMINO REAL & JORDAN AVE PM

Date: Thursday, May 9, 2019

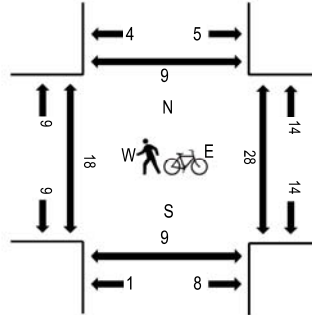
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:45 PM - 06:00 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

| Interval Start Time | JORDAN AVE Eastbound | | | | JORDAN AVE Westbound | | | | EL CAMINO REAL Northbound | | | | EL CAMINO REAL Southbound | | | | Total | Rolling Hour | Pedestrian Crossings | | | |
|------------------------|-------------------------|------|------|-------|-------------------------|------|------|-------|------------------------------|------|------|-------|------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| 4:00 PM | 0 | 13 | 0 | 22 | 0 | 0 | 2 | 2 | 6 | 11 | 294 | 1 | 8 | 1 | 369 | 16 | 745 | 3,074 | 4 | 2 | 2 | 2 |
| 4:15 PM | 0 | 12 | 0 | 23 | 0 | 0 | 2 | 2 | 7 | 15 | 256 | 1 | 6 | 0 | 477 | 13 | 814 | 3,143 | 8 | 3 | 0 | 2 |
| 4:30 PM | 0 | 11 | 0 | 10 | 0 | 1 | 1 | 3 | 4 | 8 | 259 | 0 | 8 | 1 | 423 | 16 | 745 | 3,143 | 6 | 5 | 0 | 0 |
| 4:45 PM | 0 | 15 | 0 | 15 | 0 | 0 | 1 | 3 | 5 | 15 | 302 | 2 | 5 | 0 | 390 | 17 | 770 | 3,191 | 4 | 3 | 3 | 4 |
| 5:00 PM | 0 | 14 | 0 | 18 | 0 | 3 | 0 | 1 | 0 | 10 | 288 | 1 | 5 | 0 | 455 | 19 | 814 | 3,249 | 8 | 7 | 3 | 3 |
| 5:15 PM | 0 | 11 | 0 | 20 | 0 | 2 | 2 | 1 | 5 | 8 | 334 | 1 | 9 | 0 | 401 | 20 | 814 | | 4 | 6 | 0 | 1 |
| 5:30 PM | 0 | 11 | 1 | 16 | 0 | 3 | 0 | 4 | 6 | 11 | 311 | 1 | 7 | 0 | 401 | 21 | 793 | | 3 | 3 | 1 | 1 |
| 5:45 PM | 0 | 14 | 1 | 16 | 1 | 0 | 1 | 1 | 10 | 14 | 291 | 1 | 5 | 1 | 457 | 15 | 828 | | 2 | 8 | 0 | 3 |

Peak Rolling Hour Flow Rates

| Vehicle Type | Eastbound | | | | Westbound | | | | Northbound | | | | Southbound | | | | Total |
|--------------------|-----------|------|------|-------|-----------|------|------|-------|------------|------|-------|-------|------------|------|-------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | |
| Articulated Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 3 |
| Bicycles on Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lights | 0 | 50 | 2 | 69 | 1 | 8 | 3 | 6 | 21 | 43 | 1,206 | 4 | 26 | 1 | 1,691 | 74 | 3,205 |
| Mediums | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 16 | 0 | 0 | 0 | 22 | 1 | 41 |
| Total | 0 | 50 | 2 | 70 | 1 | 8 | 3 | 7 | 21 | 43 | 1,224 | 4 | 26 | 1 | 1,714 | 75 | 3,249 |

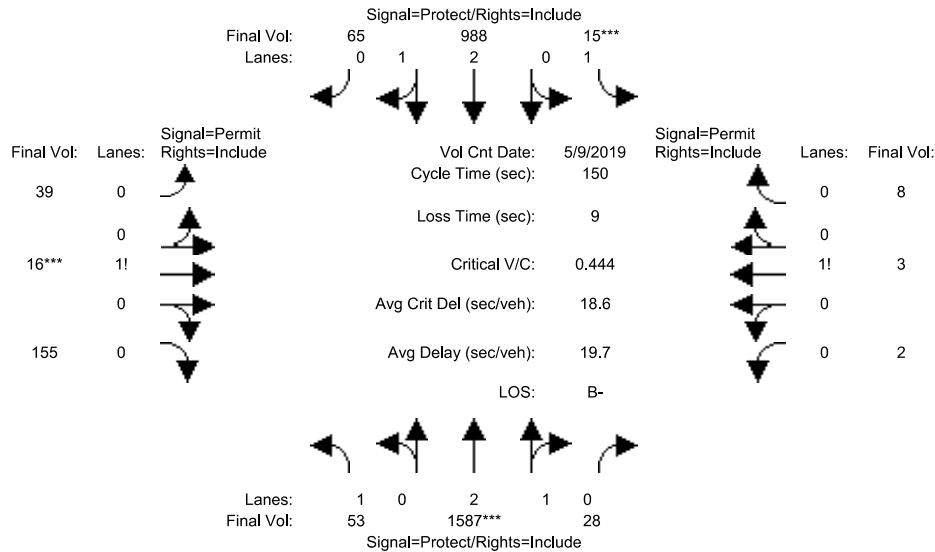


Appendix B

Level of Service Calculations

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Existing AM

Intersection #1: El Camino Real & Jordan Ave



| Street Name: | El Camino Real | | | | | | Jordan Ave | | | | | |
|--------------|----------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Approach: | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

| Volume Module: | >> | Count | Date: | 9 May 2019 | << | | | | | | | | | | | | |
|----------------|------|-------|-------|------------|------|------|------|------|------|------|------|------|--|--|--|--|--|
| Base Vol: | 53 | 1587 | 28 | 15 | 988 | 65 | 39 | 16 | 155 | 2 | 3 | 8 | | | | | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| Initial Bse: | 53 | 1587 | 28 | 15 | 988 | 65 | 39 | 16 | 155 | 2 | 3 | 8 | | | | | |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| PasserByVol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Initial Fut: | 53 | 1587 | 28 | 15 | 988 | 65 | 39 | 16 | 155 | 2 | 3 | 8 | | | | | |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| PHF Volume: | 53 | 1587 | 28 | 15 | 988 | 65 | 39 | 16 | 155 | 2 | 3 | 8 | | | | | |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Reduced Vol: | 53 | 1587 | 28 | 15 | 988 | 65 | 39 | 16 | 155 | 2 | 3 | 8 | | | | | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| Final Volume: | 53 | 1587 | 28 | 15 | 988 | 65 | 39 | 16 | 155 | 2 | 3 | 8 | | | | | |

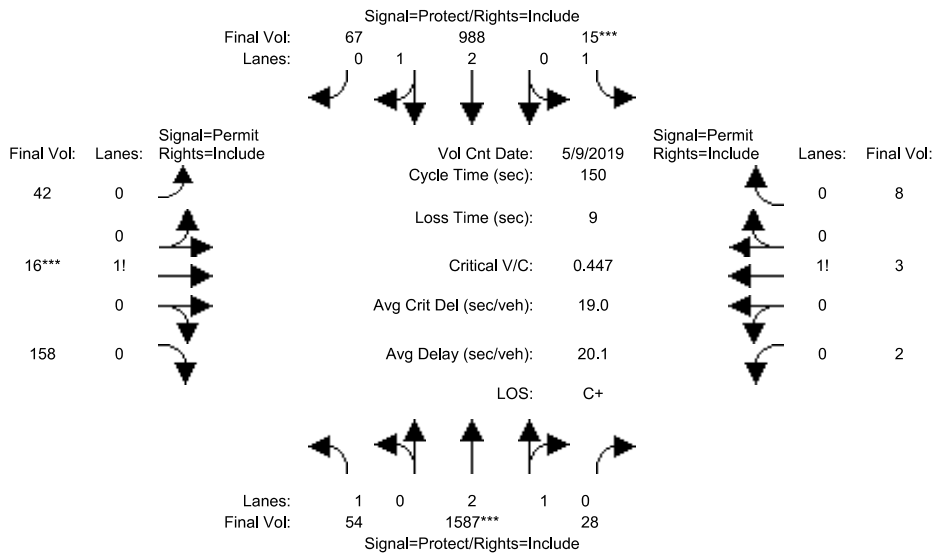
| Saturation Flow Module: | | | | | | | | | | | | |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.98 | 0.95 | 0.92 | 0.98 | 0.95 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 2.95 | 0.05 | 1.00 | 2.81 | 0.19 | 0.18 | 0.08 | 0.74 | 0.15 | 0.23 | 0.62 |
| Final Sat.: | 1750 | 5503 | 97 | 1750 | 5254 | 346 | 325 | 133 | 1292 | 269 | 404 | 1077 |

| Capacity Analysis Module: | | | | | | | | | | | | |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat: | 0.03 | 0.29 | 0.29 | 0.01 | 0.19 | 0.19 | 0.12 | 0.12 | 0.12 | 0.01 | 0.01 | 0.01 |
| Crit Moves: | **** | | | **** | | | **** | | | | | |
| Green Time: | 20.2 | 94.6 | 94.6 | 7.0 | 81.4 | 81.4 | 39.4 | 39.4 | 39.4 | 39.4 | 39.4 | 39.4 |
| Volume/Cap: | 0.22 | 0.46 | 0.46 | 0.18 | 0.35 | 0.35 | 0.46 | 0.46 | 0.46 | 0.03 | 0.03 | 0.03 |
| Uniform Del: | 57.9 | 14.4 | 14.4 | 68.8 | 19.3 | 19.3 | 46.4 | 46.4 | 46.4 | 41.1 | 41.1 | 41.1 |
| IncrementDel: | 0.5 | 0.1 | 0.1 | 1.1 | 0.1 | 0.1 | 0.7 | 0.7 | 0.7 | 0.0 | 0.0 | 0.0 |
| InitQueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 58.4 | 14.5 | 14.5 | 69.8 | 19.4 | 19.4 | 47.1 | 47.1 | 47.1 | 41.1 | 41.1 | 41.1 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 58.4 | 14.5 | 14.5 | 69.8 | 19.4 | 19.4 | 47.1 | 47.1 | 47.1 | 41.1 | 41.1 | 41.1 |
| LOS by Move: | E+ | B | B | E | B- | B- | D | D | D | D | D | D |
| HCM2k95thQ: | 5 | 23 | 23 | 2 | 17 | 17 | 16 | 16 | 16 | 1 | 1 | 1 |

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Ex+Project AM

Intersection #1: El Camino Real & Jordan Ave



| Street Name: | El Camino Real | | | | | | Jordan Ave | | | | | |
|--------------|----------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Approach: | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

| Volume Module: | >> | Count | Date: | 9 May 2019 | << | | | | | | | | | | | |
|----------------|------|-------|-------|------------|------|------|------|------|------|------|------|------|--|--|--|--|
| Base Vol: | 53 | 1587 | 28 | 15 | 988 | 65 | 39 | 16 | 155 | 2 | 3 | 8 | | | | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Initial Bse: | 53 | 1587 | 28 | 15 | 988 | 65 | 39 | 16 | 155 | 2 | 3 | 8 | | | | |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Proj Trips: | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 3 | 0 | 0 | 0 | | | | |
| Initial Fut: | 54 | 1587 | 28 | 15 | 988 | 67 | 42 | 16 | 158 | 2 | 3 | 8 | | | | |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Volume: | 54 | 1587 | 28 | 15 | 988 | 67 | 42 | 16 | 158 | 2 | 3 | 8 | | | | |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Reduced Vol: | 54 | 1587 | 28 | 15 | 988 | 67 | 42 | 16 | 158 | 2 | 3 | 8 | | | | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Final Volume: | 54 | 1587 | 28 | 15 | 988 | 67 | 42 | 16 | 158 | 2 | 3 | 8 | | | | |

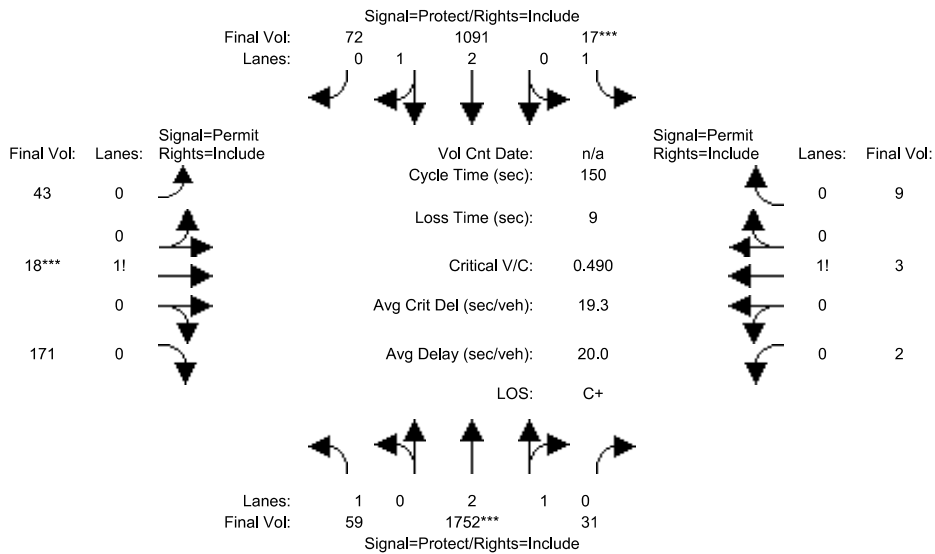
| Saturation Flow Module: | | | | | | | | | | | | |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.98 | 0.95 | 0.92 | 0.98 | 0.95 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 2.95 | 0.05 | 1.00 | 2.80 | 0.20 | 0.19 | 0.07 | 0.74 | 0.15 | 0.23 | 0.62 |
| Final Sat.: | 1750 | 5503 | 97 | 1750 | 5244 | 356 | 340 | 130 | 1280 | 269 | 404 | 1077 |

| Capacity Analysis Module: | | | | | | | | | | | | |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat: | 0.03 | 0.29 | 0.29 | 0.01 | 0.19 | 0.19 | 0.12 | 0.12 | 0.12 | 0.01 | 0.01 | 0.01 |
| Crit Moves: | **** | | | **** | | | **** | | | | | |
| Green Time: | 20.0 | 93.8 | 93.8 | 7.0 | 80.8 | 80.8 | 40.2 | 40.2 | 40.2 | 40.2 | 40.2 | 40.2 |
| Volume/Cap: | 0.23 | 0.46 | 0.46 | 0.18 | 0.35 | 0.35 | 0.46 | 0.46 | 0.46 | 0.03 | 0.03 | 0.03 |
| Uniform Del: | 58.1 | 14.8 | 14.8 | 68.8 | 19.7 | 19.7 | 45.9 | 45.9 | 45.9 | 40.5 | 40.5 | 40.5 |
| IncrcmntDel: | 0.5 | 0.1 | 0.1 | 1.1 | 0.1 | 0.1 | 0.7 | 0.7 | 0.7 | 0.0 | 0.0 | 0.0 |
| InitQueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 58.6 | 14.9 | 14.9 | 69.8 | 19.7 | 19.7 | 46.6 | 46.6 | 46.6 | 40.5 | 40.5 | 40.5 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 58.6 | 14.9 | 14.9 | 69.8 | 19.7 | 19.7 | 46.6 | 46.6 | 46.6 | 40.5 | 40.5 | 40.5 |
| LOS by Move: | E+ | B | B | E | B- | B- | D | D | D | D | D | D |
| HCM2k95thQ: | 5 | 23 | 23 | 2 | 17 | 17 | 17 | 17 | 17 | 1 | 1 | 1 |

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Near-Term AM

Intersection #1: El Camino Real & Jordan Ave



| Street Name: | El Camino Real | | | | | | Jordan Ave | | | | | |
|--------------|----------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Approach: | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

| Volume Module: | | | | | | | | | | | | |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol: | 59 | 1752 | 31 | 17 | 1091 | 72 | 43 | 18 | 171 | 2 | 3 | 9 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 59 | 1752 | 31 | 17 | 1091 | 72 | 43 | 18 | 171 | 2 | 3 | 9 |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PasserByVol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Fut: | 59 | 1752 | 31 | 17 | 1091 | 72 | 43 | 18 | 171 | 2 | 3 | 9 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 59 | 1752 | 31 | 17 | 1091 | 72 | 43 | 18 | 171 | 2 | 3 | 9 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 59 | 1752 | 31 | 17 | 1091 | 72 | 43 | 18 | 171 | 2 | 3 | 9 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 59 | 1752 | 31 | 17 | 1091 | 72 | 43 | 18 | 171 | 2 | 3 | 9 |

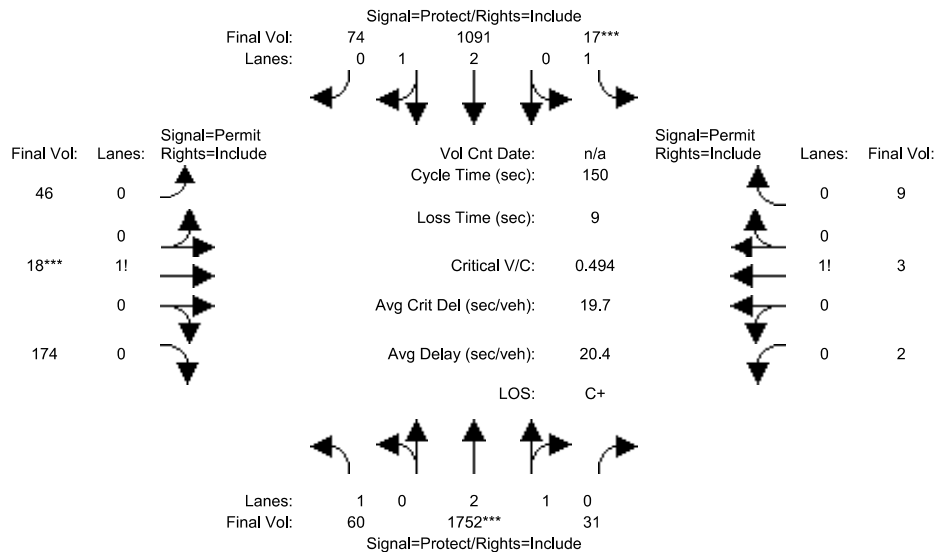
| Saturation Flow Module: | | | | | | | | | | | | |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.98 | 0.95 | 0.92 | 0.98 | 0.95 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 2.95 | 0.05 | 1.00 | 2.81 | 0.19 | 0.18 | 0.08 | 0.74 | 0.14 | 0.21 | 0.65 |
| Final Sat.: | 1750 | 5503 | 97 | 1750 | 5253 | 347 | 324 | 136 | 1290 | 250 | 375 | 1125 |

| Capacity Analysis Module: | | | | | | | | | | | | |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat: | 0.03 | 0.32 | 0.32 | 0.01 | 0.21 | 0.21 | 0.13 | 0.13 | 0.13 | 0.01 | 0.01 | 0.01 |
| Crit Moves: | **** | | | **** | | | **** | | | | | |
| Green Time: | 18.6 | 94.6 | 94.6 | 7.0 | 83.0 | 83.0 | 39.4 | 39.4 | 39.4 | 39.4 | 39.4 | 39.4 |
| Volume/Cap: | 0.27 | 0.50 | 0.50 | 0.21 | 0.38 | 0.38 | 0.50 | 0.50 | 0.50 | 0.03 | 0.03 | 0.03 |
| Uniform Del: | 59.5 | 15.0 | 15.0 | 68.8 | 18.9 | 18.9 | 47.0 | 47.0 | 47.0 | 41.1 | 41.1 | 41.1 |
| IncrcmntDel: | 0.7 | 0.1 | 0.1 | 1.3 | 0.1 | 0.1 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 | 0.0 |
| InitQueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 60.2 | 15.1 | 15.1 | 70.1 | 19.0 | 19.0 | 47.9 | 47.9 | 47.9 | 41.1 | 41.1 | 41.1 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 60.2 | 15.1 | 15.1 | 70.1 | 19.0 | 19.0 | 47.9 | 47.9 | 47.9 | 41.1 | 41.1 | 41.1 |
| LOS by Move: | E | B | B | E | B- | B- | D | D | D | D | D | D |
| HCM2k95thQ: | 6 | 26 | 26 | 2 | 18 | 18 | 18 | 18 | 18 | 1 | 1 | 1 |

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Near-Term +Proj AM

Intersection #1: El Camino Real & Jordan Ave



| Street Name: | El Camino Real | | | | | | Jordan Ave | | | | | |
|--------------|----------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Approach: | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

| Volume Module: | | | | | | | | | | | | |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol: | 59 | 1752 | 31 | 17 | 1091 | 72 | 43 | 18 | 171 | 2 | 3 | 9 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 59 | 1752 | 31 | 17 | 1091 | 72 | 43 | 18 | 171 | 2 | 3 | 9 |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Proj Trips: | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 3 | 0 | 0 | 0 |
| Initial Fut: | 60 | 1752 | 31 | 17 | 1091 | 74 | 46 | 18 | 174 | 2 | 3 | 9 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 60 | 1752 | 31 | 17 | 1091 | 74 | 46 | 18 | 174 | 2 | 3 | 9 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 60 | 1752 | 31 | 17 | 1091 | 74 | 46 | 18 | 174 | 2 | 3 | 9 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 60 | 1752 | 31 | 17 | 1091 | 74 | 46 | 18 | 174 | 2 | 3 | 9 |

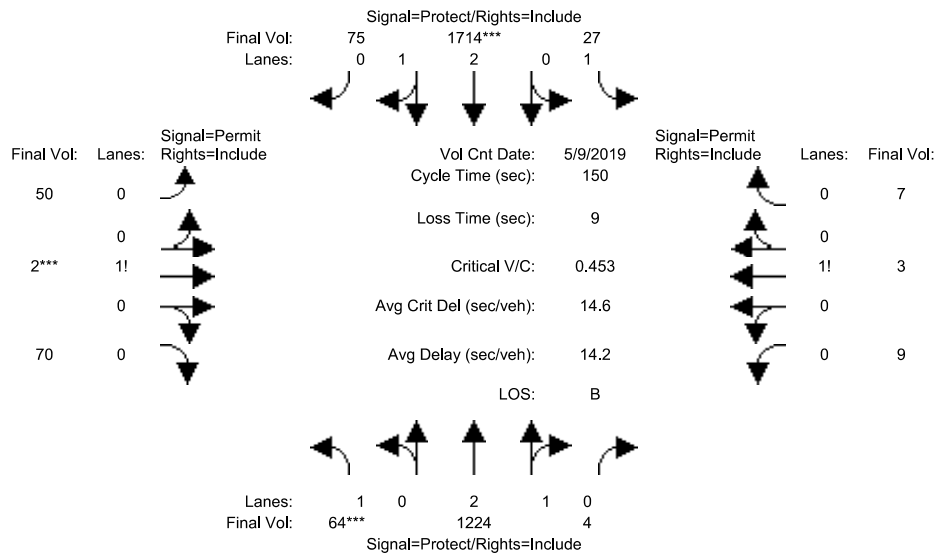
| Saturation Flow Module: | | | | | | | | | | | | |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.98 | 0.95 | 0.92 | 0.98 | 0.95 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 2.95 | 0.05 | 1.00 | 2.80 | 0.20 | 0.19 | 0.08 | 0.73 | 0.14 | 0.21 | 0.65 |
| Final Sat.: | 1750 | 5503 | 97 | 1750 | 5244 | 356 | 338 | 132 | 1279 | 250 | 375 | 1125 |

| Capacity Analysis Module: | | | | | | | | | | | | |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat: | 0.03 | 0.32 | 0.32 | 0.01 | 0.21 | 0.21 | 0.14 | 0.14 | 0.14 | 0.01 | 0.01 | 0.01 |
| Crit Moves: | **** | | | **** | | | **** | | | | | |
| Green Time: | 18.5 | 93.9 | 93.9 | 7.0 | 82.4 | 82.4 | 40.1 | 40.1 | 40.1 | 40.1 | 40.1 | 40.1 |
| Volume/Cap: | 0.28 | 0.51 | 0.51 | 0.21 | 0.38 | 0.38 | 0.51 | 0.51 | 0.51 | 0.03 | 0.03 | 0.03 |
| Uniform Del: | 59.7 | 15.4 | 15.4 | 68.8 | 19.2 | 19.2 | 46.6 | 46.6 | 46.6 | 40.6 | 40.6 | 40.6 |
| IncrcmntDel: | 0.7 | 0.1 | 0.1 | 1.3 | 0.1 | 0.1 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 | 0.0 |
| InitQueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 60.4 | 15.5 | 15.5 | 70.1 | 19.3 | 19.3 | 47.5 | 47.5 | 47.5 | 40.6 | 40.6 | 40.6 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 60.4 | 15.5 | 15.5 | 70.1 | 19.3 | 19.3 | 47.5 | 47.5 | 47.5 | 40.6 | 40.6 | 40.6 |
| LOS by Move: | E | B | B | E | B- | B- | D | D | D | D | D | D |
| HCM2k95thQ: | 6 | 26 | 26 | 2 | 18 | 18 | 19 | 19 | 19 | 1 | 1 | 1 |

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Existing PM

Intersection #1: El Camino Real & Jordan Ave



| Street Name: | El Camino Real | | | | | | Jordan Ave | | | | | |
|--------------|----------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Approach: | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

| Volume Module: | >> | Count | Date: | 9 May 2019 | << | | | | | | | | | | | | |
|----------------|------|-------|-------|------------|------|------|------|------|------|------|------|------|--|--|--|--|--|
| Base Vol: | 64 | 1224 | 4 | 27 | 1714 | 75 | 50 | 2 | 70 | 9 | 3 | 7 | | | | | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| Initial Bse: | 64 | 1224 | 4 | 27 | 1714 | 75 | 50 | 2 | 70 | 9 | 3 | 7 | | | | | |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| PasserByVol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Initial Fut: | 64 | 1224 | 4 | 27 | 1714 | 75 | 50 | 2 | 70 | 9 | 3 | 7 | | | | | |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| PHF Volume: | 64 | 1224 | 4 | 27 | 1714 | 75 | 50 | 2 | 70 | 9 | 3 | 7 | | | | | |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Reduced Vol: | 64 | 1224 | 4 | 27 | 1714 | 75 | 50 | 2 | 70 | 9 | 3 | 7 | | | | | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| Final Volume: | 64 | 1224 | 4 | 27 | 1714 | 75 | 50 | 2 | 70 | 9 | 3 | 7 | | | | | |

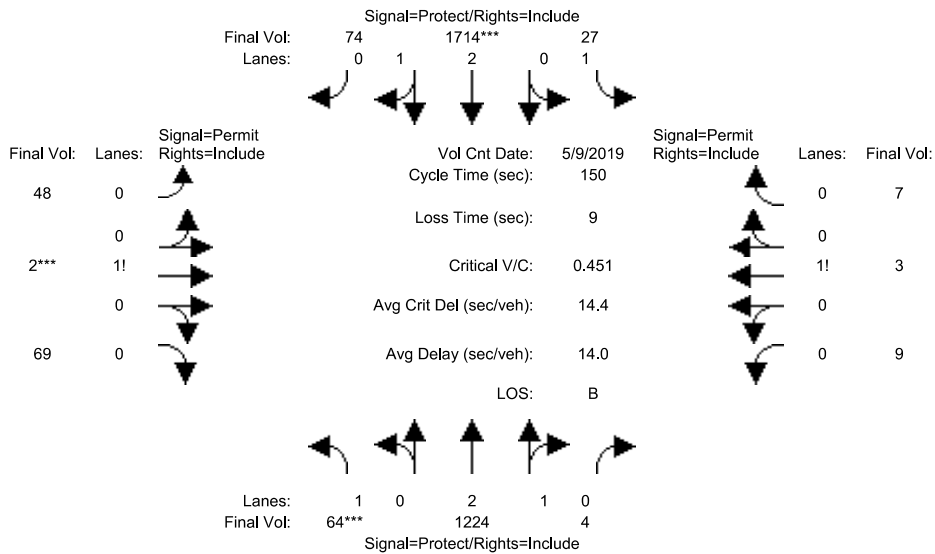
| Saturation Flow Module: | | | | | | | | | | | | |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.98 | 0.95 | 0.92 | 0.98 | 0.95 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 2.99 | 0.01 | 1.00 | 2.87 | 0.13 | 0.41 | 0.02 | 0.57 | 0.47 | 0.16 | 0.37 |
| Final Sat.: | 1750 | 5582 | 18 | 1750 | 5365 | 235 | 717 | 29 | 1004 | 829 | 276 | 645 |

| Capacity Analysis Module: | | | | | | | | | | | | |
|---------------------------|------|------|------|------|------|-------|------|------|------|------|------|------|
| Vol/Sat: | 0.04 | 0.22 | 0.22 | 0.02 | 0.32 | 0.32 | 0.07 | 0.07 | 0.07 | 0.01 | 0.01 | 0.01 |
| Crit Moves: | *** | | | *** | | | *** | | | | | |
| Green Time: | 12.1 | 97.2 | 97.2 | 20.7 | 106 | 105.8 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 |
| Volume/Cap: | 0.45 | 0.34 | 0.34 | 0.11 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.07 | 0.07 | 0.07 |
| Uniform Del: | 65.8 | 11.9 | 11.9 | 56.6 | 9.6 | 9.6 | 57.7 | 57.7 | 57.7 | 54.3 | 54.3 | 54.3 |
| IncrementDel: | 2.3 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 1.2 | 1.2 | 1.2 | 0.1 | 0.1 | 0.1 |
| InitQueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 68.1 | 11.9 | 11.9 | 56.8 | 9.7 | 9.7 | 58.9 | 58.9 | 58.9 | 54.4 | 54.4 | 54.4 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 68.1 | 11.9 | 11.9 | 56.8 | 9.7 | 9.7 | 58.9 | 58.9 | 58.9 | 54.4 | 54.4 | 54.4 |
| LOS by Move: | E | B+ | B+ | E+ | A | A | E+ | E+ | E+ | D- | D- | D- |
| HCM2k95thQ: | 7 | 16 | 16 | 2 | 21 | 21 | 11 | 11 | 11 | 2 | 2 | 2 |

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Ex+Project PM

Intersection #1: El Camino Real & Jordan Ave



| Street Name: | El Camino Real | | | | | | Jordan Ave | | | | | |
|--------------|----------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Approach: | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

| Volume Module: | >> | Count | Date: | 9 May 2019 | << | | | | | | | | | | | |
|----------------|------|-------|-------|------------|------|------|------|------|------|------|------|------|--|--|--|--|
| Base Vol: | 64 | 1224 | 4 | 27 | 1714 | 75 | 50 | 2 | 70 | 9 | 3 | 7 | | | | |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Initial Bse: | 64 | 1224 | 4 | 27 | 1714 | 75 | 50 | 2 | 70 | 9 | 3 | 7 | | | | |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Proj Trips: | 0 | 0 | 0 | 0 | 0 | -1 | -2 | 0 | -1 | 0 | 0 | 0 | | | | |
| Initial Fut: | 64 | 1224 | 4 | 27 | 1714 | 74 | 48 | 2 | 69 | 9 | 3 | 7 | | | | |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| PHF Volume: | 64 | 1224 | 4 | 27 | 1714 | 74 | 48 | 2 | 69 | 9 | 3 | 7 | | | | |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Reduced Vol: | 64 | 1224 | 4 | 27 | 1714 | 74 | 48 | 2 | 69 | 9 | 3 | 7 | | | | |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Final Volume: | 64 | 1224 | 4 | 27 | 1714 | 74 | 48 | 2 | 69 | 9 | 3 | 7 | | | | |

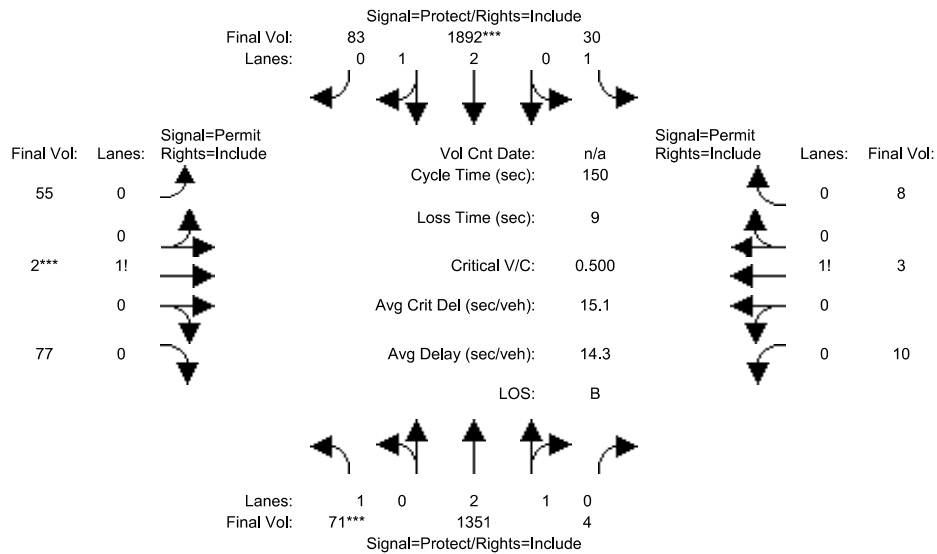
| Saturation Flow Module: | | | | | | | | | | | | |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.98 | 0.95 | 0.92 | 0.98 | 0.95 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 2.99 | 0.01 | 1.00 | 2.87 | 0.13 | 0.40 | 0.02 | 0.58 | 0.47 | 0.16 | 0.37 |
| Final Sat.: | 1750 | 5582 | 18 | 1750 | 5368 | 232 | 706 | 29 | 1015 | 829 | 276 | 645 |

| Capacity Analysis Module: | | | | | | | | | | | | |
|---------------------------|------|------|------|------|------|-------|------|------|------|------|------|------|
| Vol/Sat: | 0.04 | 0.22 | 0.22 | 0.02 | 0.32 | 0.32 | 0.07 | 0.07 | 0.07 | 0.01 | 0.01 | 0.01 |
| Crit Moves: | **** | | | **** | | | **** | | | | | |
| Green Time: | 12.2 | 97.6 | 97.6 | 20.8 | 106 | 106.2 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| Volume/Cap: | 0.45 | 0.34 | 0.34 | 0.11 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.07 | 0.07 | 0.07 |
| Uniform Del: | 65.7 | 11.7 | 11.7 | 56.5 | 9.4 | 9.4 | 58.0 | 58.0 | 58.0 | 54.7 | 54.7 | 54.7 |
| IncrcmntDel: | 2.3 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 1.2 | 1.2 | 1.2 | 0.1 | 0.1 | 0.1 |
| InitQueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 68.0 | 11.8 | 11.8 | 56.7 | 9.5 | 9.5 | 59.3 | 59.3 | 59.3 | 54.8 | 54.8 | 54.8 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 68.0 | 11.8 | 11.8 | 56.7 | 9.5 | 9.5 | 59.3 | 59.3 | 59.3 | 54.8 | 54.8 | 54.8 |
| LOS by Move: | E | B+ | B+ | E+ | A | A | E+ | E+ | E+ | D- | D- | D- |
| HCM2k95thQ: | 7 | 16 | 16 | 2 | 21 | 21 | 11 | 11 | 11 | 2 | 2 | 2 |

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Near-Term PM

Intersection #1: El Camino Real & Jordan Ave



| Street Name: | El Camino Real | | | | | | Jordan Ave | | | | | |
|--------------|----------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

| Volume Module: | | | | | | | | | | | | |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol: | 71 | 1351 | 4 | 30 | 1892 | 83 | 55 | 2 | 77 | 10 | 3 | 8 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 71 | 1351 | 4 | 30 | 1892 | 83 | 55 | 2 | 77 | 10 | 3 | 8 |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PasserByVol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial Fut: | 71 | 1351 | 4 | 30 | 1892 | 83 | 55 | 2 | 77 | 10 | 3 | 8 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 71 | 1351 | 4 | 30 | 1892 | 83 | 55 | 2 | 77 | 10 | 3 | 8 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 71 | 1351 | 4 | 30 | 1892 | 83 | 55 | 2 | 77 | 10 | 3 | 8 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 71 | 1351 | 4 | 30 | 1892 | 83 | 55 | 2 | 77 | 10 | 3 | 8 |

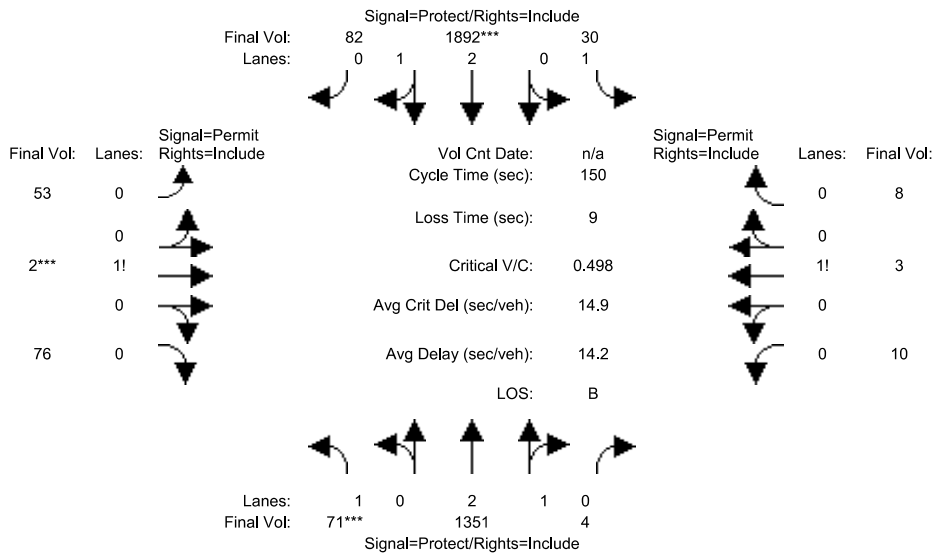
| Saturation Flow Module: | | | | | | | | | | | | |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.98 | 0.95 | 0.92 | 0.98 | 0.95 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 2.99 | 0.01 | 1.00 | 2.87 | 0.13 | 0.41 | 0.01 | 0.58 | 0.48 | 0.14 | 0.38 |
| Final Sat.: | 1750 | 5583 | 17 | 1750 | 5364 | 235 | 718 | 26 | 1006 | 833 | 250 | 667 |

| Capacity Analysis Module: | | | | | | | | | | | | |
|---------------------------|------|------|------|------|------|-------|------|------|------|------|------|------|
| Vol/Sat: | 0.04 | 0.24 | 0.24 | 0.02 | 0.35 | 0.35 | 0.08 | 0.08 | 0.08 | 0.01 | 0.01 | 0.01 |
| Crit Moves: | **** | | | **** | | | **** | | | | | |
| Green Time: | 12.2 | 98.9 | 98.9 | 19.1 | 106 | 105.8 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 |
| Volume/Cap: | 0.50 | 0.37 | 0.37 | 0.13 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.08 | 0.08 | 0.08 |
| Uniform Del: | 66.0 | 11.5 | 11.5 | 58.1 | 10.0 | 10.0 | 58.2 | 58.2 | 58.2 | 54.4 | 54.4 | 54.4 |
| IncrcmntDel: | 2.8 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 1.5 | 1.5 | 1.5 | 0.1 | 0.1 | 0.1 |
| InitQueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 68.7 | 11.5 | 11.5 | 58.4 | 10.1 | 10.1 | 59.7 | 59.7 | 59.7 | 54.6 | 54.6 | 54.6 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 68.7 | 11.5 | 11.5 | 58.4 | 10.1 | 10.1 | 59.7 | 59.7 | 59.7 | 54.6 | 54.6 | 54.6 |
| LOS by Move: | E | B+ | B+ | E+ | B+ | B+ | E+ | E+ | E+ | D- | D- | D- |
| HCM2k95thQ: | 8 | 17 | 17 | 3 | 24 | 24 | 12 | 12 | 12 | 2 | 2 | 2 |

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
 2000 HCM Operations (Future Volume Alternative)
 Near-Term +Proj PM

Intersection #1: El Camino Real & Jordan Ave



| Street Name: | El Camino Real | | | | | | Jordan Ave | | | | | |
|--------------|----------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
| Approach: | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 7 | 10 | 10 | 7 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Y+R: | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |

| Volume Module: | | | | | | | | | | | | |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol: | 71 | 1351 | 4 | 30 | 1892 | 83 | 55 | 2 | 77 | 10 | 3 | 8 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 71 | 1351 | 4 | 30 | 1892 | 83 | 55 | 2 | 77 | 10 | 3 | 8 |
| Added Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Proj Trips: | 0 | 0 | 0 | 0 | 0 | -1 | -2 | 0 | -1 | 0 | 0 | 0 |
| Initial Fut: | 71 | 1351 | 4 | 30 | 1892 | 82 | 53 | 2 | 76 | 10 | 3 | 8 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 71 | 1351 | 4 | 30 | 1892 | 82 | 53 | 2 | 76 | 10 | 3 | 8 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 71 | 1351 | 4 | 30 | 1892 | 82 | 53 | 2 | 76 | 10 | 3 | 8 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 71 | 1351 | 4 | 30 | 1892 | 82 | 53 | 2 | 76 | 10 | 3 | 8 |

| Saturation Flow Module: | | | | | | | | | | | | |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane: | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.92 | 0.98 | 0.95 | 0.92 | 0.98 | 0.95 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Lanes: | 1.00 | 2.99 | 0.01 | 1.00 | 2.87 | 0.13 | 0.40 | 0.02 | 0.58 | 0.48 | 0.14 | 0.38 |
| Final Sat.: | 1750 | 5583 | 17 | 1750 | 5367 | 233 | 708 | 27 | 1015 | 833 | 250 | 667 |

| Capacity Analysis Module: | | | | | | | | | | | | |
|---------------------------|------|------|------|------|------|-------|------|------|------|------|------|------|
| Vol/Sat: | 0.04 | 0.24 | 0.24 | 0.02 | 0.35 | 0.35 | 0.07 | 0.07 | 0.07 | 0.01 | 0.01 | 0.01 |
| Crit Moves: | **** | | | **** | | | **** | | | | | |
| Green Time: | 12.2 | 99.3 | 99.3 | 19.2 | 106 | 106.2 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| Volume/Cap: | 0.50 | 0.37 | 0.37 | 0.13 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.08 | 0.08 | 0.08 |
| Uniform Del: | 65.9 | 11.3 | 11.3 | 58.1 | 9.9 | 9.9 | 58.5 | 58.5 | 58.5 | 54.8 | 54.8 | 54.8 |
| IncrcmntDel: | 2.7 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 1.5 | 1.5 | 1.5 | 0.1 | 0.1 | 0.1 |
| InitQueueDel: | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Delay Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh: | 68.7 | 11.4 | 11.4 | 58.3 | 10.0 | 10.0 | 60.0 | 60.0 | 60.0 | 54.9 | 54.9 | 54.9 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh: | 68.7 | 11.4 | 11.4 | 58.3 | 10.0 | 10.0 | 60.0 | 60.0 | 60.0 | 54.9 | 54.9 | 54.9 |
| LOS by Move: | E | B+ | B+ | E+ | A | A | E | E | E | D- | D- | D- |
| HCM2k95thQ: | 8 | 17 | 17 | 3 | 24 | 24 | 12 | 12 | 12 | 2 | 2 | 2 |

Note: Queue reported is the number of cars per lane.



Appendix C

Volume Spreadsheet

Intersection Number: **1**
 Traffic Node Number: 1
 Intersection Name: ECR & Jordan Ave
 Peak Hour: AM
 Count Date: 05/09/19
 Scenario:
 Growth Factor Per Year: **2%**
Date of Analysis: 08/05/19
Near Term Buildout: **5**

| Scenario: | Movements | | | | | | | | | | | | Total |
|-----------------------|----------------|------|----|---------------|----|----|----------------|------|----|---------------|----|----|-------|
| | North Approach | | | East Approach | | | South Approach | | | West Approach | | | |
| | RT | TH | LT | RT | TH | LT | RT | TH | LT | RT | TH | LT | |
| Existing Conditions | 65 | 988 | 15 | 8 | 3 | 2 | 28 | 1587 | 53 | 155 | 16 | 39 | 2959 |
| Background Conditions | 72 | 1091 | 17 | 9 | 3 | 2 | 31 | 1752 | 59 | 171 | 18 | 43 | 3267 |
| Project Trips | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 3 | 9 |
| Existing + Project | 67 | 988 | 15 | 8 | 3 | 2 | 28 | 1587 | 54 | 158 | 16 | 42 | 2968 |
| Background + Project | 74 | 1091 | 17 | 9 | 3 | 2 | 31 | 1752 | 60 | 174 | 18 | 46 | 3276 |

Intersection Number: **1**
 Traffic Node Number: 1
 Intersection Name: ECR & Jordan Ave
 Peak Hour: PM
 Count Date: 05/09/19
 Scenario:
 Growth Factor Per Year: **2%**
Date of Analysis: 08/05/19
Near Term Buildout: **5**

| Scenario: | Movements | | | | | | | | | | | | Total |
|-----------------------|----------------|------|----|---------------|----|----|----------------|------|----|---------------|----|----|-------|
| | North Approach | | | East Approach | | | South Approach | | | West Approach | | | |
| | RT | TH | LT | RT | TH | LT | RT | TH | LT | RT | TH | LT | |
| Existing Conditions | 75 | 1714 | 27 | 7 | 3 | 9 | 4 | 1224 | 64 | 70 | 2 | 50 | 3249 |
| Background Conditions | 83 | 1892 | 30 | 8 | 3 | 10 | 4 | 1351 | 71 | 77 | 2 | 55 | 3587 |
| Project Trips | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | 0 | -2 | -4 |
| Existing + Project | 74 | 1714 | 27 | 7 | 3 | 9 | 4 | 1224 | 64 | 69 | 2 | 48 | 3245 |
| Background + Project | 82 | 1892 | 30 | 8 | 3 | 10 | 4 | 1351 | 71 | 76 | 2 | 53 | 3583 |

***ALTOS II, 4898 EL CAMINO
REAL, AIR QUALITY &
GREENHOUSE GAS
ASSESSMENT***

Los Altos, CA

**February 8, 2019
Revised August 7, 2019**

Prepared for:

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ILLINGWORTH & RODKIN, INC.
/// Acoustics • Air Quality ///

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(707) 794-0400

I&R Project: #19-010

Introduction

The purpose of this report is to address the air quality impacts, estimate the health risk impacts, and compute the greenhouse gas (GHG) emissions associated with the proposed residential project located at 4898 El Camino Real in Los Altos, California. The air quality impacts and GHG emissions would be associated with demolition of the existing uses at the site, construction of the new buildings and infrastructure, and operation of the project. Additionally, the project's construction would be the primary source of toxic air contaminant (TAC) and fine particulate matter (PM_{2.5}) emissions. This could increase health risks at sensitive receptors and lead to community risk impacts. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).¹

Project Description

The project would demolish the existing retail and office buildings and construct a 28-unit, five-story multi-family housing building with two levels of underground parking. There would be 55 parking spaces provided in the underground parking garage. Additionally, six of the housing units would be below market rate. The entire building plus parking garage would total 79,402 square feet (sf).

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter 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 (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

¹ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

Odors

Odor impacts are subjective in nature and are generally regarded as an annoyance rather than a health hazard. The ability to detect and react to odors varies considerably among people. A strong or unfamiliar odor is more easily detected and are more likely to cause complaints. BAAQMD responds to odor complaints from the public and considers a source to have a substantial number of odor complaints if the complaint history includes five or more confirmed complaints per year averaged over a 3-year period. Facilities that are regulated by CalRecycle (e.g. landfill, composting, etc.) are required to have *Odor Impact Minimization Plans* in place.

Regulatory Agencies

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.² The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD

² Available online: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>. Accessed: November 21, 2014.

has published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.³ The detailed community risk modeling methodology used in this assessment is contained in *Attachment 1*.

City of Los Altos General Plan

The City of Los Altos General Plan includes goals, policies, and strategies to improve air quality and meet the State and National ambient air quality standards.⁴ The following goals, policies, and actions are applicable to the proposed project:

Goal 8: Maintain or improve air quality in Los Altos

Policy 8.1: Support the principles of reducing air pollutants through land use, transportation, and energy use planning.

Policy 8.3: Interpret and implement the General Plan to be consistent with the regional Bay Area Air Quality Management Plan, as periodically updated.

Policy 8.4: Ensure location and design of development projects so as to conserve air quality and minimize direct and indirect emissions of air contaminants.

Implementation Program

NEH 29: *Minimize Impacts of New Development*

Review development proposals for potential impacts pursuant to CEQA and the BAAQMD Air Quality Handbook. Reduce impacts of new development using available land use and transportation planning techniques such as:

- 1) Incorporation of public transit stops;
- 2) Pedestrian and bicycle linkage to commercial centers, employment centers, schools, and parks;
- 3) Preferential parking for car pools;
- 4) Traffic flow improvements; and
- 5) Employer trip reduction programs.

NEH 30: *Participation in Regional Air Quality Programs*

Work with the BAAQMD and ABAG and to meet federal and State air quality standards for all pollutants. To ensure that new measures can be practically enforced in the region, participate in future amendments and updates of the BAAQMP.

³ Bay Area Air Quality Management District. 2017. *BAAQMD CEQA Air Quality Guidelines*. May.

⁴ City of Los Altos. 2002. *Los Altos General Plan 2002-2020*. November.

Sensitive Receptors

There are groups of people 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 elementary schools. The closest sensitive receptors to the project site are residences of townhomes south of the southern project boundary. There are additional residences at farther distances from the project site.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 *CEQA Air Quality Guidelines*. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the *CEQA Air Quality Guidelines* in 2017 to include the latest significance thresholds that were used in this analysis are summarized in Table 1.

Table 1. Air Quality Significance Thresholds

| Criteria Air Pollutant | Construction Thresholds | Operational Thresholds | |
|--|--|--|--------------------------------------|
| | Average Daily Emissions (lbs./day) | Average Daily Emissions (lbs./day) | Annual Average Emissions (tons/year) |
| ROG | 54 | 54 | 10 |
| NO _x | 54 | 54 | 10 |
| PM ₁₀ | 82 (Exhaust) | 82 | 15 |
| PM _{2.5} | 54 (Exhaust) | 54 | 10 |
| CO | Not Applicable | 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average) | |
| Fugitive Dust | Construction Dust Ordinance or other Best Management Practices | Not Applicable | |
| Health Risks and Hazards | Single Sources Within 1,000-foot Zone of Influence | Combined Sources (Cumulative from all sources within 1,000-foot zone of influence) | |
| Excess Cancer Risk | >10.0 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 | |
| Odors | | | |
| Odor | 5 confirmed complaints per year averaged over 3 years | | |
| Greenhouse Gas Emissions | | | |
| Land Use Projects – direct and indirect emissions | Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita (for 2020) and adjusted to 2.6 metric tons per capita (for 2030)* | | |
| Note: ROG = reactive organic gases, NO _x = nitrogen oxides, PM ₁₀ = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM _{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases. *BAAQMD does not have a recommended post-2020 GHG threshold. | | | |

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact 1: Conflict with or obstruct implementation of the applicable air quality plan?

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin (SFBAAB). BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), has prepared and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.⁵ The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

The BAAQMD, with assistance from ABAG and MTC, has prepared and implemented the Clean Air Plan to meet the applicable laws, regulations, and programs. The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHG.

The 2017 Clean Air Plan includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. The most recent clean air plan is the *2017 Clean Air Plan* that was adopted by BAAQMD in April 2017. The proposed project would not conflict with the latest Clean Air planning efforts since 1) the project would have emissions below the BAAQMD thresholds (see Impact 2), 2) the project would be considered urban infill, 3) the project would be located near employment centers, and 4) the project would be located near transit with regional connections.

Impact 2: 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?

The Bay Area is considered a non-attainment area for ground-level ozone and PM_{2.5} under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM₁₀ under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM₁₀, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_x), PM₁₀, and PM_{2.5} and apply to both construction period and operational period impacts.

⁵ Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan*.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the site assuming full build-out of the project. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The model output from CalEEMod is included as *Attachment 2*.

Construction Period Emissions

CalEEMod provides annual emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction schedule, equipment quantities, and equipment usage were based on CalEEMod defaults for a project of this type and size. The project applicant provided earthwork volumes and this information was used within the model.

The following proposed project land uses were inputted into CalEEMod: 28 dwelling units and 48,058-sf entered as “Apartment Mid Rise” and 55 parking spaces and 31,344-sf entered as “Enclosed Parking with Elevator” on a 0.43-acre site. In addition, the following volumes were entered into the model:

- 4,550-sf of building demolition,
- 13,094-sf of pavement demolished and hauled,
- 13,300 cubic yards (cy) of soil exported during grading/excavation phase, and
- 227-cy of asphalt hauled during paving phase.

The construction schedule assumed that the project would be built out over a period of approximately six months, beginning in June 2019. There were an estimated 123 construction workdays. Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Table 2 shows average daily construction emissions of ROG, NO_x, PM₁₀ exhaust, and PM_{2.5} exhaust during construction of the project. As indicated in Table 2, predicted construction period emissions would not exceed the BAAQMD significance thresholds.

Table 2. Construction Period Emissions

| Scenario | ROG | NO _x | PM ₁₀ Exhaust | PM _{2.5} Exhaust |
|---|--------------|-----------------|--------------------------|---------------------------|
| Total construction emissions (tons) | 0.42 tons | 0.93 tons | 0.04 tons | 0.04 tons |
| Average daily emissions (pounds) ¹ | 6.8 lbs./day | 15.1 lbs./day | 0.6 lbs./day | 0.6 lbs./day |
| BAAQMD Thresholds (pounds per day) | 54 lbs./day | 54 lbs./day | 82 lbs./day | 54 lbs./day |
| Exceed Threshold? | No | No | No | No |

Notes: ¹Assumes 123 workdays.

However, construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM₁₀ and PM_{2.5}. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils.

Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices.*

Mitigation Measure AQ-1: Include measures to control dust and exhaust during construction.

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. Additional measures are identified to reduce construction equipment exhaust emissions. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. 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 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Mitigation Measure AQ-1

The measures included above would be consistent with BAAQMD-recommended basic control measures for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from automobiles driven by future residents. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

Land Uses

The project land uses were input to CalEEMod, as described above for the construction period modeling.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest the project could possibly be constructed and begin operating would be 2020. Emissions associated with build-out later than 2020 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table. Usually, the Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips.

The project applicant provided project trip generation values for the proposed residential project.⁶ The weekday trip rate used for the project was 5.43 trips per day. This changed the Saturday trip rate to 5.23 and the Sunday rate to 4.78 trips per day.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. Indirect emissions from electricity were computed in CalEEMod. The model has a default rate of 641.3 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. The rate was adjusted to account for PG&E's projected 2020 CO₂ intensity rate. This 2020 rate is based, in part, on the requirement of a renewable energy portfolio

⁶ Correspondence with Alex Comsa, Comsa Group. 22 January 2019.

standard of 33 percent by the year 2020. The derived 2020 rate for PG&E was estimated at 290 pounds of CO₂ per megawatt of electricity delivered.⁷

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions. All hearths were assumed to be powered by gas.

Existing Uses

A CalEEMod model for the existing land use was run for year 2020. The existing land use on the project site included 2,310-sf entered as “General Office Space” and 6,086-sf entered as “Strip Mall”. Note that CalEEMod does not have a separate category for furniture store; therefore, the futon shop and retail space trips were combined to find a new daily trip rate for the retail space land use.

As shown in Table 3, operational emissions would not exceed the BAAQMD significance thresholds. This would be considered a *less-than-significant* impact.

Table 3. Operational Emissions

| Scenario | ROG | NO_x | PM₁₀ | PM_{2.5} |
|--|------------------|-----------------------|------------------------|-------------------------|
| 2020 Project Operational Emissions (<i>tons/year</i>) | 0.27 | 0.18 | 0.13 | 0.04 |
| 2020 Existing Operational Emissions (<i>tons/years</i>) | 0.07 | 0.14 | 0.09 | 0.02 |
| Net Emissions | 0.20 tons | 0.04 tons | 0.04 tons | 0.02 tons |
| <i>BAAQMD Thresholds (tons /year)</i> | <i>10 tons</i> | <i>10 tons</i> | <i>15 tons</i> | <i>10 tons</i> |
| <i>Exceed Threshold?</i> | <i>No</i> | <i>No</i> | <i>No</i> | <i>No</i> |
| 2020 Project Operational Emissions (<i>lbs/day</i>) ¹ | 1.10 lbs/day | 0.22 lbs/day | 0.22 lbs/day | 0.11 lbs/day |
| <i>BAAQMD Thresholds (pounds/day)</i> | 54 lbs. | 54 lbs. | 82 lbs. | 54 lbs. |
| <i>Exceed Threshold?</i> | <i>No</i> | <i>No</i> | <i>No</i> | <i>No</i> |
| Notes: ¹ Assumes 365-day operation. | | | | |

⁷ Pacific Gas & Electric, 2015. *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*. November.

Impact 3: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new sensitive receptor, such as a residential use, in proximity to an existing source of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity. In addition, temporary project construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors. Community risk impacts were addressed by increased predicting lifetime cancer risk, the increase in annual PM_{2.5} concentrations, and computing the Hazard Index (HI) for non-cancer health risks. The methodology for computing community risks impacts is contained in *Attachment 1*.

Construction Community Health Risk Impacts

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust are known as a TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to PM_{2.5}. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and PM_{2.5}.⁸ Dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

The CalEEMod model provided total annual PM₁₀ exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages as 0.0366 tons (73 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive PM_{2.5} dust emissions were calculated by CalEEMod as 0.00255 tons (5 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and PM_{2.5} concentrations at sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling

⁸ DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

analysis of these types of emission activities for CEQA projects.⁹ The modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive PM_{2.5} emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7 a.m. to 4 p.m.

The modeling used a five-year data set (2009 - 2013) of hourly meteorological data from Moffett Federal Airfield prepared for use with the AERMOD model by the CARB. Annual DPM and PM_{2.5} concentrations from construction activities during the 2019 period were calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby sensitive receptors. Receptor heights of 1.5 meters (5 feet) and 4.5 meters (15 feet) were used to represent the breathing heights of residents on the first and second floors in nearby single-family residences, apartments, and condominiums.

Community Risk Impacts

Figure 1 shows the locations where the maximum-modeled DPM and PM_{2.5} concentrations occurred. The maximum concentrations occurred on the first-floor (i.e. 1.5 meters receptor breathing height) of a condominium residence located immediately south of the project site. The maximum increased cancer risk at the location of the maximally exposed individual (MEI) was calculated using the BAAQMD recommended methods and the maximum annual modeled DPM concentration. The cancer risk calculations are based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. BAAQMD-recommended exposure parameters were used for the cancer risk calculations, as described in *Attachment 1*. Third, trimester, infant and adult exposures were assumed to occur at all residences through the entire construction period. Note that since the project construction is predicted to occur in less than two years, only infant exposure parameters were used in calculating the maximum cancer risk at the residential receptors due to their higher breathing rate. *Attachment 3* includes the construction emission calculations and source information used in the modeling and the cancer risk calculations.

Results of this assessment indicated that the maximum excess residential cancer risks would exceed the BAAQMD significance threshold of 10 in one million and the maximum PM_{2.5} concentrations would exceed the BAAQMD significance threshold of 0.3 µg/m³. *Implementation of Mitigation Measures AQ-2 would reduce this impact to a level of less-than-significant* as seen in Table 4, which summarizes the maximum cancer risks, PM_{2.5} concentrations, and health hazard indexes for project related construction activities affecting the residential MEI. Note that

⁹ Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May.

Mitigation Measure AQ-2 is presented after the “Cumulative Community Health Risk Impact at Construction MEI” section.

Table 4. Construction Risk Impact to Offsite Residential MEI

| Source | Maximum Cancer Risk (per million) | PM _{2.5} concentration (µg/m ³) | Hazard Index |
|---------------------------------------|-----------------------------------|--|----------------|
| Project Construction | Unmitigated | 50.7 (infant) | 0.31 |
| | Mitigated | 5.3 (infant) | 0.04 |
| BAAQMD Single-Source Threshold | | >10.0 | >0.3 |
| Significant? | | | |
| Unmitigated | | Yes | Yes |
| Mitigated | | No | No |

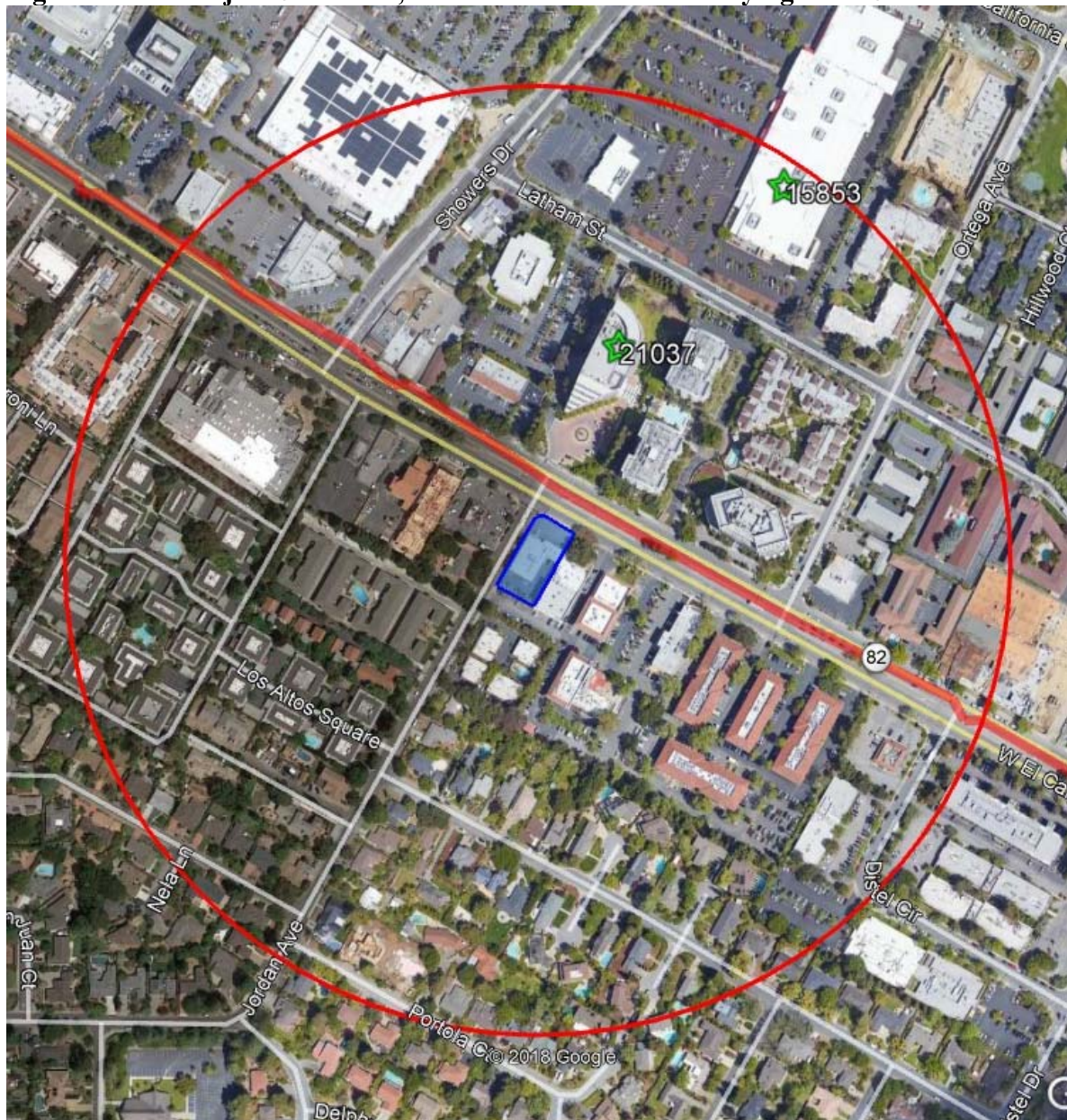
Figure 1. Project Construction Site and Locations of Off-Site Sensitive Receptors and TAC Impacts



Operational Community Health Risk Impacts at Project Site

Community health risk assessments typically look at all substantial sources of TACs located within 1,000 feet of project sites. These sources include highways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project area indicates that traffic on Highway 82 (i.e. El Camino Real) is a busy roadway with an average daily traffic (ADT) of over 10,000 vehicles, which makes it a significant source of TACs. All other roadways within the area are assumed to have an ADT that is less than 10,000 vehicles. A review of BAAQMD's stationary source Google Earth map tool identified two sources with the potential to affect the project site. Figure 2 shows the sources affecting the project site. Details of the modeling and community risk calculations are included in *Attachment 4*.

Figure 2. Project Site and 1,000-Foot Radius for Identifying TAC Sources



Highways – El Camino Real

Illingworth & Rodkin, Inc. conducted refined analysis involved predicting community risk impacts El Camino Real traffic for the 4880 El Camino Real Project in 2016.¹⁰ This past project is approximately 200 feet west of the current project. Both projects have similar setbacks from El Camino Real. Emissions were entered into the CAL3QHCR dispersion model to predict exposure to TACs. The associated cancer risk was computed based on the modeled exposures. Results of modeling indicated that while increased cancer risk would have a less-than-significant impact on project residences, annual PM_{2.5} concentrations could exceed the BAAQMD threshold of 0.3 µg/m³ within 50 feet of the roadway. *Mitigation Measure AQ-3* would reduce the potential PM_{2.5} impact to a level of less-than-significant. This mitigation measure is discussed after the “Cumulative Impact on the Cumulative MEI” section.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD’s *Stationary Source Risk & Hazard Analysis Tool*. This mapping tool uses Google Earth and identified the location of two stationary sources and their estimated risk and hazard impacts. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. They provided updated risk levels, emissions and adjustments to account for new OEHHA guidance.¹¹ The risk values were then adjusted with the appropriate distance multiplier values provided by BAAQMD or the emissions information was used in refined modeling.

Two stationary sources were identified (Target Corporation and BP West El Camino LLC) with both sources being generators. The screening risk levels for these stationary sources were provided by BAAQMD and adjusted for distance based on BAAQMD’s *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines*. Concentrations and community risk impacts from these sources upon the project are reported in Table 5.

¹⁰ Illingworth & Rodkin, Inc., 2016. 4880 El Camino Real Project Draft Air Quality 7 Greenhouse gas Emissions Assessment. March 18.

¹¹ Correspondence with Areana Flores, BAAQMD, 1 February 2019.

Cumulative Community Health Risk at Project Site

Community risk impacts from combined sources upon the project site are reported in Table 5. As shown, the annual cancer risks, annual PM_{2.5} concentrations, and Hazard Indexes are all below their respective single-source and cumulative significance thresholds with the exception of the unmitigated impacts from El Camino Real. However, with *Mitigation Measure AQ-3* this impact would be reduced to a level of *less-than-significant*. Therefore, all single and cumulative risk impacts would be considered a *less-than significant*.

Table 5. Community Risk Impact to New Project Residences

| Source | Cancer Risk (per million) | Annual PM _{2.5} (µg/m ³) | Hazard Index |
|--|---------------------------|---|-----------------|
| El Camino Real at 50 feet (2 nd -floor Receptors) | Unmitigated | 3.2 | 0.4 |
| | Mitigated | <3.2 | 0.2 |
| Plant #21037 (Generator) at 450 feet | 0.9 | <0.01 | <0.01 |
| Plant #15853 (Generator) at 800 feet | <0.1 | <0.01 | <0.01 |
| <i>BAAQMD Single-Source Threshold</i> | >10.0 | >0.3 | >0.1 |
| <i>Significant?</i> | <i>Unmitigated</i> | <i>No</i> | <i>Yes</i> |
| | <i>Mitigated</i> | <i>No</i> | <i>No</i> |
| Cumulative Total | Unmitigated | 4.2 | 0.42 |
| | Mitigated | <4.2 | 0.22 |
| <i>BAAQMD Cumulative Source Threshold</i> | >100 | >0.8 | >10.0 |
| <i>Significant?</i> | <i>No</i> | <i>No</i> | <i>No</i> |

Cumulative Community Health Risk Impact at Construction MEI

Table 6 reports both the project and cumulative community risk impacts at the construction MEI (i.e. offsite sensitive receptor). The same TAC sources described and analyzed in the Operational Community Health Risk Assessment section above were included in the Cumulative Community Health Risk assessment with the construction MEI being the analyzed receptor.

Without mitigation, the project would have a *significant* impact with respect to community risk caused by project construction activities, since the maximum cancer risk and PM_{2.5} concentration exceed the single-source thresholds of 10.0 per million for cancer risk and 0.3 µg/m³ for PM_{2.5}, respectively. However, *Mitigation Measure AQ-2* would reduce these risks to a level below the single-source threshold. As shown in Table 6, the combined annual cancer risk, PM_{2.5} concentration and Hazard risk values, which includes unmitigated and mitigated risks, would not exceed the cumulative threshold.

Table 6. Impacts from Combined Sources at Construction MEI

| Source | Maximum Cancer Risk (per million) | PM _{2.5} concentration (µg/m ³) | Hazard Index |
|--|-----------------------------------|--|-----------------|
| Project Construction | Unmitigated | 50.7 (infant) | 0.31 |
| | Mitigated | 5.3 (infant) | 0.04 |
| <i>BAAQMD Single-Source Threshold</i> | >10.0 | >0.3 | >1.0 |
| <i>Significant?</i> | | | |
| Unmitigated | Yes | Yes | <i>No</i> |
| Mitigated | <i>No</i> | <i>No</i> | <i>No</i> |
| El Camino Real (Link 245, 6ft) at 300 feet south | 13.8 | 0.14 | 0.01 |
| Plant #21037 (Generator) at 610 feet | 0.58 | <0.01 | <0.01 |
| Plant #15853 (Generator) at 1,000 feet | 0.02 | <0.01 | <0.01 |
| <i>Combined Sources</i> | | | |
| Unmitigated | 65.1 (infant) | 0.47 | <0.09 |
| Mitigated | 19.7 (infant) | 0.20 | <0.04 |
| <i>BAAQMD Cumulative Source Threshold</i> | >100 | >0.8 | >10.0 |
| <i>Significant?</i> | | | |
| Unmitigated | <i>No</i> | <i>No</i> | <i>No</i> |
| Mitigated | <i>No</i> | <i>No</i> | <i>No</i> |

Mitigation Measure AQ-2: Selection of equipment during construction to minimize emissions. Such equipment selection would include the following:

The project shall develop a plan demonstrating that the off-road equipment used on-site to construct the project would achieve a fleet-wide average 85-percent reduction in DPM exhaust emissions or greater. One feasible plan to achieve this reduction would include the following:

1. All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 2 engines and this equipment shall include CARB-certified Level 3 Diesel Particulate Filters¹² or equivalent. Equipment that meets U.S. EPA Tier 4 interim standards or use of equipment that is electrically powered or uses non-diesel fuels would also meet this requirement.

Effectiveness of Mitigation AQ-2

Project construction activities were analyzed with the assumption of Tier 2 engine equipment and level 2 DPFs. With mitigation, the computed maximum increased lifetime residential cancer risk from construction, assuming infant exposure, would be 5.3 in one million or less, the maximum annual PM_{2.5} concentration would be 0.04 µg/m³, and the Hazard Index would be <0.01. As a result, impacts would be reduced to *less than significant* with respect to community risk caused by construction activities.

Mitigation Measure AQ-3: The project shall include the following measures to minimize long-term TAC and annual PM_{2.5} exposure for new project occupants:

The project should install air filtration at residential units within 50 feet of El Camino Real. To ensure adequate health protection to sensitive receptors, a ventilation system is proposed to meet the following minimal design standards:

- Air filtration devices shall be rated MERV13 or higher rating;
- At least one air exchange(s) per hour of fresh outside filtered air; and
- At least four air exchange(s) per hour recirculation.

As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system will be developed. Recognizing that emissions from air pollution sources are decreasing, the maintenance period will last as long as significant annual PM_{2.5} exposures are predicted. Subsequent studies could be conducted by an air quality expert approved by the City to identify the ongoing need for the filtered ventilation systems as future information becomes available.

In addition, it is important to ensure that the lease agreement and other property documents (1) require cleaning, maintenance, and monitoring of the affected units for air flow leaks; (2) include assurance that new tenants or owners are provided information on the ventilation system; and (3)

¹² See <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>

include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.

Effectiveness of Mitigation AQ-3

The U.S. Environmental Protection Agency (EPA) reports particle size removal efficiency for filters rated MERV 13 of 90 percent for particles in the size range of 1 to 3 μm and less than 75 percent for particles 0.3 to 1 μm .¹³ Studies by the South Coast AQMD indicate that MERV 13 filters could achieve reductions of about 60 percent for ultra-fine particles and about 35 percent for black carbon.¹⁴

A properly installed and operated ventilation system with MERV 13 air filters may reduce $\text{PM}_{2.5}$ concentrations from DPM mobile and stationary sources by approximately 60 to 70 percent indoors when compared to outdoors. The U.S. EPA reports that people, on average, spend 90 percent of their time indoors.¹⁵ The overall effectiveness calculations take into effect time spent outdoors and away from home. Assuming 60-percent effectiveness for this filtration, with 21 hours per day of exposure to filtered air and three hours per day to unfiltered air (uncontrolled or 0-percent effectiveness), the overall effectiveness of filtration systems would be about 53 percent. The MERV 13 air filters would reduce maximum annual $\text{PM}_{2.5}$ concentrations to 0.2 $\mu\text{g}/\text{m}^3$. Therefore, with implementation of Mitigation Measure 3, this impact would be reduced to a level of less than significant.

Impact 4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Emissions of air pollutants or TACs are addressed under Impacts 2 and 3. Emission of greenhouse gases are addressed separately. In terms of odor emissions, the proposed project would construct multi-family residences that is categorized as a residential land use. The proposed project does not fall under any of the land uses BAAQMD identified within their odor screening table of the *CEQA Air Quality Guidelines*.¹⁶ Therefore, odors that could cause complaints from the general public and affect a substantial number of people are not expected.

¹³ U.S. EPA 2009. *Residential Air Cleaners Second Edition. A Summary of Available Information. Indoor Air Quality (IAQ)*. EPA 402-F-09-002 | Revised August 2009 | www.epa.gov/iaq

¹⁴ South Coast AQMD. 2009. *Pilot Study of High Performance Air Filtration for Classrooms Applications*. Draft – October.

¹⁵ Klepeis, N.E., Nelsen, W.C., Ott, W.R., Robinson, J.P., Tsang, A.M., Switzer, P., Behar, J.V., Hern, S.C., and Engelmann, W.H. 2001. *The National Human Activity Pattern Survey (NHAPS): a resource for assessing exposure to environmental pollutants*. *J. Expo Anal Environ Epidemiol*. 2001 May-Jun;11(3):231-52.

¹⁶ Bay Area Air Quality Management District. 2017. “Table 3-3 Odor Screening Distances”, BAAQMD CEQA Air Quality Guidelines. May.

Greenhouse Gases

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. 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. 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) 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 sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO₂ being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO₂ equivalents (CO₂e).

An expanding body of scientific research supports the theory that global climate change is currently affecting 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.

Recent Regulatory Actions

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building

Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Executive Order EO-B-30-15 (2015) and SB 32 GHG Reduction Targets

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-

term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State’s emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings;
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit-oriented housing;
- Develop walkable and bikeable communities
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce “super pollutants” by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_{2e} per capita (statewide) by 2030 and no more than 2 metric tons CO_{2e} per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Significance Thresholds

The BAAQMD’s CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur in 2020.

Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a “Substantial Progress” efficiency metric of 2.6 MT CO_{2e}/year/service population and a bright-line threshold of 660 MT CO_{2e}/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.6 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.¹⁷ The 2030 bright-line threshold is a 40 percent reduction of the 1,100 MT CO_{2e}/year threshold for 2020.

¹⁷ Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

Impact 1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above in the operational period emissions section. CalEEMod outputs are included in *Attachment 2*.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents and future employees. For this project, the number of future residents was estimated by multiplying the total number of units (e.g. 28 dwelling units) by the persons per household rate for Los Altos found in the California Department of Finance Population and Housing Estimate report.¹⁸ Using the 2.77 persons per household 2019 estimate for Los Altos, the number of future residents is estimated to be 78.

Construction Emissions

GHG emissions associated with construction were computed to be 157 MT of CO_{2e} for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. As shown in Table 7, annual net emissions resulting from operation of the proposed project are predicted to be 80 MT of CO_{2e} for the year 2020 and 47 MT of CO_{2e} for the year 2030. The per capita emissions would be 2.5 MT CO_{2e}/year/service population in 2020 and 2.1 MT CO_{2e}/year/service population in 2030. To be considered significant, the project must exceed both

¹⁸ State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2019*. Sacramento, California, May 2019.

the metric ton threshold and the service population emissions threshold. This project does not exceed either threshold in the year 2020 or 2030. Therefore, the project would have a *less-than-significant* impact regarding GHG emissions.

Table 7. Annual Project GHG Emissions (CO₂e) in Metric Tons

| Source Category | Existing Land Use in 2021 | Proposed Project in 2020 | Proposed Project in 2030 |
|---|---------------------------|--------------------------------------|------------------------------------|
| Area | <1 | 1 | 1 |
| Energy Consumption | 16 | 53 | 53 |
| Mobile | 95 | 135 | 102 |
| Solid Waste Generation | 4 | 6 | 6 |
| Water Usage | 2 | 3 | 3 |
| Total (MT CO ₂ e/year) | 118 | 198 | 165 |
| Net Emissions | | 80 MT CO ₂ e/year | 47 MT CO ₂ e/year |
| Significance Threshold | | 1,100 MT CO₂e/year | 660 MT CO₂e/year |
| Service Population Emissions (MT CO ₂ e/year/service population) | | 2.5 | 2.1 |
| Significance Threshold | | 4.6 in 2020 | 2.6 in 2030 |
| Significant (Exceeds both thresholds)? | | No | No |

Impact 2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, codifies the State of California’s GHG emissions target by directing CARB to reduce the State’s global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, CARB, California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and the Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State of California’s main strategies to reduce GHGs from business-as-usual (BAU) emissions projected in 2020 back down to 1990 levels. BAU is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. It required CARB and other state agencies to develop and adopt regulations and other initiatives reducing GHGs by 2012.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO₂e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO₂e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507

MMT of CO₂e. Thus, an estimated reduction of 80 MMT of CO₂e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB is currently working on a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The proposed Scoping Plan Update was published on January 20, 2017 as directed by SB 32 companion legislation AB 197. The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals.

The proposed project would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan. For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures and water-efficient irrigation systems.

City of Los Altos Climate Action Plan

The City of Los Altos Climate Action Plan (CAP), adopted December 2013, is a document that the City has designed in order to identify activities that contribute to GHG emissions and to create strategies that will help the City achieve its GHG reduction goals. The City adopted an GHG emissions reduction target of 15% below the 2005 baseline level by 2020. Additionally, to implement and monitor the success of the CAP, the City of Los Altos requires all new projects to comply with their CAP checklist. This document helps city planners ensure that the new project would be consistent with the City's GHG reduction goals. A project must incorporate all the Best management Practices (BMPs) identified in the checklist.

An evaluation of the project data was done to determine if this proposed project does comply with the CAP. After reviewing the project data within the plans, the project will comply with the City of Los Altos' CAP Checklist. The checklist with the project compliance descriptions is in *Attachment 5*.

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod output for project construction TAC emissions and GHG emissions.

Attachment 3 is the construction health risk assessment. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 4 includes the screening community risk calculations from sources affecting the construction MEI.

Attachment 5 includes the completed Los Altos CAP Checklist and the project's compliance with it.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.¹⁹ These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.²⁰ This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.²¹ Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs are calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD.

¹⁹ OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

²⁰ CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

²¹ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity that would have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

$$\text{Cancer Risk (per million)} = CPF \times \text{Inhalation Dose} \times ASF \times ED/AT \times FAH \times 10^6$$

Where:

CPF = Cancer potency factor (mg/kg-day)⁻¹

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

$$\text{Inhalation Dose} = C_{\text{air}} \times DBR \times A \times (EF/365) \times 10^{-6}$$

Where:

C_{air} = concentration in air (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

The health risk parameters used in this evaluation are summarized as follows:

| Parameter | Exposure Type → | Infant | | Child | | Adult |
|--|-----------------|---------------------------|----------|----------|----------|----------|
| | Age Range → | 3 rd Trimester | 0<2 | 2 < 9 | 2 < 16 | 16 - 30 |
| DPM Cancer Potency Factor (mg/kg-day) ⁻¹ | | 1.10E+00 | 1.10E+00 | 1.10E+00 | 1.10E+00 | 1.10E+00 |
| Daily Breathing Rate (L/kg-day) 80 th Percentile Rate | | 273 | 758 | 631 | 572 | 261 |
| Daily Breathing Rate (L/kg-day) 95 th Percentile Rate | | 361 | 1,090 | 861 | 745 | 335 |
| Inhalation Absorption Factor | | 1 | 1 | 1 | 1 | 1 |
| Averaging Time (years) | | 70 | 70 | 70 | 70 | 70 |
| Exposure Duration (years) | | 0.25 | 2 | 14 | 14 | 14 |
| Exposure Frequency (days/year) | | 350 | 350 | 350 | 350 | 350 |
| Age Sensitivity Factor | | 10 | 10 | 3 | 3 | 1 |
| Fraction of Time at Home | | 0.85-1.0 | 0.85-1.0 | 0.72-1.0 | 0.72-1.0 | 0.73 |

Non-Cancer Hazards

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Annual PM_{2.5} Concentrations

While not a TAC, fine particulate matter (PM_{2.5}) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for PM_{2.5} (project level and cumulative) are in terms of an increase in the annual average concentration. When considering PM_{2.5} impacts, the contribution from all sources of PM_{2.5} emissions should be included. For projects with potential impacts from nearby local roadways, the PM_{2.5} impacts should include those from vehicle exhaust emissions, PM_{2.5} generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: CalEEMod Modeling Output

4898 ECR Default AQ - Santa Clara County, Annual

4898 ECR Default AQ - 28 Units
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|--------------------------------|-------|---------------|-------------|--------------------|------------|
| Enclosed Parking with Elevator | 55.00 | Space | 0.49 | 31,344.00 | 0 |
| Apartments Mid Rise | 28.00 | Dwelling Unit | 0.43 | 48,058.00 | 80 |

1.2 Other Project Characteristics

| | | | | | |
|---------------------------------|--------------------------------|---------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 58 |
| Climate Zone | 4 | | | Operational Year | 2020 |
| Utility Company | Pacific Gas & Electric Company | | | | |
| CO2 Intensity (lb/MW hr) | 290 | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - PG&E 2020 290 rate
- Land Use - Land Use: 28 Apts, 55 parking spaces. Default acreage for parking
- Construction Phase - CalEEMod Default Schedule
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment - CalEEMod Default Equipment for all Phases
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment -

Off-road Equipment -

Trips and VMT - Demo Hauling:13,094-sf, Asphalt Hauling: 227-cy --> 54 trips

Demolition - Existing building: 4,550 and existing hardscape: 13,094

Grading - 13,300 cubic yards of soil hauling export

Vehicle Trips - 152 trips/28 units = 5.43 weekday, 5.23 Saturday, 4.78 Sunday

Woodstoves - all gas, no wood

Energy Use -

Water And Wastewater - 100% aerobic

| Table Name | Column Name | Default Value | New Value |
|---------------------------|---------------------------------------|---------------|---------------------------|
| tblFireplaces | FireplaceWoodMass | 228.80 | 0.00 |
| tblFireplaces | NumberGas | 4.20 | 8.96 |
| tblFireplaces | NumberWood | 4.76 | 0.00 |
| tblGrading | MaterialExported | 0.00 | 13,300.00 |
| tblLandUse | LandUseSquareFeet | 22,000.00 | 31,344.00 |
| tblLandUse | LandUseSquareFeet | 28,000.00 | 48,058.00 |
| tblLandUse | LotAcreage | 0.74 | 0.43 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.37 | 0.37 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35 | 290 |
| tblTripsAndVMT | HaulingTripNumber | 1,663.00 | 1,662.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 54.00 |
| tblVehicleTrips | ST_TR | 6.39 | 5.23 |
| tblVehicleTrips | SU_TR | 5.86 | 4.78 |
| tblVehicleTrips | WD_TR | 6.65 | 5.43 |
| tblWater | AerobicPercent | 87.46 | 100.00 |
| tblWater | AerobicPercent | 87.46 | 100.00 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 0.00 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 0.00 |

| | | | |
|---------------|-------------------|--------|------|
| tblWater | SepticTankPercent | 10.33 | 0.00 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 582.40 | 0.00 |

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

| Year | ROG | NO _x | tons/yr | | | tons/yr | | | MT/yr | | | | |
|----------------|---------------|-----------------|---------------|---------------|-------------------------|----------------------------|---------------------------|-------------------------|----------------------|-----------------------|-----------------|------------------|-------------------|
| | | | Fugitive PM10 | Exhaust PM | PM _{2.5} Total | Fugitive PM _{2.5} | Exhaust PM _{2.5} | PM _{2.5} Total | Bio- CO ₂ | Total CO ₂ | CH ₄ | N ₂ O | CO ₂ e |
| 2019 | 0.4204 | 0.92 | 0.0426 | 0.0379 | 0.0805 | 0.0106 | 0.0351 | 0.0457 | 0.0000 | 156.5495 | 0.0234 | 0 | 157.1346 |
| Maximum | 0.4204 | 0.9283 | 0.0426 | 0.0379 | 0.0805 | 0.0106 | 0.0351 | 0.0457 | 0.0000 | 156.5495 | 0.0234 | 0.0000 | 157.1346 |

Mitigated Construction

| Year | ROG | NO _x | CO | SO ₂ | tons/yr | | | | | MT/yr | | | | | | |
|----------------|---------------|-----------------|---------------|--------------------|---------------|---------------|---------------|----------------------------|---------------------------|-------------------------|----------------------|-----------------------|-----------------------|-----------------|------------------|-------------------|
| | | | | | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM _{2.5} | Exhaust PM _{2.5} | PM _{2.5} Total | Bio- CO ₂ | NBio- CO ₂ | Total CO ₂ | CH ₄ | N ₂ O | CO ₂ e |
| 2019 | 0.4204 | 0.9283 | 0.5913 | 1.6800e-003 | 0.0426 | 0.0379 | 0.0805 | 0.0106 | 0.0351 | 0.0457 | 0.0000 | 156.5494 | 156.5494 | 0.0234 | 0.0000 | 157.1345 |
| Maximum | 0.4204 | 0.9283 | 0.5913 | 1.6800e-003 | 0.0426 | 0.0379 | 0.0805 | 0.0106 | 0.0351 | 0.0457 | 0.0000 | 156.5494 | 156.5494 | 0.0234 | 0.0000 | 157.1345 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|--|--|
| 1 | 6-1-2019 | 8-31-2019 | 0.6018 | 0.6018 |
| 2 | 9-1-2019 | 9-30-2019 | 0.1288 | 0.1288 |
| | | Highest | 0.6018 | 0.6018 |

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|-----------------|---------------|-----------------|---------------|----------------|-----------------|---------------|-------------|-----------------|-----------------|---------------|-----------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.2307 | 3.3800e-003 | 0.2095 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.6000e-004 | 2.0000e-005 | 1.4741 |
| Energy | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 52.2754 | 52.2754 | 4.1800e-003 | 1.0500e-003 | 52.6933 |
| Mobile | 0.0405 | 0.1682 | 0.4726 | 1.4700e-003 | 0.1277 | 1.4800e-003 | 0.1291 | 0.0342 | 1.3800e-003 | 0.0356 | 0.0000 | 134.3862 | 134.3862 | 4.8800e-003 | 0.0000 | 134.5082 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2.6145 | 0.0000 | 2.6145 | 0.1545 | 0.0000 | 6.4774 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.6454 | 1.8280 | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Total | 0.2725 | 0.1827 | 0.6868 | 1.56E-03 | 0.1277 | 3.61E-03 | 0.1313 | 0.0342 | 3.51E-03 | 0.0377 | 3.26 | 189.9488 | 193.2088 | 0.1663 | 2.51E-03 | 198.1161 |

Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|---------|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |

| | | | | | | | | | | | | | | | | |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|---------------|--------------------|---------------|---------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Area | 0.2307 | 3.3800e-003 | 0.2095 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.6000e-004 | 2.0000e-005 | 1.4741 |
| Energy | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 52.2754 | 52.2754 | 4.1800e-003 | 1.0500e-003 | 52.6933 |
| Mobile | 0.0405 | 0.1682 | 0.4726 | 1.4700e-003 | 0.1277 | 1.4800e-003 | 0.1291 | 0.0342 | 1.3800e-003 | 0.0356 | 0.0000 | 134.3862 | 134.3862 | 4.8800e-003 | 0.0000 | 134.5082 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2.6145 | 0.0000 | 2.6145 | 0.1545 | 0.0000 | 6.4774 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.6454 | 1.8280 | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Total | 0.2725 | 0.1827 | 0.6868 | 1.5600e-003 | 0.1277 | 3.6100e-003 | 0.1313 | 0.0342 | 3.5100e-003 | 0.0377 | 3.2600 | 189.9488 | 193.2088 | 0.1663 | 2.5100e-003 | 198.1161 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|---------|----------|-----------|------|------|------|
| Percent Reduction | | | | | | | | | | | | | | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | |
|-------------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|---------------|--------------------|---------------|---------------|-----------------|-----------------|---------------|--------------------|-----------|
| 3.0 Cons | 0.2725 | 0.1827 | 0.6868 | 1.5600e-003 | 0.1277 | 3.6100e-003 | 0.1313 | 0.0342 | 3.5100e-003 | 0.0377 | 3.2600 | 189.9488 | 193.2088 | 0.1663 | 2.5100e-003 | 19 |
| Constructi | | | | | | | | | | | | | | | | |

| Phase Number | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2 | NBio-CO2 | Total CO2 | CH4 | N2O |
|--------------|-----------------------|-----|-----------------------|-----|---------------|--------------|------------|----------------|---------------|-------------|---------|----------|-----------|-----|-----|
| 1 | De | | | | | | | | | | | | | | |
| 2 | Sit | | | | | | | | | | | | | | |
| 3 | Grading | | Grading | | | | 6/18/2019 | | | 6/19/2019 | | | 5 | 2 | |
| 4 | Trenching/Foundation | | Trenching | | | | 6/18/2019 | | | 7/1/2019 | | | 5 | 10 | |
| 5 | Building Construction | | Building Construction | | | | 6/20/2019 | | | 11/6/2019 | | | 5 | 100 | |
| 6 | Paving | | Paving | | | | 11/7/2019 | | | 11/13/2019 | | | 5 | 5 | |
| 7 | Architectural Coating | | Architectural Coating | | | | 11/14/2019 | | | 11/20/2019 | | | 5 | 5 | |

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.49

Residential Indoor: 97,317; Residential Outdoor: 32,439; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Demolition | Rubber Tired Dozers | 1 | 1.00 | 247 | 0.40 |
| Demolition | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Grading | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Grading | Rubber Tired Dozers | 1 | 1.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Trenching/Foundation | Excavators | 1 | 7.00 | 158 | 0.38 |
| Trenching/Foundation | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 4.00 | 231 | 0.29 |
| Building Construction | Forklifts | 2 | 6.00 | 89 | 0.20 |
| Building Construction | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Paving | Cement and Mortar Mixers | 4 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 7.00 | 130 | 0.42 |
| Paving | Rollers | 1 | 7.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

| Phase Name | Equipment Amount | Worker Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class | |
|-----------------------|------------------|-------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|------|
| Paving | 4 | 1 | 80.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT | | |
| Paving | 2 | Tractors/Backhoes | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT | | |
| Paving | 4 | 1 | 1,662.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT | | |
| Architectural Coating | 2 | Tractors | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT | | |
| Building Construction | 5 | 33.00 | 8.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 7 | 18.00 | 0.00 | 54.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 7.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 8.6800e-003 | 0.0000 | 8.6800e-003 | 1.3100e-003 | 0.0000 | 1.3100e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | | 2.6900e-003 | 2.6900e-003 | | 2.5600e-003 | 2.5600e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |
| Total | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | 8.6800e-003 | 2.6900e-003 | 0.0114 | 1.3100e-003 | 2.5600e-003 | 3.8700e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |

Unmitigate

| | | | | | | | | | | | | | | | | |
|--|-------------|--------|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|--------|--------|-------------|--------|--------|
| | | | | | 8.6800e-003 | 0.0000 | 8.6800e-003 | 1.3100e-003 | 0.0000 | 1.3100e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0. |
| | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | | 2.6900e-003 | 2.6900e-003 | | 2.5600e-003 | 2.5600e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Hauling | | | | | 1.0800e-003 | 5.0000e-005 | 1.1300e-003 | 3.0000e-004 | 5.0000e-005 | 3.4000e-004 | 0.0000 | 3.4336 | 3.4336 | 1.5000e-004 | 0.0000 | 3.4375 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8000e-004 | 1.4000e-004 | 1.4000e-003 | 0.0000 | 4.0000e-004 | 0.0000 | 4.0000e-004 | 1.1000e-004 | 0.0000 | 1.1000e-004 | 0.0000 | 0.3510 | 0.3510 | 1.0000e-005 | 0.0000 | 0.3513 |
| Total | 5.4000e-004 | 0.0126 | 3.8600e-003 | 3.0000e-005 | 1.0800e-003 | 5.0000e-005 | 1.1300e-003 | 3.0000e-004 | 5.0000e-005 | 3.4000e-004 | 0.0000 | 3.4336 | 3.4336 | 1.5000e-004 | 0.0000 | 3.4375 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 8.6800e-003 | 0.0000 | 8.6800e-003 | 1.3100e-003 | 0.0000 | 1.3100e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | | 2.6900e-003 | 2.6900e-003 | | 2.5600e-003 | 2.5600e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |
| Total | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | 8.6800e-003 | 2.6900e-003 | 0.0114 | 1.3100e-003 | 2.5600e-003 | 3.8700e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Off-Road | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | | 2.6900e-003 | 2.6900e-003 | | 2.5600e-003 | 2.5600e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |
| Total | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | 8.6800e-003 | 2.6900e-003 | 0.0114 | 1.3100e-003 | 2.5600e-003 | 3.8700e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.8000e-004 | 1.4000e-004 | 1.4000e-003 | 0.0000 | 4.0000e-004 | 0.0000 | 4.0000e-004 | 1.1000e-004 | 0.0000 | 1.1000e-004 | 0.0000 | 0.3510 | 0.3510 | 1.0000e-005 | 0.0000 | 0.3513 |
| Total | 5.4000e-004 | 0.0126 | 3.8600e-003 | 3.0000e-005 | 1.0800e-003 | 5.0000e-005 | 1.1300e-003 | 3.0000e-004 | 5.0000e-005 | 3.4000e-004 | 0.0000 | 3.4336 | 3.4336 | 1.5000e-004 | 0.0000 | 3.4375 |

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|---------|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |

| | | | | | | | | | | | | | | | | |
|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Fugitive Dust | | | | | 2.7000e-004 | 0.0000 | 2.7000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 3.6000e-004 | 4.4600e-003 | 2.0700e-003 | 0.0000 | | 1.8000e-004 | 1.8000e-004 | | 1.7000e-004 | 1.7000e-004 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |
| Total | 3.6000e-004 | 4.4600e-003 | 2.0700e-003 | 0.0000 | 2.7000e-004 | 1.8000e-004 | 4.5000e-004 | 3.0000e-005 | 1.7000e-004 | 2.0000e-004 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |

Unmitigate

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| | 004 | 003 | 003 | | | 004 | 004 | | 004 | 004 | | | | 004 | | |
| | 3.6000e-004 | 4.4600e-003 | 2.0700e-003 | 0.0000 | 2.7000e-004 | 1.8000e-004 | 4.5000e-004 | 3.0000e-005 | 1.7000e-004 | 2.0000e-004 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |
| Total | 3.6000e-004 | 4.4600e-003 | 2.0700e-003 | 0.0000 | 2.7000e-004 | 1.8000e-004 | 4.5000e-004 | 3.0000e-005 | 1.7000e-004 | 2.0000e-004 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |
| Category | | | | | | | | | | | | | | | | |
| Hauling | | | | | | | | | | | | | | | | |
| Vendor | | | | | | | | | | | | | | | | |
| Worker | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |
| Total | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Worker | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |
| Total | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Off-Road | 3.6000e-004 | 4.4600e-003 | 2.0700e-003 | 0.0000 | | 1.8000e-004 | 1.8000e-004 | | 1.7000e-004 | 1.7000e-004 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |
| Total | 3.6000e-004 | 4.4600e-003 | 2.0700e-003 | 0.0000 | 2.7000e-004 | 1.8000e-004 | 4.5000e-004 | 3.0000e-005 | 1.7000e-004 | 2.0000e-004 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |
| Total | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |

3.4 Grading - 2019

Unmitigate

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Fugitive Dust | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |
| Off-Road | 8.5000e-004 | 8.6000e-003 | 7.6900e-003 | 1.0000e-005 | 1.5000e-003 | 5.4000e-004 | 2.0400e-003 | 5.3000e-004 | 5.1000e-004 | 1.0400e-003 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 |
| Total | 9.5000e-004 | 8.6000e-003 | 7.6900e-003 | 1.0000e-005 | 1.5000e-003 | 5.4000e-004 | 2.0400e-003 | 5.3000e-004 | 5.1000e-004 | 1.0400e-003 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|

| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Hauling | 7.5500e-003 | 0.2587 | 0.0511 | 6.6000e-004 | 0.0141 | 9.9000e-004 | 0.0151 | 3.8700e-003 | 9.5000e-004 | 4.8200e-003 | 0.0000 | 64.0406 | 64.0406 | 3.0000e-003 | 0.0000 | 64.1156 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.0000e-005 | 3.0000e-005 | 2.8000e-004 | 0.0000 | 8.0000e-005 | 0.0000 | 8.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0702 | 0.0702 | 0.0000 | 0.0000 | 0.0703 |
| Total | 7.5900e-003 | 0.2588 | 0.0514 | 6.6000e-004 | 0.0142 | 9.9000e-004 | 0.0152 | 3.8900e-003 | 9.5000e-004 | 4.8400e-003 | 0.0000 | 64.1108 | 64.1108 | 3.0000e-003 | 0.0000 | 64.1859 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 1.5000e-003 | 0.0000 | 1.5000e-003 | 5.3000e-004 | 0.0000 | 5.3000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.5000e-004 | 8.6000e-003 | 7.6900e-003 | 1.0000e-005 | | 5.4000e-004 | 5.4000e-004 | | 5.1000e-004 | 5.1000e-004 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 |
| Total | 9.5000e-004 | 8.6000e-003 | 7.6900e-003 | 1.0000e-005 | 1.5000e-003 | 5.4000e-004 | 2.0400e-003 | 5.3000e-004 | 5.1000e-004 | 1.0400e-003 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|---------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 7.5500e-003 | 0.2587 | 0.0511 | 6.6000e-004 | 0.0141 | 9.9000e-004 | 0.0151 | 3.8700e-003 | 9.5000e-004 | 4.8200e-003 | 0.0000 | 64.0406 | 64.0406 | 3.0000e-003 | 0.0000 | 64.1156 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.0000e-005 | 3.0000e-005 | 2.8000e-004 | 0.0000 | 8.0000e-005 | 0.0000 | 8.0000e-005 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0702 | 0.0702 | 0.0000 | 0.0000 | 0.0703 |

| | | | | | | | | | | | | | | | | |
|-------|-------------|--------|--------|-------------|--------|-------------|--------|-------------|-------------|-------------|--------|---------|---------|-------------|--------|---------|
| Total | 7.5900e-003 | 0.2588 | 0.0514 | 6.6000e-004 | 0.0142 | 9.9000e-004 | 0.0152 | 3.8900e-003 | 9.5000e-004 | 4.8400e-003 | 0.0000 | 64.1108 | 64.1108 | 3.0000e-003 | 0.0000 | 64.1859 |
|-------|-------------|--------|--------|-------------|--------|-------------|--------|-------------|-------------|-------------|--------|---------|---------|-------------|--------|---------|

3.5 Trenching/Foundation - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 2.1600e-003 | 0.0220 | 0.0244 | 4.0000e-005 | | 1.2500e-003 | 1.2500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |
| Total | 2.1600e-003 | 0.0220 | 0.0244 | 4.0000e-005 | | 1.2500e-003 | 1.2500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |

| | | | | | | | | | | | | | | | | |
|-------------------|--------------------|---------------|---------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Unmitigate | 2.1600e-003 | 0.0220 | 0.0244 | 4.0000e-005 | | 1.2500e-003 | 1.2500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |
|-------------------|--------------------|---------------|---------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Hauling | | | | | | | | | | | | | | | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.0000e-005 | 7.0000e-005 | 7.0000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 2.0000e-004 | 5.0000e-005 | 0.0000 | 5.0000e-005 | 0.0000 | 0.1755 | 0.1755 | 0.0000 | 0.0000 | 0.1756 |
| Total | 9.0000e-005 | 7.0000e-005 | 7.0000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 2.0000e-004 | 5.0000e-005 | 0.0000 | 5.0000e-005 | 0.0000 | 0.1755 | 0.1755 | 0.0000 | 0.0000 | 0.1756 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 2.1600e-003 | 0.0220 | 0.0244 | 4.0000e-005 | | 1.2500e-003 | 1.2500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |
| Total | 2.1600e-003 | 0.0220 | 0.0244 | 4.0000e-005 | | 1.2500e-003 | 1.2500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |

| | | | | | | | | | | | | | | | | |
|--------------------|--------------------|---------------|---------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Mitigated (| 2.1600e-003 | 0.0220 | 0.0244 | 4.0000e-005 | | 1.2500e-003 | 1.2500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |
|--------------------|--------------------|---------------|---------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Hauling | | | | | | | | | | | | | | | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 9.0000e-005 | 7.0000e-005 | 7.0000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 2.0000e-004 | 5.0000e-005 | 0.0000 | 5.0000e-005 | 0.0000 | 0.1755 | 0.1755 | 0.0000 | 0.0000 | 0.1756 |
| Total | 9.0000e-005 | 7.0000e-005 | 7.0000e-004 | 0.0000 | 2.0000e-004 | 0.0000 | 2.0000e-004 | 5.0000e-005 | 0.0000 | 5.0000e-005 | 0.0000 | 0.1755 | 0.1755 | 0.0000 | 0.0000 | 0.1756 |

3.6 Building Construction - 2019

Unmitigated Construction On-Site

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|---------|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |

| | | | | | | | | | | | | | | | | |
|--------------|---------------|---------------|---------------|--------------------|--|---------------|---------------|--|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Off-Road | 0.0479 | 0.4910 | 0.3772 | 5.7000e-004 | | 0.0303 | 0.0303 | | 0.0279 | 0.0279 | 0.0000 | 51.1502 | 51.1502 | 0.0162 | 0.0000 | 51.5548 |
| Total | 0.0479 | 0.4910 | 0.3772 | 5.7000e-004 | | 0.0303 | 0.0303 | | 0.0279 | 0.0279 | 0.0000 | 51.1502 | 51.1502 | 0.0162 | 0.0000 | 51.5548 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Worker | tons/yr | | | | | | | | | | MT/yr | | | | | |
| | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 1.9600e-003 | 0.0505 | 0.0136 | 1.1000e-004 | 2.6300e-003 | 3.6000e-004 | 2.9900e-003 | 7.6000e-004 | 3.5000e-004 | 1.1100e-003 | 0.0000 | 10.5221 | 10.5221 | 5.2000e-004 | 0.0000 | 10.5351 |
| | 5.9900e-003 | 4.4600e-003 | 0.0461 | 1.3000e-004 | 0.0131 | 9.0000e-005 | 0.0132 | 3.4800e-003 | 8.0000e-005 | 3.5600e-003 | 0.0000 | 11.5844 | 11.5844 | 3.2000e-004 | 0.0000 | 11.5923 |
| | 7.9500e-003 | 0.0550 | 0.0597 | 2.4000e-004 | 0.0157 | 4.5000e-004 | 0.0162 | 4.2400e-003 | 4.3000e-004 | 4.6700e-003 | 0.0000 | 22.1064 | 22.1064 | 8.4000e-004 | 0.0000 | 22.1274 |

Mitigated (5.9900e-003 4.4600e-003 0.0461 1.3000e-004 0.0131 9.0000e-005 0.0132 3.4800e-003 8.0000e-005 3.5600e-003 0.0000 11.5844 11.5844 3.2000e-004 0.0000 11

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Off-Road | | | | | | | | | | | | | | | | .5548 |
| Total | 0.0479 | 0.4910 | 0.3772 | 5.7000e-004 | | 0.0303 | 0.0303 | | 0.0279 | 0.0279 | 0.0000 | 51.1502 | 51.1502 | 0.0162 | 0.0000 | 51.5548 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 1.9600e-003 | 0.0505 | 0.0136 | 1.1000e-004 | 2.6300e-003 | 3.6000e-004 | 2.9900e-003 | 7.6000e-004 | 3.5000e-004 | 1.1100e-003 | 0.0000 | 10.5221 | 10.5221 | 5.2000e-004 | 0.0000 | 10.5351 |
| Worker | 5.9900e-003 | 4.4600e-003 | 0.0461 | 1.3000e-004 | 0.0131 | 9.0000e-005 | 0.0132 | 3.4800e-003 | 8.0000e-005 | 3.5600e-003 | 0.0000 | 11.5844 | 11.5844 | 3.2000e-004 | 0.0000 | 11.5923 |
| Total | 7.9500e-003 | 0.0550 | 0.0597 | 2.4000e-004 | 0.0157 | 4.5000e-004 | 0.0162 | 4.2400e-003 | 4.3000e-004 | 4.6700e-003 | 0.0000 | 22.1064 | 22.1064 | 8.4000e-004 | 0.0000 | 22.1274 |

3.7 Paving - 2019

Unmitigate

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Off-Road | | | | | | | | | | | | | | | | 4102 |
| Paving | | | | | | | | | | | | | | | | 0000 |
| Total | 2.0700e-003 | 0.0196 | 0.0179 | 3.0000e-005 | | 1.1100e-003 | 1.1100e-003 | | 1.0300e-003 | 1.0300e-003 | 0.0000 | 2.3931 | 2.3931 | 6.8000e-004 | 0.0000 | 2.4102 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|

| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| | Hauling | 2.5000e-004 | 8.4100e-003 | 1.6600e-003 | 2.0000e-005 | 4.6000e-004 | 3.0000e-005 | 4.9000e-004 | 1.3000e-004 | 3.0000e-005 | 1.6000e-004 | 0.0000 | 2.0807 | 2.0807 | 1.0000e-004 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6000e-004 | 1.2000e-004 | 1.2600e-003 | 0.0000 | 3.6000e-004 | 0.0000 | 3.6000e-004 | 9.0000e-005 | 0.0000 | 1.0000e-004 | 0.0000 | 0.3159 | 0.3159 | 1.0000e-005 | 0.0000 | 0.3162 |
| Total | 4.1000e-004 | 8.5300e-003 | 2.9200e-003 | 2.0000e-005 | 8.2000e-004 | 3.0000e-005 | 8.5000e-004 | 2.2000e-004 | 3.0000e-005 | 2.6000e-004 | 0.0000 | 2.3967 | 2.3967 | 1.1000e-004 | 0.0000 | 2.3993 |

Mitigated Construction On-Site

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 2.0700e-003 | 0.0196 | 0.0179 | 3.0000e-005 | | 1.1100e-003 | 1.1100e-003 | | 1.0300e-003 | 1.0300e-003 | 0.0000 | 2.3931 | 2.3931 | 6.8000e-004 | 0.0000 | 2.4102 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 2.0700e-003 | 0.0196 | 0.0179 | 3.0000e-005 | | 1.1100e-003 | 1.1100e-003 | | 1.0300e-003 | 1.0300e-003 | 0.0000 | 2.3931 | 2.3931 | 6.8000e-004 | 0.0000 | 2.4102 |

Mitigated Construction Off-Site

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|--------|
| | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 2.5000e-004 | 8.4100e-003 | 1.6600e-003 | 2.0000e-005 | 4.6000e-004 | 3.0000e-005 | 4.9000e-004 | 1.3000e-004 | 3.0000e-005 | 1.6000e-004 | 0.0000 | 2.0807 | 2.0807 | 1.0000e-004 | 0.0000 | 2.0832 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.6000e-004 | 1.2000e-004 | 1.2600e-003 | 0.0000 | 3.6000e-004 | 0.0000 | 3.6000e-004 | 9.0000e-005 | 0.0000 | 1.0000e-004 | 0.0000 | 0.3159 | 0.3159 | 1.0000e-005 | 0.0000 | 0.3162 |

| | | | | | | | | | | | | | | | | |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|--------|--------|-------------|--------|--------|
| Total | 4.1000e-004 | 8.5300e-003 | 2.9200e-003 | 2.0000e-005 | 8.2000e-004 | 3.0000e-005 | 8.5000e-004 | 2.2000e-004 | 3.0000e-005 | 2.6000e-004 | 0.0000 | 2.3967 | 2.3967 | 1.1000e-004 | 0.0000 | 2.3993 |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|--------|--------|-------------|--------|--------|

3.8 Architectural Coating - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e | |
|-----------------|---------------|--------------------|--------------------|--------------------|---------------|--------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | | |
| Archit. Coating | 0.3448 | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Off-Road | 6.7000e-004 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |
| Total | 0.3455 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |

| | | | | | | | | | | | | | | | | | |
|--------------|---------------|--------------------|--------------------|--------------------|--|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Off-Road | 6.7000e-004 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |
| Total | 0.3455 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 6.0000e-005 | 5.0000e-005 | 4.9000e-004 | 0.0000 | 1.4000e-004 | 0.0000 | 1.4000e-004 | 4.0000e-005 | 0.0000 | 4.0000e-005 | 0.0000 | 0.1229 | 0.1229 | 0.0000 | 0.0000 | 0.1230 |
| Total | 6.0000e-005 | 5.0000e-005 | 4.9000e-004 | 0.0000 | 1.4000e-004 | 0.0000 | 1.4000e-004 | 4.0000e-005 | 0.0000 | 4.0000e-005 | 0.0000 | 0.1229 | 0.1229 | 0.0000 | 0.0000 | 0.1230 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.3448 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 6.7000e-004 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |
| Total | 0.3455 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |

| | | | | | | | | | | | | | | | | |
|--------------|---------------|--------------------|--------------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Off-Road | 6.7000e-004 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |
| Total | 0.3455 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 6.0000e-005 | 5.0000e-005 | 4.9000e-004 | 0.0000 | 1.4000e-004 | 0.0000 | 1.4000e-004 | 4.0000e-005 | 0.0000 | 4.0000e-005 | 0.0000 | 0.1229 | 0.1229 | 0.0000 | 0.0000 | 0.1230 |
| Total | 6.0000e-005 | 5.0000e-005 | 4.9000e-004 | 0.0000 | 1.4000e-004 | 0.0000 | 1.4000e-004 | 4.0000e-005 | 0.0000 | 4.0000e-005 | 0.0000 | 0.1229 | 0.1229 | 0.0000 | 0.0000 | 0.1230 |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|----------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.0405 | 0.1682 | 0.4726 | 1.4700e-003 | 0.1277 | 1.4800e-003 | 0.1291 | 0.0342 | 1.3800e-003 | 0.0356 | 0.0000 | 134.3862 | 134.3862 | 4.8800e-003 | 0.0000 | 134.5082 |
| Unmitigated | 0.0405 | 0.1682 | 0.4726 | 1.4700e-003 | 0.1277 | 1.4800e-003 | 0.1291 | 0.0342 | 1.3800e-003 | 0.0356 | 0.0000 | 134.3862 | 134.3862 | 4.8800e-003 | 0.0000 | 134.5082 |

| | | | | | | | | | | | | | | | | |
|-------------|--------|--------|--------|-------------|--------|-------------|--------|--------|-------------|--------|--------|----------|----------|-------------|--------|----------|
| Mitigated | 0.0405 | 0.1682 | 0.4726 | 1.4700e-003 | 0.1277 | 1.4800e-003 | 0.1291 | 0.0342 | 1.3800e-003 | 0.0356 | 0.0000 | 134.3862 | 134.3862 | 4.8800e-003 | 0.0000 | 134.5082 |
| Unmitigated | 0.0405 | 0.1682 | 0.4726 | 1.4700e-003 | 0.1277 | 1.4800e-003 | 0.1291 | 0.0342 | 1.3800e-003 | 0.0356 | 0.0000 | 134.3862 | 134.3862 | 4.8800e-003 | 0.0000 | 134.5082 |

| Land Use | Miles | | | Trip % | | | Trip Purpose % | | |
|--------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Apartments Mid Rise | 10.80 | 4.80 | 5.70 | 31.00 | 15.00 | 54.00 | 86 | 11 | 3 |
| Enclosed Parking with Elevator | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |

4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise | 0.604810 | 0.038204 | 0.185149 | 0.108513 | 0.015498 | 0.004981 | 0.012268 | 0.020156 | 0.002083 | 0.001571 | 0.005363 | 0.000620 | 0.000785 |
| Enclosed Parking with Elevator | 0.604810 | 0.038204 | 0.185149 | 0.108513 | 0.015498 | 0.004981 | 0.012268 | 0.020156 | 0.002083 | 0.001571 | 0.005363 | 0.000620 | 0.000785 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e | |
|--------------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|-------------|-----------|-----------|-------------|-------------|-------------|---------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 39.3665 | 39.3665 | 3.9400e-003 | 8.1000e-004 | 39.7076 | |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 39.3665 | 39.3665 | 3.9400e-003 | 8.1000e-004 | 39.7076 | |
| NaturalGas Mitigated | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 | |
| NaturalGas Unmitigated | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 | |
| 5.2 Energy Unmitigate | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 39.3665 | 39.3665 | 3.9400e-003 | 8.1000e-004 | 39.7076 | |
| | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 | |
| Land Use | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 | |
| Apartments Mi Rise | | 003 | | 003 | 005 | | 004 | 004 | | 004 | 004 | | | | 004 | 004 | |
| Enclosed Parking with Elevator | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Total | | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |

Mitigated

| | Natural Gas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|-----------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 241905 | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |
| Enclosed Parking with Elevator | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |

5.3 Energy by Land Use - Electricity

Unmitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 115594 | 15.2054 | 1.5200e-003 | 3.1000e-004 | 15.3372 |
| Enclosed Parking with Elevator | 183676 | 24.1611 | 2.4200e-003 | 5.0000e-004 | 24.3704 |
| Total | | 39.3665 | 3.9400e-003 | 8.1000e-004 | 39.7076 |

Mitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|-----------------|-----------|-------------|-------------|---------|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 115594 | 15.2054 | 1.5200e-003 | 3.1000e-004 | 15.3372 |
| Enclosed Parking with Elevator | 183676 | 24.1611 | 2.4200e-003 | 5.0000e-004 | 24.3704 |

| | | | | | |
|-------|--|---------|-------------|-------------|---------|
| Total | | 39.3665 | 3.9400e-003 | 8.1000e-004 | 39.7076 |
|-------|--|---------|-------------|-------------|---------|

6.0 Area Detail

6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|-------------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|--------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.2307 | 3.3800e-003 | 0.2095 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.6000e-004 | 2.0000e-005 | 1.4741 |
| Unmitigated | 0.2307 | 3.3800e-003 | 0.2095 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.6000e-004 | 2.0000e-005 | 1.4741 |

6.2 Area by SubCategory

| | | | | | | | | | | | | | | | | |
|-------------------|--------|-------------|--------|-------------|--|-------------|-------------|--|-------------|-------------|--------|--------|--------|-------------|-------------|--------|
| Unmitigate | 0.2307 | 3.3800e-003 | 0.2095 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.6000e-004 | 2.0000e-005 | 1.4741 |
|-------------------|--------|-------------|--------|-------------|--|-------------|-------------|--|-------------|-------------|--------|--------|--------|-------------|-------------|--------|

| SubCategory | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|--------|
| Architectural Coating | | | | | | | | | | | | | | | | .0000 |
| Consumer Products | | | | | | | | | | | | | | | | .0000 |
| Hearth | 1.1000e-004 | 9.7000e-004 | 4.1000e-004 | 1.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | 0.0000 | 1.1186 | 1.1186 | 2.0000e-005 | 2.0000e-005 | 1.1252 |
| Landscaping | 6.4000e-003 | 2.4200e-003 | 0.2091 | 1.0000e-005 | | 1.1500e-003 | 1.1500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 0.3406 | 0.3406 | 3.3000e-004 | 0.0000 | 0.3489 |

| | | | | | | | | | | | | | | | | |
|--------------|--------|-------------|--------|-------------|--|-------------|-------------|--|-------------|-------------|--------|--------|--------|-------------|-------------|--------|
| Total | 0.2307 | 3.3900e-003 | 0.2095 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.5000e-004 | 2.0000e-005 | 1.4741 |
|--------------|--------|-------------|--------|-------------|--|-------------|-------------|--|-------------|-------------|--------|--------|--------|-------------|-------------|--------|

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e | |
|-----------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|-------------|-----------|-----------|--------|-------------|-------------|--------|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | | |
| Architectural Coating | 0.0345 | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Consumer Products | 0.1897 | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Hearth | 1.1000e-004 | 9.7000e-004 | 4.1000e-004 | 1.0000e-005 | | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | 0.0000 | 1.1186 | 1.1186 | 2.0000e-005 | 2.0000e-005 | 1.1252 |
| Landscaping | 6.4000e-003 | 2.4200e-003 | 0.2091 | 1.0000e-005 | | | 1.1500e-003 | 1.1500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 0.3406 | 0.3406 | 3.3000e-004 | 0.0000 | 0.3489 |
| Total | 0.2307 | 3.3900e-003 | 0.2095 | 2.0000e-005 | | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.5000e-004 | 2.0000e-005 | 1.4741 |

7.0 Water Detail

7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|-------------|-------------|--------|
| Category | MT/yr | | | |
| Mitigated | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Unmitigated | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |

7.2 Water by Land Use

Unmitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|---------------|--------------------|--------------------|---------------|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 1.82431 / 1.15011 | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Enclosed Parking with Elevator | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |

Mitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|---------------|--------------------|--------------------|---------------|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 1.82431 / 1.15011 | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Enclosed Parking with Elevator | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|--------|--------|
| | MT/yr | | | |
| Mitigated | 2.6145 | 0.1545 | 0.0000 | 6.4774 |
| Unmitigated | 2.6145 | 0.1545 | 0.0000 | 6.4774 |

2.2 Waste by Land Use

| | | | | |
|-------------|--------|--------|--------|--------|
| Unmitigated | 2.6145 | 0.1545 | 0.0000 | 6.4774 |
|-------------|--------|--------|--------|--------|

2.2 Waste by Land Use

| | | | | | |
|---------------|--------|---------------|---------------|---------------|---------------|
| with Elevator | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Total | | 2.6145 | 0.1545 | 0.0000 | 6.4774 |

Mitigated

| | | | | | |
|----------|--------|---------------|---------------|---------------|---------------|
| | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| | | 2.6145 | 0.1545 | 0.0000 | 6.4774 |
| Land Use | | | | | |

Apartment Rise

| | | | | | |
|-----------------------------------|---|---------------|---------------|---------------|---------------|
| Enclosed Parking with Elevator | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 2.6145 | 0.1545 | 0.0000 | 6.4774 |

4898 ECR AQ Existing Site - Santa Clara County, Annual

**4898 ECR AQ Existing Site
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|-------------------------|------|----------|-------------|--------------------|------------|
| General Office Building | 2.31 | 1000sqft | 0.00 | 2,310.00 | 0 |
| Strip Mall | 6.09 | 1000sqft | 0.43 | 6,086.00 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|---------------------------------|--------------------------------|---------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 58 |
| Climate Zone | 4 | | | Operational Year | 2020 |
| Utility Company | Pacific Gas & Electric Company | | | | |
| CO2 Intensity (lb/MW hr) | 290 | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - Retail Space = 2 spas, 2 guitar teaching, 1 auto broker, Office Space = insurance office, tax service office, and office for nursing education

Construction Phase - No construction, existing site

Off-road Equipment - no construction equipment

Vehicle Trips - Office: 16.19, 3.61, 1.54; Retail: 19.72, 18.71, 9.09

| Table Name | Column Name | Default Value | New Value |
|------------|----------------|---------------|-----------|
| tblGrading | AcresOfGrading | 0.00 | 0.50 |
| tblLandUse | LotAcreage | 0.05 | 0.00 |

| | | | |
|---------------------------|----------------------------|--------|-------|
| tblLandUse | LotAcreage | 0.14 | 0.43 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35 | 290 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 5.00 |
| tblVehicleTrips | ST_TR | 2.46 | 3.61 |
| tblVehicleTrips | ST_TR | 42.04 | 18.71 |
| tblVehicleTrips | SU_TR | 1.05 | 1.54 |
| tblVehicleTrips | SU_TR | 20.43 | 9.09 |
| tblVehicleTrips | WD_TR | 11.03 | 16.19 |
| tblVehicleTrips | WD_TR | 44.32 | 19.72 |

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

| Year | ROG | | NO _x | | PM _{2.5} | | | Exhaust PM _{2.5} | | | GHG | | | | |
|---------|-------------|-------------|-----------------|--------|-------------------|--------|--------|---------------------------|--------|--------|--------|--------|--------|--------|--------|
| | 005 | 005 | 005 | 005 | 005 | 004 | 005 | 005 | 005 | 005 | 005 | 005 | 005 | 005 | 005 |
| 2019 | 1.0000e-005 | 1.0000e-005 | 0.0000 | 0.0000 | 2.8000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |
| Maximum | 1.0000e-005 | 1.0000e-005 | 0.0000 | 0.0000 | 2.8000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |

Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------|-------------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.8000e-004 | 0.0000 | 2.9000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |
| Maximum | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.8000e-004 | 0.0000 | 2.9000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|--|--|
| 1 | 6-1-2019 | 8-31-2019 | 0.0000 | 0.0000 |
| | | Highest | 0.0000 | 0.0000 |

2.2 Overall Operational Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0372 | 0.0000 | 8.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.0000 | 1.6000e-004 |
| Energy | 2.8000e-004 | 2.5600e-003 | 2.1500e-003 | 2.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | 0.0000 | 16.7635 | 16.7635 | 1.4500e-003 | 3.4000e-004 | 16.9012 |
| Mobile | 0.0344 | 0.1331 | 0.3573 | 1.0400e-003 | 0.0882 | 1.0600e-003 | 0.0892 | 0.0236 | 9.9000e-004 | 0.0246 | 0.0000 | 94.9891 | 94.9891 | 3.6900e-003 | 0.0000 | 95.0815 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1.7335 | 0.0000 | 1.7335 | 0.1025 | 0.0000 | 4.2948 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.2734 | 0.8565 | 1.1298 | 0.0282 | 6.8000e-004 | 2.0367 |
| Total | 0.0718 | 0.1357 | 0.3595 | 1.0600e-003 | 0.0882 | 1.2500e-003 | 0.0894 | 0.0236 | 1.1800e-003 | 0.0248 | 2.0069 | 112.6093 | 114.6162 | 0.1358 | 1.0200e-003 | 118.3143 |

Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.0372 | 0.0000 | 8.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.0000 | 1.6000e-004 |
| Energy | 2.8000e-004 | 2.5600e-003 | 2.1500e-003 | 2.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | 0.0000 | 16.7635 | 16.7635 | 1.4500e-003 | 3.4000e-004 | 16.9012 |
| Mobile | 0.0344 | 0.1331 | 0.3573 | 1.0400e-003 | 0.0882 | 1.0600e-003 | 0.0892 | 0.0236 | 9.9000e-004 | 0.0246 | 0.0000 | 94.9891 | 94.9891 | 3.6900e-003 | 0.0000 | 95.0815 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1.7335 | 0.0000 | 1.7335 | 0.1025 | 0.0000 | 4.2948 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.2734 | 0.8565 | 1.1298 | 0.0282 | 6.8000e-004 | 2.0367 |
| Total | 0.0718 | 0.1357 | 0.3595 | 1.0600e-003 | 0.0882 | 1.2500e-003 | 0.0894 | 0.0236 | 1.1800e-003 | 0.0248 | 2.0069 | 112.6093 | 114.6162 | 0.1358 | 1.0200e-003 | 118.3143 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|------------------|------------------|------------|-----------|---------------|----------|-------------------|
| 1 | Site Preparation | Site Preparation | 6/15/2019 | 6/17/2019 | 5 | 1 | |

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|------------------|---------------------------|--------|-------------|-------------|-------------|
| Site Preparation | Graders | 0 | 8.00 | 187 | 0.41 |
| Site Preparation | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Site Preparation | 0 | 5.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 2.7000e-004 | 0.0000 | 2.7000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.7000e-004 | 0.0000 | 2.7000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|

| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |
| Total | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|---------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 2.7000e-004 | 0.0000 | 2.7000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.7000e-004 | 0.0000 | 2.7000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-------------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |

| | | | | | | | | | | | | | | | | |
|-------|-------------|-------------|-------------|--------|-------------|--------|-------------|-------------|--------|-------------|--------|--------|--------|--------|--------|--------|
| Total | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0176 | 0.0176 | 0.0000 | 0.0000 | 0.0176 |
|-------|-------------|-------------|-------------|--------|-------------|--------|-------------|-------------|--------|-------------|--------|--------|--------|--------|--------|--------|

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|---------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.0344 | 0.1331 | 0.3573 | 1.0400e-003 | 0.0882 | 1.0600e-003 | 0.0892 | 0.0236 | 9.9000e-004 | 0.0246 | 0.0000 | 94.9891 | 94.9891 | 3.6900e-003 | 0.0000 | 95.0815 |
| Unmitigated | 0.0344 | 0.1331 | 0.3573 | 1.0400e-003 | 0.0882 | 1.0600e-003 | 0.0892 | 0.0236 | 9.9000e-004 | 0.0246 | 0.0000 | 94.9891 | 94.9891 | 3.6900e-003 | 0.0000 | 95.0815 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|-------------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Office Building | 37.40 | 8.34 | 3.56 | 67,900 | 67,900 |
| Strip Mall | 120.02 | 113.87 | 55.32 | 169,243 | 169,243 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|-------------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Office Building | 37.40 | 8.34 | 3.56 | 67,900 | 67,900 |
| Strip Mall | 120.02 | 113.87 | 55.32 | 169,243 | 169,243 |

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| General Office Building | 0.604810 | 0.038204 | 0.185149 | 0.108513 | 0.015498 | 0.004981 | 0.012268 | 0.020156 | 0.002083 | 0.001571 | 0.005363 | 0.000620 | 0.000785 |
| Strip Mall | 0.604810 | 0.038204 | 0.185149 | 0.108513 | 0.015498 | 0.004981 | 0.012268 | 0.020156 | 0.002083 | 0.001571 | 0.005363 | 0.000620 | 0.000785 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 13.9759 | 13.9759 | 1.4000e-003 | 2.9000e-004 | 14.0970 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 13.9759 | 13.9759 | 1.4000e-003 | 2.9000e-004 | 14.0970 |
| NaturalGas Mitigated | 2.8000e-004 | 2.5600e-003 | 2.1500e-003 | 2.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | 0.0000 | 2.7877 | 2.7877 | 5.0000e-005 | 5.0000e-005 | 2.8042 |
| NaturalGas Unmitigated | 2.8000e-004 | 2.5600e-003 | 2.1500e-003 | 2.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | 0.0000 | 2.7877 | 2.7877 | 5.0000e-005 | 5.0000e-005 | 2.8042 |

5.2 Energy by Land Use - NaturalGas

| | | | | | | | | | | | | | | | | |
|------------------------|-------------|-------------|-------------|-------------|--|-------------|-------------|--|-------------|-------------|--------|--------|--------|-------------|-------------|--------|
| Mitigated | 2.8000e-004 | 2.5600e-003 | 2.1500e-003 | 2.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | 0.0000 | 2.7877 | 2.7877 | 5.0000e-005 | 5.0000e-005 | 2.8042 |
| NaturalGas Unmitigated | 2.8000e-004 | 2.5600e-003 | 2.1500e-003 | 2.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | 0.0000 | 2.7877 | 2.7877 | 5.0000e-005 | 5.0000e-005 | 2.8042 |

5.2 Energy by Land Use - NaturalGas

| | | | | | | | | | | | | | | | | | |
|--------------|---------|--------------------|--------------------|--------------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Strip Mall | 14423.8 | 8.0000e-005 | 7.1000e-004 | 5.9000e-004 | 0.0000 | | 5.0000e-005 | 5.0000e-005 | | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.7697 | 0.7697 | 1.0000e-005 | 1.0000e-005 | 0.7743 |
| Total | | 2.8000e-004 | 2.5600e-003 | 2.1500e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | 0.0000 | 2.7877 | 2.7877 | 5.0000e-005 | 5.0000e-005 | 2.8042 |

Mitigated

| | Natural Gas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-----------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| General Office Building | 37814.7 | 2.0000e-004 | 1.8500e-003 | 1.5600e-003 | 1.0000e-005 | | 1.4000e-004 | 1.4000e-004 | | 1.4000e-004 | 1.4000e-004 | 0.0000 | 2.0179 | 2.0179 | 4.0000e-005 | 4.0000e-005 | 2.0299 |
| Strip Mall | 14423.8 | 8.0000e-005 | 7.1000e-004 | 5.9000e-004 | 0.0000 | | 5.0000e-005 | 5.0000e-005 | | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.7697 | 0.7697 | 1.0000e-005 | 1.0000e-005 | 0.7743 |
| Total | | 2.8000e-004 | 2.5600e-003 | 2.1500e-003 | 1.0000e-005 | | 1.9000e-004 | 1.9000e-004 | | 1.9000e-004 | 1.9000e-004 | 0.0000 | 2.7877 | 2.7877 | 5.0000e-005 | 5.0000e-005 | 2.8042 |

5.3 Energy by Land Use - Electricity

Unmitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kWh/yr | MT/yr | | | |
| General Office Building | 41187.3 | 5.4179 | 5.4000e-004 | 1.1000e-004 | 5.4648 |
| Strip Mall | 65059.3 | 8.5580 | 8.6000e-004 | 1.8000e-004 | 8.6322 |
| Total | | 13.9759 | 1.4000e-003 | 2.9000e-004 | 14.0970 |

Mitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kWh/yr | MT/yr | | | |
| General Office Building | 41187.3 | 5.4179 | 5.4000e-004 | 1.1000e-004 | 5.4648 |
| Strip Mall | 65059.3 | 8.5580 | 8.6000e-004 | 1.8000e-004 | 8.6322 |
| Total | | 13.9759 | 1.4000e-003 | 2.9000e-004 | 14.0970 |

6.0 Area Detail

6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.0372 | 0.0000 | 8.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.0000 | 1.6000e-004 |
| Unmitigated | 0.0372 | 0.0000 | 8.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.0000 | 1.6000e-004 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|

| SubCategory | tons/yr | | | | | | | | | MT/yr | | | | | | |
|-----------------------|---------------|---------------|--------------------|---------------|--|---------------|---------------|--|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| Architectural Coating | 4.3800e-003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Consumer Products | 0.0328 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Landscaping | 1.0000e-005 | 0.0000 | 8.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.0000 | 1.6000e-004 |
| Total | 0.0372 | 0.0000 | 8.0000e-005 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.0000 | 1.6000e-004 |

Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------------|---------------|---------------|--------------------|---------------|---------------|--------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory | tons/yr | | | | | | | | | MT/yr | | | | | | |
| Architectural Coating | 4.3800e-003 | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.0328 | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.0000e-005 | 0.0000 | 8.0000e-005 | 0.0000 | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.0000 | 1.6000e-004 |
| Total | 0.0372 | 0.0000 | 8.0000e-005 | 0.0000 | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1.5000e-004 | 1.5000e-004 | 0.0000 | 0.0000 | 1.6000e-004 |

7.0 Water Detail

7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------|-----|-----|------|
| Category | MT/yr | | | |

| | | | | |
|-------------|--------|--------|-------------|--------|
| Mitigated | 1.1298 | 0.0282 | 6.8000e-004 | 2.0367 |
| Unmitigated | 1.1298 | 0.0282 | 6.8000e-004 | 2.0367 |

7.2 Water by Land Use

Unmitigated

| Land Use | CO2e |
|-------------------------|---------------|
| General Office Building | 0.9705 |
| Strip Mall | 1.0663 |
| Total | 2.0367 |

Mitigated

| Land Use | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|---------------------|---------------|---------------|--------------------|---------------|
| | Mgal | MT/yr | | | |
| General Office Building | 0.410565 / 0.251637 | 0.5383 | 0.0134 | 3.2000e-004 | 0.9705 |
| Strip Mall | 0.451102 / 0.276482 | 0.5915 | 0.0147 | 3.6000e-004 | 1.0663 |
| Total | | 1.1298 | 0.0282 | 6.8000e-004 | 2.0367 |

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|--------|--------|
| | MT/yr | | | |
| Mitigated | 1.7335 | 0.1025 | 0.0000 | 4.2948 |
| Unmitigated | 1.7335 | 0.1025 | 0.0000 | 4.2948 |

8.2 Waste by Land Use

Unmitigated

| Land Use | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|---------------|---------------|---------------|---------------|
| General Office Building | 0.0000 | 0.0000 | 0.0000 | 1.0812 |
| Strip Mall | 0.0000 | 0.1025 | 0.0000 | 3.2135 |
| Total | 1.7335 | 0.1025 | 0.0000 | 4.2948 |

Mitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|--|----------------|-----------|-----|-----|------|
|--|----------------|-----------|-----|-----|------|

| Land Use | tons | MT/yr | | | |
|-------------------------|------|---------------|---------------|---------------|---------------|
| | | | | | |
| General Office Building | 2.15 | 0.4364 | 0.0258 | 0.0000 | 1.0812 |
| Strip Mall | 6.39 | 1.2971 | 0.0767 | 0.0000 | 3.2135 |
| Total | | 1.7335 | 0.1025 | 0.0000 | 4.2948 |

9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

11.0 Vegetation

4898 ECR Default TAC - Santa Clara County, Annual

**4898 ECR Default TAC
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|--------------------------------|-------|---------------|-------------|--------------------|------------|
| Enclosed Parking with Elevator | 55.00 | Space | 0.49 | 31,344.00 | 0 |
| Apartments Mid Rise | 28.00 | Dwelling Unit | 0.43 | 48,058.00 | 80 |

1.2 Other Project Characteristics

| | | | | | |
|---------------------------------|--------------------------------|---------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 58 |
| Climate Zone | 4 | | | Operational Year | 2020 |
| Utility Company | Pacific Gas & Electric Company | | | | |
| CO2 Intensity (lb/MW hr) | 290 | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - PG&E 2020 290 rate
- Land Use - Land Use: 28 Apts, 55 parking spaces. Default acreage for parking
- Construction Phase - CalEEMod Default Schedule
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment - CalEEMod Default Equipment for all Phases
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment -

Off-road Equipment -

Trips and VMT - Demo Hauling:13,094-sf, Asphalt Hauling: 227-cy --> 54 trips, TAC trip length 1 mile localized air emissions

Demolition - Existing building: 4,550 and existing hardscape: 13,094

Grading - 13,300 cubic yards of soil hauling export

Vehicle Trips - 152 trips/28 units = 5.43 weekday, 5.23 Saturday, 4.78 Sunday

Woodstoves - all gas, no wood

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 2 DPF 3 mitigation

| Table Name | Column Name | Default Value | New Value |
|-------------------------|------------------------------|---------------|-----------|
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | DPF | No Change | Level 3 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |

| | | | |
|---------------------------|----------------------------|-----------|---------------------------|
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 9.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblConstEquipMitigation | Tier | No Change | Tier 2 |
| tblFireplaces | FireplaceWoodMass | 228.80 | 0.00 |
| tblFireplaces | NumberGas | 4.20 | 8.96 |
| tblFireplaces | NumberWood | 4.76 | 0.00 |
| tblGrading | MaterialExported | 0.00 | 13,300.00 |
| tblLandUse | LandUseSquareFeet | 22,000.00 | 31,344.00 |
| tblLandUse | LandUseSquareFeet | 28,000.00 | 48,058.00 |
| tblLandUse | LotAcreage | 0.74 | 0.43 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.37 | 0.37 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35 | 290 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 1.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 1.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 1.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 1.00 |

| | | | |
|-----------------|---------------------------------------|----------|----------|
| tblTripsAndVMT | HaulingTripLength | 20.00 | 1.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 1.00 |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 1.00 |
| tblTripsAndVMT | HaulingTripNumber | 1,663.00 | 1,662.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 1.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 1.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 1.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 1.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 1.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 1.00 |
| tblTripsAndVMT | VendorTripLength | 7.30 | 1.00 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 1.00 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 1.00 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 1.00 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 1.00 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 1.00 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 1.00 |
| tblTripsAndVMT | WorkerTripLength | 10.80 | 1.00 |
| tblVehicleTrips | ST_TR | 6.39 | 5.23 |
| tblVehicleTrips | SU_TR | 5.86 | 4.78 |
| tblVehicleTrips | WD_TR | 6.65 | 5.43 |
| tblWater | AerobicPercent | 87.46 | 100.00 |
| tblWater | AerobicPercent | 87.46 | 100.00 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 0.00 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 0.00 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 582.40 | 0.00 |

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.4089 | 0.7158 | 0.5092 | 8.8000e-004 | 0.0129 | 0.0366 | 0.0495 | 2.5500e-003 | 0.0338 | 0.0363 | 0.0000 | 80.1879 | 80.1879 | 0.0210 | 0.0000 | 80.7136 |
| Maximum | 0.4089 | 0.7158 | 0.5092 | 8.8000e-004 | 0.0129 | 0.0366 | 0.0495 | 2.5500e-003 | 0.0338 | 0.0363 | 0.0000 | 80.1879 | 80.1879 | 0.0210 | 0.0000 | 80.7136 |

Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------------|---------------|---------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2019 | 0.3794 | 0.7834 | 0.5349 | 8.8000e-004 | 7.1700e-003 | 3.8000e-003 | 0.0110 | 1.1000e-003 | 3.7900e-003 | 4.8800e-003 | 0.0000 | 80.1878 | 80.1878 | 0.0210 | 0.0000 | 80.7135 |
| Maximum | 0.3794 | 0.7834 | 0.5349 | 8.8000e-004 | 7.1700e-003 | 3.8000e-003 | 0.0110 | 1.1000e-003 | 3.7900e-003 | 4.8800e-003 | 0.0000 | 80.1878 | 80.1878 | 0.0210 | 0.0000 | 80.7135 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------|-------------|--------------|--------------|-------------|---------------|--------------|--------------|----------------|---------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Percent Reduction | 7.21 | -9.45 | -5.05 | 0.00 | 44.50 | 89.61 | 77.85 | 56.86 | 88.78 | 86.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|--|--|
| 1 | 6-1-2019 | 8-31-2019 | 0.4573 | 0.4841 |
| 2 | 9-1-2019 | 9-30-2019 | 0.1224 | 0.1267 |

| | | | | |
|--|--|---------|--------|--------|
| | | Highest | 0.4573 | 0.4841 |
|--|--|---------|--------|--------|

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1 | Demolition | Demolition | 6/1/2019 | 6/14/2019 | 5 | 10 | |
| 2 | Site Preparation | Site Preparation | 6/15/2019 | 6/17/2019 | 5 | 1 | |
| 3 | Grading | Grading | 6/18/2019 | 6/19/2019 | 5 | 2 | |
| 4 | Trenching/Foundation | Trenching | 6/18/2019 | 7/1/2019 | 5 | 10 | |
| 5 | Building Construction | Building Construction | 6/20/2019 | 11/6/2019 | 5 | 100 | |
| 6 | Paving | Paving | 11/7/2019 | 11/13/2019 | 5 | 5 | |
| 7 | Architectural Coating | Architectural Coating | 11/14/2019 | 11/20/2019 | 5 | 5 | |

Acres of Grading (Site Preparation Phase): 0.5

| | | | | | | | |
|---|-----------------------|-----------------------|------------|------------|---|-----|--|
| 5 | Building Construction | Building Construction | 6/20/2019 | 11/6/2019 | 5 | 100 | |
| 6 | Paving | Paving | 11/7/2019 | 11/13/2019 | 5 | 5 | |
| 7 | Architectural Coating | Architectural Coating | 11/14/2019 | 11/20/2019 | 5 | 5 | |

a:

Acres of Grading (Site Preparation Phase): 0.5

| | | | | | |
|----------------------|---------------------------|---|------|-----|------|
| Demolition | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Grading | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Grading | Rubber Tired Dozers | 1 | 1.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Trenching/Foundation | Excavators | 1 | 7.00 | 158 | 0.38 |

| | | | | | |
|-----------------------|---------------------------|---|------|-----|------|
| Trenching/Foundation | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 4.00 | 231 | 0.29 |
| Building Construction | Forklifts | 2 | 6.00 | 89 | 0.20 |
| Building Construction | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Paving | Cement and Mortar Mixers | 4 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 7.00 | 130 | 0.42 |
| Paving | Rollers | 1 | 7.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 4 | 10.00 | 0.00 | 80.00 | 1.00 | 1.00 | 1.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 2 | 5.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 1,662.00 | 1.00 | 1.00 | 1.00 | LD_Mix | HDT_Mix | HHDT |
| Trenching/Foundation | 2 | 5.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 5 | 33.00 | 8.00 | 0.00 | 1.00 | 1.00 | 1.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 7 | 18.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 7.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 8.6800e-003 | 0.0000 | 8.6800e-003 | 1.3100e-003 | 0.0000 | 1.3100e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | | 2.6900e-003 | 2.6900e-003 | | 2.5600e-003 | 2.5600e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |
| Total | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | 8.6800e-003 | 2.6900e-003 | 0.0114 | 1.3100e-003 | 2.5600e-003 | 3.8700e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |

Unmitigate

| | | | | | | | | | | | | | | | | |
|-----------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| | | | | | 8.6800e-003 | 0.0000 | 8.6800e-003 | 1.3100e-003 | 0.0000 | 1.3100e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0. |
| | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | | 2.6900e-003 | 2.6900e-003 | | 2.5600e-003 | 2.5600e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |
| Category | 4.7700e-003 | 0.0430 | 0.0385 | 6.0000e-005 | 8.6800e-003 | 2.6900e-003 | 0.0114 | 1.3100e-003 | 2.5600e-003 | 3.8700e-003 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |
| Hauling | | | | | | | | | | | | | | | | 5197 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 6.0000e-005 | 3.0000e-005 | 3.7000e-004 | 0.0000 | 4.0000e-005 | 0.0000 | 4.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0419 | 0.0419 | 0.0000 | 0.0000 | 0.0420 |
| Total | 1.6000e-004 | 4.3100e-003 | 1.0800e-003 | 1.0000e-005 | 7.0000e-005 | 1.0000e-005 | 8.0000e-005 | 2.0000e-005 | 1.0000e-005 | 2.0000e-005 | 0.0000 | 0.5602 | 0.5602 | 6.0000e-005 | 0.0000 | 0.5617 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|

| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Fugitive Dust | | | | | 3.9100e-003 | 0.0000 | 3.9100e-003 | 3.0000e-004 | 0.0000 | 3.0000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Off-Road | 2.4200e-003 | 0.0518 | 0.0397 | 6.0000e-005 | | 3.0000e-004 | 3.0000e-004 | | 3.0000e-004 | 3.0000e-004 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |
| Total | 2.4200e-003 | 0.0518 | 0.0397 | 6.0000e-005 | 3.9100e-003 | 3.0000e-004 | 4.2100e-003 | 3.0000e-004 | 3.0000e-004 | 6.0000e-004 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |

| | | | | | | | | | | | | | | | | |
|--------------------|-------------|--------|--------|-------------|-----|-------------|-------------|-----|-------------|-------------|--------|--------|--------|-------------|--------|--------|
| Mitigated (| | | | | 003 | | 003 | 004 | | 004 | | | | | | |
| | 2.4200e-003 | 0.0518 | 0.0397 | 6.0000e-005 | | 3.0000e-004 | 3.0000e-004 | | 3.0000e-004 | 3.0000e-004 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |

| Category | 2.4200e-003 | 0.0518 | 0.0397 | 6.0000e-005 | 3.9100e-003 | 3.0000e-004 | 4.2100e-003 | 3.0000e-004 | 3.0000e-004 | 6.0000e-004 | 0.0000 | 5.2601 | 5.2601 | 1.0000e-003 | 0.0000 | 5.2852 |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Hauling | | | | | | | | | | | | | | | | 5197 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 6.0000e-005 | 3.0000e-005 | 3.7000e-004 | 0.0000 | 4.0000e-005 | 0.0000 | 4.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0419 | 0.0419 | 0.0000 | 0.0000 | 0.0420 |
| Total | 1.6000e-004 | 4.3100e-003 | 1.0800e-003 | 1.0000e-005 | 7.0000e-005 | 1.0000e-005 | 8.0000e-005 | 2.0000e-005 | 1.0000e-005 | 2.0000e-005 | 0.0000 | 0.5602 | 0.5602 | 6.0000e-005 | 0.0000 | 0.5617 |

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|-------------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|--------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 2.7000e-004 | 0.0000 | 2.7000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 3.6000e-004 | 4.4600e-003 | 2.0700e-003 | 0.0000 | | 1.8000e-004 | 1.8000e-004 | | 1.7000e-004 | 1.7000e-004 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Total | 3.6000e-004 | 4.4600e-003 | 2.0700e-003 | 0.0000 | 2.7000e-004 | 1.8000e-004 | 4.5000e-004 | 3.0000e-005 | 1.7000e-004 | 2.0000e-004 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1000e-003 | 0.0000 | 0.0000 | 2.1000e-003 |
| Total | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1000e-003 | 0.0000 | 0.0000 | 2.1000e-003 |

Mitigated (

| | | | | | | | | | | | | | | | | |
|-----------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|
| | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0. |
| | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1000e-003 | 0.0000 | 0.0000 | 2.1 |
| Category | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1000e-003 | 0.0000 | 0.0000 | 2.1 |
| Fugitive Dust | | | | | 1.2000e-004 | 0.0000 | 1.2000e-004 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.5000e-004 | 4.3100e-003 | 2.9300e-003 | 0.0000 | | 2.0000e-005 | 2.0000e-005 | | 2.0000e-005 | 2.0000e-005 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |
| Total | 1.5000e-004 | 4.3100e-003 | 2.9300e-003 | 0.0000 | 1.2000e-004 | 2.0000e-005 | 1.4000e-004 | 1.0000e-005 | 2.0000e-005 | 3.0000e-005 | 0.0000 | 0.4378 | 0.4378 | 1.4000e-004 | 0.0000 | 0.4413 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e | |
|--------------|---------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1000e-003 | 0.0000 | 0.0000 | 2.1000e-003 | |
| Total | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1000e-003 | 0.0000 | 0.0000 | 2.1000e-003 | |

3.4 Gradir Unmitigate

| | | | | | | | | | | | | | | | | | |
|-----------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|------------|
| | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0. |
| | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1000e-003 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1 |
| Category | 0.0000 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1000e-003 | 0.0000 | 0.0000 | 2.1000e-003 | 2.1 |
| Fugitive Dust | | | | | 0.0000e-003 | 0.0000e-003 | 0.0000e-003 | 0.0000e-004 | 0.0000e-004 | 0.0000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.5000e-004 | 8.6000e-003 | 7.6900e-003 | 1.0000e-005 | | 5.4000e-004 | 5.4000e-004 | | 5.1000e-004 | 5.1000e-004 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 | |
| Total | 9.5000e-004 | 8.6000e-003 | 7.6900e-003 | 1.0000e-005 | 1.5000e-003 | 5.4000e-004 | 2.0400e-003 | 5.3000e-004 | 5.1000e-004 | 1.0400e-003 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 | |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|---------|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Hauling | 2.0200e-003 | 0.0890 | 0.0149 | 1.1000e-004 | 7.2000e-004 | 1.1000e-004 | 8.3000e-004 | 2.0000e-004 | 1.1000e-004 | 3.1000e-004 | 0.0000 | 10.7658 | 10.7658 | 1.2600e-003 | 0.0000 | 10.7973 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 8.3900e-003 | 8.3900e-003 | 0.0000 | 0.0000 | 8.4000e-003 |
| Total | 2.0300e-003 | 0.0890 | 0.0149 | 1.1000e-004 | 7.3000e-004 | 1.1000e-004 | 8.4000e-004 | 2.0000e-004 | 1.1000e-004 | 3.1000e-004 | 0.0000 | 10.7742 | 10.7742 | 1.2600e-003 | 0.0000 | 10.8057 |

Mitigated C

| | | | | | | | | | | | | | | | | |
|--|-------------|-------------|-------------|--------|-------------|--------|-------------|--------|--------|--------|--------|-------------|-------------|--------|--------|-----|
| | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 8.3900e-003 | 8.3900e-003 | 0.0000 | 0.0000 | 8.4 |
|--|-------------|-------------|-------------|--------|-------------|--------|-------------|--------|--------|--------|--------|-------------|-------------|--------|--------|-----|

| | | | | | | | | | | | | | | | | |
|---------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|-------------------|
| Category | 2.0300e-003 | 0.0890 | 0.0149 | 1.1000e-004 | 7.3000e-004 | 1.1000e-004 | 8.4000e-004 | 2.0000e-004 | 1.1000e-004 | 3.1000e-004 | 0.0000 | 10.7742 | 10.7742 | 1.2600e-003 | 0.0000 | 10 ^{02e} |
| Fugitive Dust | | | | | | | | | | | | | | | | 0000 |
| Off-Road | 4.8000e-004 | 0.0104 | 7.9400e-003 | 1.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 |
| Total | 4.8000e-004 | 0.0104 | 7.9400e-003 | 1.0000e-005 | 6.8000e-004 | 6.0000e-005 | 7.4000e-004 | 1.2000e-004 | 6.0000e-005 | 1.8000e-004 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Off-Road | 4.8000e-004 | 0.0104 | 7.9400e-003 | 1.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 |
| Total | 4.8000e-004 | 0.0104 | 7.9400e-003 | 1.0000e-005 | 6.8000e-004 | 6.0000e-005 | 7.4000e-004 | 1.2000e-004 | 6.0000e-005 | 1.8000e-004 | 0.0000 | 1.0520 | 1.0520 | 2.0000e-004 | 0.0000 | 1.0570 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 8.3900e-003 | 8.3900e-003 | 0.0000 | 0.0000 | 8.4000e-003 |
| Total | 2.0300e-003 | 0.0890 | 0.0149 | 1.1000e-004 | 7.3000e-004 | 1.1000e-004 | 8.4000e-004 | 2.0000e-004 | 1.1000e-004 | 3.1000e-004 | 0.0000 | 10.7742 | 10.7742 | 1.2600e-003 | 0.0000 | 10.8057 |

3.5 Trenching/Foundation - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 2.1600e-003 | 0.0220 | 0.0244 | 4.0000e-005 | | 1.2500e-003 | 1.2500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |
| Total | 2.1600e-003 | 0.0220 | 0.0244 | 4.0000e-005 | | 1.2500e-003 | 1.2500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|----------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 1.0000e-005 | 1.8000e-004 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0210 | 0.0210 | 0.0000 | 0.0000 | 0.0210 |
| Total | 3.0000e-005 | 1.0000e-005 | 1.8000e-004 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0210 | 0.0210 | 0.0000 | 0.0000 | 0.0210 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 1.5200e-003 | 0.0325 | 0.0274 | 4.0000e-005 | | 1.7000e-004 | 1.7000e-004 | | 1.7000e-004 | 1.7000e-004 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |
| Total | 1.5200e-003 | 0.0325 | 0.0274 | 4.0000e-005 | | 1.7000e-004 | 1.7000e-004 | | 1.7000e-004 | 1.7000e-004 | 0.0000 | 3.2544 | 3.2544 | 1.0300e-003 | 0.0000 | 3.2802 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|----------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 3.0000e-005 | 1.0000e-005 | 1.8000e-004 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0210 | 0.0210 | 0.0000 | 0.0000 | 0.0210 |
| Total | 3.0000e-005 | 1.0000e-005 | 1.8000e-004 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0210 | 0.0210 | 0.0000 | 0.0000 | 0.0210 |

3.6 Building Construction - 2019

Unmitigated Construction On-Site

| | | | | | | | | | | | | | | | | |
|----------|-------------|-------------|-------------|--------|-------------|--------|-------------|--------|--------|-------------|--------|--------|--------|--------|--------|--------|
| | 3.0000e-005 | 1.0000e-005 | 1.8000e-004 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0210 | 0.0210 | 0.0000 | 0.0000 | 0.0210 |
| Category | | | | | | | | | | | | | | | | |
| Off-Road | | | | | | | | | | | | | | | | |

ng Construction - 2019

id Construction On-Site

CO2e

.5548

| | | | | | | | | | | | | | | | | |
|-------|--------|--------|--------|-------------|--|--------|--------|--|--------|--------|--------|---------|---------|--------|--------|---------|
| Total | 0.0479 | 0.4910 | 0.3772 | 5.7000e-004 | | 0.0303 | 0.0303 | | 0.0279 | 0.0279 | 0.0000 | 51.1502 | 51.1502 | 0.0162 | 0.0000 | 51.5548 |
|-------|--------|--------|--------|-------------|--|--------|--------|--|--------|--------|--------|---------|---------|--------|--------|---------|

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 8.7000e-004 | 0.0282 | 8.1100e-003 | 3.0000e-005 | 3.7000e-004 | 7.0000e-005 | 4.4000e-004 | 1.1000e-004 | 7.0000e-005 | 1.7000e-004 | 0.0000 | 3.2079 | 3.2079 | 3.4000e-004 | 0.0000 | 3.2166 |
| Worker | 2.0200e-003 | 9.6000e-004 | 0.0122 | 2.0000e-005 | 1.2300e-003 | 2.0000e-005 | 1.2400e-003 | 3.3000e-004 | 2.0000e-005 | 3.4000e-004 | 0.0000 | 1.3841 | 1.3841 | 7.0000e-005 | 0.0000 | 1.3857 |
| Total | 2.8900e-003 | 0.0291 | 0.0203 | 5.0000e-005 | 1.6000e-003 | 9.0000e-005 | 1.6800e-003 | 4.4000e-004 | 9.0000e-005 | 5.1000e-004 | 0.0000 | 4.5920 | 4.5920 | 4.1000e-004 | 0.0000 | 4.6023 |

Mitigated Construction On-Site

| | | | | | | | | | | | | | | | | |
|-----------------------------|-------------|--------|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|--------|--------|-------------|--------|--------|
| | 2.8900e-003 | 0.0291 | 0.0203 | 5.0000e-005 | 1.6000e-003 | 9.0000e-005 | 1.6800e-003 | 4.4000e-004 | 9.0000e-005 | 5.1000e-004 | 0.0000 | 4.5920 | 4.5920 | 4.1000e-004 | 0.0000 | 4.6023 |
| Category | | | | | | | | | | | | | | | | |
| Off-Road | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | |
| Construction On-Site | | | | | | | | | | | | | | | | |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 8.7000e-004 | 0.0282 | 8.1100e-003 | 3.0000e-005 | 3.7000e-004 | 7.0000e-005 | 4.4000e-004 | 1.1000e-004 | 7.0000e-005 | 1.7000e-004 | 0.0000 | 3.2079 | 3.2079 | 3.4000e-004 | 0.0000 | 3.2166 |
| Worker | 2.0200e-003 | 9.6000e-004 | 0.0122 | 2.0000e-005 | 1.2300e-003 | 2.0000e-005 | 1.2400e-003 | 3.3000e-004 | 2.0000e-005 | 3.4000e-004 | 0.0000 | 1.3841 | 1.3841 | 7.0000e-005 | 0.0000 | 1.3857 |
| Total | 2.8900e-003 | 0.0291 | 0.0203 | 5.0000e-005 | 1.6000e-003 | 9.0000e-005 | 1.6800e-003 | 4.4000e-004 | 9.0000e-005 | 5.1000e-004 | 0.0000 | 4.5920 | 4.5920 | 4.1000e-004 | 0.0000 | 4.6023 |

| | | | | | | | | | | | | | | | | |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------|--------|--------|-------------|--------|--------|
| 3.7 Paving Unmitigate | 8.7000e-004 | 0.0282 | 8.1100e-003 | 3.0000e-005 | 3.7000e-004 | 7.0000e-005 | 4.4000e-004 | 1.1000e-004 | 7.0000e-005 | 1.7000e-004 | 0.0000 | 3.2079 | 3.2079 | 3.4000e-004 | 0.0000 | 3.2166 |
| | 2.0200e-003 | 9.6000e-004 | 0.0122 | 2.0000e-005 | 1.2300e-003 | 2.0000e-005 | 1.2400e-003 | 3.3000e-004 | 2.0000e-005 | 3.4000e-004 | 0.0000 | 1.3841 | 1.3841 | 7.0000e-005 | 0.0000 | 1.3857 |

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 2.8900e-003 | 0.0291 | 0.0203 | 5.0000e-005 | 1.6000e-003 | 9.0000e-005 | 1.6800e-003 | 4.4000e-004 | 9.0000e-005 | 5.1000e-004 | 0.0000 | 4.5920 | 4.5920 | 4.1000e-004 | 0.0000 | 4.6023 |
| Paving | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 2.0700e-003 | 0.0196 | 0.0179 | 3.0000e-005 | 1.1100e-003 | 1.1100e-003 | 1.1100e-003 | 1.0300e-003 | 1.0300e-003 | 1.0300e-003 | 0.0000 | 2.3931 | 2.3931 | 6.8000e-004 | 0.0000 | 2.4102 |

Unmitigated Construction Off-Site

| Category | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|---------|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 6.0000e-005 | 3.0000e-005 | 3.3000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0378 | 0.0378 | 0.0000 | 0.0000 | 0.0378 |
| Total | 6.0000e-005 | 3.0000e-005 | 3.3000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0378 | 0.0378 | 0.0000 | 0.0000 | 0.0378 |

Mitigated C

| | | | | | | | | | | | | | | | | | |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|------|
| | 6.0000e-005 | 3.0000e-005 | 3.3000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0378 | 0.0378 | 0.0000 | 0.0000 | 0.0000 | |
| Total | 6.0000e-005 | 3.0000e-005 | 3.3000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0378 | 0.0378 | 0.0000 | 0.0000 | 0.0000 | |
| Category | | | | | | | | | | | | | | | | 0.002e | |
| Off-Road | | | | | | | | | | | | | | | | | 4102 |
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Total | 9.9000e-004 | 0.0209 | 0.0173 | 3.0000e-005 | | 1.1000e-004 | 1.1000e-004 | | 1.1000e-004 | 1.1000e-004 | 0.0000 | 2.3931 | 2.3931 | 6.8000e-004 | 0.0000 | 2.4102 | |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|---------------|---------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Paving | 0.0000 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 9.9000e-004 | 0.0209 | 0.0173 | 3.0000e-005 | | 1.1000e-004 | 1.1000e-004 | | 1.1000e-004 | 1.1000e-004 | 0.0000 | 2.3931 | 2.3931 | 6.8000e-004 | 0.0000 | 2.4102 |

| | | | | | | | | | | | | | | | | |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 6.0000e-005 | 3.0000e-005 | 3.3000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0378 | 0.0378 | 0.0000 | 0.0000 | 0.0378 |
| Total | 6.0000e-005 | 3.0000e-005 | 3.3000e-004 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0378 | 0.0378 | 0.0000 | 0.0000 | 0.0378 |

3.8 Architectural Coating - 2019

Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.3448 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 6.7000e-004 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |
| Total | 0.3455 | 4.5900e-003 | 4.6000e-003 | 1.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |

Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.0000e-005 | 1.0000e-005 | 1.3000e-004 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0147 | 0.0147 | 0.0000 | 0.0000 | 0.0147 |
| Total | 2.0000e-005 | 1.0000e-005 | 1.3000e-004 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0147 | 0.0147 | 0.0000 | 0.0000 | 0.0147 |

Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.3448 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 2.8000e-004 | 5.8800e-003 | 4.5800e-003 | 1.0000e-005 | | 4.0000e-005 | 4.0000e-005 | | 4.0000e-005 | 4.0000e-005 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |
| Total | 0.3451 | 5.8800e-003 | 4.5800e-003 | 1.0000e-005 | | 4.0000e-005 | 4.0000e-005 | | 4.0000e-005 | 4.0000e-005 | 0.0000 | 0.6383 | 0.6383 | 5.0000e-005 | 0.0000 | 0.6397 |

Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.0000e-005 | 1.0000e-005 | 1.3000e-004 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0147 | 0.0147 | 0.0000 | 0.0000 | 0.0147 |
| Total | 2.0000e-005 | 1.0000e-005 | 1.3000e-004 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0147 | 0.0147 | 0.0000 | 0.0000 | 0.0147 |

4898 ECR Default AQ 2030 - Santa Clara County, Annual

4898 ECR Default AQ - 28 Units 2030
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|--------------------------------|-------|---------------|-------------|--------------------|------------|
| Enclosed Parking with Elevator | 55.00 | Space | 0.49 | 31,344.00 | 0 |
| Apartments Mid Rise | 28.00 | Dwelling Unit | 0.43 | 48,058.00 | 80 |

1.2 Other Project Characteristics

| | | | | | |
|---------------------------------|--------------------------------|---------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 58 |
| Climate Zone | 4 | | | Operational Year | 2030 |
| Utility Company | Pacific Gas & Electric Company | | | | |
| CO2 Intensity (lb/MW hr) | 290 | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - PG&E 2020 290 rate
- Land Use - Land Use: 28 Apts, 55 parking spaces. Default acreage for parking
- Construction Phase - CalEEMod Default Schedule
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment - CalEEMod Default Equipment for all Phases
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment -

Off-road Equipment -

Trips and VMT - Demo Hauling:13,094-sf, Asphalt Hauling: 227-cy --> 54 trips

Demolition - Existing building: 4,550 and existing hardscape: 13,094

Grading - 13,300 cubic yards of soil hauling export

Vehicle Trips - 152 trips/28 units = 5.43 weekday, 5.23 Saturday, 4.78 Sunday

Woodstoves - all gas, no wood

Energy Use -

Water And Wastewater - 100% aerobic

| Table Name | Column Name | Default Value | New Value |
|---------------------------|---------------------------------------|---------------|-----------|
| tblFireplaces | FireplaceWoodMass | 228.80 | 0.00 |
| tblFireplaces | NumberGas | 4.20 | 8.96 |
| tblFireplaces | NumberWood | 4.76 | 0.00 |
| tblGrading | MaterialExported | 0.00 | 13,300.00 |
| tblLandUse | LandUseSquareFeet | 22,000.00 | 31,344.00 |
| tblLandUse | LandUseSquareFeet | 28,000.00 | 48,058.00 |
| tblLandUse | LotAcreage | 0.74 | 0.43 |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35 | 290 |
| tblTripsAndVMT | HaulingTripNumber | 1,663.00 | 1,662.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 54.00 |
| tblVehicleTrips | ST_TR | 6.39 | 5.23 |
| tblVehicleTrips | SU_TR | 5.86 | 4.78 |
| tblVehicleTrips | WD_TR | 6.65 | 5.43 |
| tblWater | AerobicPercent | 87.46 | 100.00 |
| tblWater | AerobicPercent | 87.46 | 100.00 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 0.00 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 0.00 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 582.40 | 0.00 |

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.2306 | 3.3600e-003 | 0.2083 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.5000e-004 | 2.0000e-005 | 1.4740 |
| Energy | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 52.2754 | 52.2754 | 4.1800e-003 | 1.0500e-003 | 52.6933 |
| Mobile | 0.0222 | 0.0960 | 0.2560 | 1.1000e-003 | 0.1276 | 7.4000e-004 | 0.1284 | 0.0342 | 6.9000e-004 | 0.0348 | 0.0000 | 101.5025 | 101.5025 | 2.9200e-003 | 0.0000 | 101.5755 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2.6145 | 0.0000 | 2.6145 | 0.1545 | 0.0000 | 6.4774 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.6454 | 1.8280 | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Total | 0.2541 | 0.1105 | 0.4690 | 1.1900e-003 | 0.1276 | 2.8700e-003 | 0.1305 | 0.0342 | 2.8200e-003 | 0.0370 | 3.2600 | 157.0650 | 160.3250 | 0.1644 | 2.5100e-003 | 165.1831 |

| | | | | | | | | | | | | | | | | |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|---------------|--------------------|---------------|---------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.6454 | 1.8280 | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Total | 0.2541 | 0.1105 | 0.4690 | 1.1900e-003 | 0.1276 | 2.8700e-003 | 0.1305 | 0.0342 | 2.8200e-003 | 0.0370 | 3.2600 | 157.0650 | 160.3250 | 0.1644 | 2.5100e-003 | 165.1831 |

| | | | | | | | | | | | | | | | | |
|--------|-------------|--------|-------------|-------------|--------|-------------|-------------|--------|-------------|-------------|--------|----------|----------|-------------|-------------|----------|
| Energy | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 52.2754 | 52.2754 | 4.1800e-003 | 1.0500e-003 | 52.6933 |
| Mobile | 0.0222 | 0.0960 | 0.2560 | 1.1000e-003 | 0.1276 | 7.4000e-004 | 0.1284 | 0.0342 | 6.9000e-004 | 0.0348 | 0.0000 | 101.5025 | 101.5025 | 2.9200e-003 | 0.0000 | 101.5755 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 2.6145 | 0.0000 | 2.6145 | 0.1545 | 0.0000 | 6.4774 |

| | | | | | | | | | | | | | | | | |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|---------------|--------------------|---------------|---------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.6454 | 1.8280 | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Total | 0.2541 | 0.1105 | 0.4690 | 1.1900e-003 | 0.1276 | 2.8700e-003 | 0.1305 | 0.0342 | 2.8200e-003 | 0.0370 | 3.2600 | 157.0650 | 160.3250 | 0.1644 | 2.5100e-003 | 165.1831 |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|----------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.0222 | 0.0960 | 0.2560 | 1.1000e-003 | 0.1276 | 7.4000e-004 | 0.1284 | 0.0342 | 6.9000e-004 | 0.0348 | 0.0000 | 101.5025 | 101.5025 | 2.9200e-003 | 0.0000 | 101.5755 |
| Unmitigated | 0.0222 | 0.0960 | 0.2560 | 1.1000e-003 | 0.1276 | 7.4000e-004 | 0.1284 | 0.0342 | 6.9000e-004 | 0.0348 | 0.0000 | 101.5025 | 101.5025 | 2.9200e-003 | 0.0000 | 101.5755 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|--------------------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 152.04 | 146.44 | 133.84 | 343,300 | 343,300 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | | |
| | 152.04 | | 3.84 | | 343,300 |

4.2 Trip Summary Information

| Land Use | Miles | | | Daily Trip Rate | | Trip % | Unmitigated Annual VMT | Trip Purpose % | | Mitigated Annual VMT |
|--------------------------------|------------|------------|------------|-----------------|--------|--------|------------------------|----------------|------------|----------------------|
| | H-W or C-W | H-S or C-C | H-O or C-N | Saturday | Sunday | | | Diverted | Annual VMT | |
| Apartments Mid Rise | 10.80 | 4.80 | 5.70 | 146.44 | 133.84 | 54.00 | 343,300 | 11 | 343,300 | |
| Enclosed Parking with Elevator | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | | 0 | | |

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise | 0.621541 | 0.034056 | 0.180136 | 0.101248 | 0.011859 | 0.005060 | 0.013110 | 0.022881 | 0.002221 | 0.001470 | 0.005122 | 0.000646 | 0.000651 |
| Enclosed Parking with Elevator | 0.621541 | 0.034056 | 0.180136 | 0.101248 | 0.011859 | 0.005060 | 0.013110 | 0.022881 | 0.002221 | 0.001470 | 0.005122 | 0.000646 | 0.000651 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------------------|-------------|--------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 39.3665 | 39.3665 | 3.9400e-003 | 8.1000e-004 | 39.7076 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 39.3665 | 39.3665 | 3.9400e-003 | 8.1000e-004 | 39.7076 |
| NaturalGas Mitigated | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |
| NaturalGas Unmitigated | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |

5.2 Energy by Land Use - NaturalGas

| | | | | | | | | | | | | | | | | |
|------------------------|-------------|--------|-------------|-------------|--|-------------|-------------|--|-------------|-------------|--------|---------|---------|-------------|-------------|---------|
| NaturalGas Mitigated | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |
| NaturalGas Unmitigated | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |

5.2 Energy by Land Use - NaturalGas

| | | | | | | | | | | | | | | | | | |
|--------------------------------|---|--------------------|---------------|--------------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Enclosed Parking with Elevator | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |

Mitigated

| | Natural Gas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|-----------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Apartments Mid Rise | 241905 | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |
| Enclosed Parking with Elevator | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 1.3000e-003 | 0.0112 | 4.7400e-003 | 7.0000e-005 | | 9.0000e-004 | 9.0000e-004 | | 9.0000e-004 | 9.0000e-004 | 0.0000 | 12.9090 | 12.9090 | 2.5000e-004 | 2.4000e-004 | 12.9857 |

5.3 Energy by Land Use - Electricity

Unmitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 115594 | 15.2054 | 1.5200e-003 | 3.1000e-004 | 15.3372 |
| Enclosed Parking with Elevator | 183676 | 24.1611 | 2.4200e-003 | 5.0000e-004 | 24.3704 |
| Total | | 39.3665 | 3.9400e-003 | 8.1000e-004 | 39.7076 |

Mitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 115594 | 15.2054 | 1.5200e-003 | 3.1000e-004 | 15.3372 |
| Enclosed Parking with Elevator | 183676 | 24.1611 | 2.4200e-003 | 5.0000e-004 | 24.3704 |
| Total | | 39.3665 | 3.9400e-003 | 8.1000e-004 | 39.7076 |

6.0 Area Detail

6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|-------------|---------|-------------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|--------|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.2306 | 3.3600e-003 | 0.2083 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.5000e-004 | 2.0000e-005 | 1.4740 |
| Unmitigated | 0.2306 | 3.3600e-003 | 0.2083 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.5000e-004 | 2.0000e-005 | 1.4740 |

6.2 Area by SubCategory

Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|

| SubCategory | tons/yr | | | | | | | | MT/yr | | | | | | | |
|-----------------------|---------------|--------------------|---------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| | | | | | | | | | | | | | | | | |
| Architectural Coating | 0.0345 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Consumer Products | 0.1897 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Hearth | 1.1000e-004 | 9.7000e-004 | 4.1000e-004 | 1.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | 0.0000 | 1.1186 | 1.1186 | 2.0000e-005 | 2.0000e-005 | 1.1252 |
| Landscaping | 6.2500e-003 | 2.3900e-003 | 0.2079 | 1.0000e-005 | | 1.1500e-003 | 1.1500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 0.3406 | 0.3406 | 3.3000e-004 | 0.0000 | 0.3487 |
| Total | 0.2306 | 3.3600e-003 | 0.2083 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.5000e-004 | 2.0000e-005 | 1.4740 |

| <u>Mitigated</u> | 003 | 003 | | 005 | | 003 | 003 | | 003 | 003 | | | | 004 | | |
|-----------------------|---------------|--------------------|---------------|--------------------|--|--------------------|--------------------|--|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| | 0.2306 | 3.3600e-003 | 0.2083 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.5000e-004 | 2.0000e-005 | 1.4740 |
| SubCategory | | | | | | | | | | | | | | | | |
| Architectural Coating | | | | | | | | | | | | | | | | .0000 |
| Consumer Products | | | | | | | | | | | | | | | | .0000 |
| Hearth | 1.1000e-004 | 9.7000e-004 | 4.1000e-004 | 1.0000e-005 | | 8.0000e-005 | 8.0000e-005 | | 8.0000e-005 | 8.0000e-005 | 0.0000 | 1.1186 | 1.1186 | 2.0000e-005 | 2.0000e-005 | 1.1252 |
| Landscaping | 6.2500e-003 | 2.3900e-003 | 0.2079 | 1.0000e-005 | | 1.1500e-003 | 1.1500e-003 | | 1.1500e-003 | 1.1500e-003 | 0.0000 | 0.3406 | 0.3406 | 3.3000e-004 | 0.0000 | 0.3487 |
| Total | 0.2306 | 3.3600e-003 | 0.2083 | 2.0000e-005 | | 1.2300e-003 | 1.2300e-003 | | 1.2300e-003 | 1.2300e-003 | 0.0000 | 1.4592 | 1.4592 | 3.5000e-004 | 2.0000e-005 | 1.4740 |

7.0 Water Detail

7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|-------------|-------------|--------|
| Category | MT/yr | | | |
| Mitigated | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Unmitigated | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |

7.2 Water by Land Use

Unmitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|---------------|--------------------|--------------------|---------------|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 1.82431 / 1.15011 | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Enclosed Parking with Elevator | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |

Mitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|--------------------|-----------|-------------|-------------|--------|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 1.82431 / 1.15011 | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
| Enclosed Parking with Elevator | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

| | | | | | |
|-------|--|--------|-------------|-------------|--------|
| Total | | 2.4735 | 2.4000e-003 | 1.4400e-003 | 2.9631 |
|-------|--|--------|-------------|-------------|--------|

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|--------|--------|
| | MT/yr | | | |
| Mitigated | 2.6145 | 0.1545 | 0.0000 | 6.4774 |
| Unmitigated | 2.6145 | 0.1545 | 0.0000 | 6.4774 |

8.2 Waste by Land Use

Unmitigated

| Land Use | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|---------------|---------------|---------------|---------------|
| Apartment Rise | 0.0000 | 0.0000 | 0.0000 | 6.4774 |
| Enclosed Parking with Elevator | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 2.6145 | 0.1545 | 0.0000 | 6.4774 |

Mitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|--------------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 12.88 | 2.6145 | 0.1545 | 0.0000 | 6.4774 |
| Enclosed Parking with Elevator | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 2.6145 | 0.1545 | 0.0000 | 6.4774 |

Attachment 3: Construction Health Risk Calculations

4898 El Camino Real, Los Altos, CA

DPM Emissions and Modeling Emission Rates

| Construction Year | Activity | DPM (ton/year) | Area Source | DPM Emissions | | | Modeled Area (m ²) | DPM Emission Rate (g/s/m ²) |
|----------------------|--------------|-------------------|----------------|---------------|---------|----------|--------------------------------------|--|
| | | | | (lb/yr) | (lb/hr) | (g/s) | | |
| 2019-2020 | Construction | 0.0366 | CON_DPM | 73.2 | 0.02228 | 2.81E-03 | 1,750 | 1.60E-06 |

Construction Hours
 hr/day = 9 (7am - 4pm)
 days/yr = 365
 hours/year = 3285

PM2.5 Fugitive Dust Emissions for Modeling

| Construction Year | Activity | Area Source | Area (ton/year) | PM2.5 Emissions | | | Modeled Area (m ²) | PM2.5 Emission Rate g/s/m ² |
|----------------------|--------------|----------------|--------------------|-----------------|---------|----------|--------------------------------------|---|
| | | | | (lb/yr) | (lb/hr) | (g/s) | | |
| 2019-2020 | Construction | CON_FUG | 0.00255 | 5.1 | 0.00155 | 1.96E-04 | 1,750 | 1.12E-07 |

Construction Hours
 hr/day = 9 (7am - 4pm)
 days/yr = 365
 hours/year = 3285

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

| Construction Year | Activity | DPM (ton/year) | Area Source | DPM Emissions | | | Modeled Area (m ²) | DPM Emission Rate (g/s/m ²) |
|----------------------|--------------|-------------------|----------------|---------------|---------|----------|--------------------------------------|--|
| | | | | (lb/yr) | (lb/hr) | (g/s) | | |
| 2019-2020 | Construction | 0.0038 | CON_DPM | 7.6 | 0.00230 | 2.90E-04 | 1,750 | 1.66E-07 |

Construction Hours
 hr/day = 9 (7am - 4pm)
 days/yr = 365
 hours/year = 3285

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

| Construction Year | Activity | Area Source | Area (ton/year) | PM2.5 Emissions | | | Modeled Area (m ²) | PM2.5 Emission Rate g/s/m ² |
|----------------------|--------------|----------------|--------------------|-----------------|---------|----------|--------------------------------------|---|
| | | | | (lb/yr) | (lb/hr) | (g/s) | | |
| 2019-2020 | Construction | CON_FUG | 0.00110 | 2.2 | 0.00067 | 8.44E-05 | 1,750 | 4.82E-08 |

Construction Hours
 hr/day = 9 (7am - 4pm)
 days/yr = 365
 hours/year = 3285

4898 El Camino Real, Los Altos, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Unmitigated

| Emissions Year | Maximum Concentrations | | Cancer Risk (per million) | | Hazard Index (-) | Maximum Annual PM2.5 Concentration ($\mu\text{g}/\text{m}^3$) |
|-------------------|---|---|------------------------------|-------|------------------------|--|
| | Exhaust PM10/DPM ($\mu\text{g}/\text{m}^3$) | Fugitive PM2.5 ($\mu\text{g}/\text{m}^3$) | Infant/Child | Adult | | |
| | 2019-2020 | 0.2852 | 0.0251 | 50.7 | 0.8 | 0.057 |

Maximum Impacts at MEI Location - With Mitigation

| Emissions Year | Maximum Concentrations | | Cancer Risk (per million) | | Hazard Index (-) | Maximum Annual PM2.5 Concentration ($\mu\text{g}/\text{m}^3$) |
|-------------------|---|---|------------------------------|-------|------------------------|--|
| | Exhaust PM10/DPM ($\mu\text{g}/\text{m}^3$) | Fugitive PM2.5 ($\mu\text{g}/\text{m}^3$) | Infant/Child | Adult | | |
| | 2019-2020 | 0.0296 | 0.0108 | 5.3 | 0.1 | 0.006 |

4898 El Camino Real, Los Altos, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹
 ASF = Age sensitivity factor for specified age group
 ED = Exposure duration (years)
 AT = Averaging time for lifetime cancer risk (years)
 FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10⁻⁶

Where: C_{air} = concentration in air (µg/m³)
 DBR = daily breathing rate (L/kg body weight-day)
 A = Inhalation absorption factor
 EF = Exposure frequency (days/year)
 10⁻⁶ = Conversion factor

Values

| Age → Parameter | Infant/Child | | | | Adult |
|--------------------|---------------|----------|----------|----------|----------|
| | 3rd Trimester | 0 - 2 | 2 - 9 | 2 - 16 | 16 - 30 |
| ASF = | 10 | 10 | 3 | 3 | 1 |
| CPF = | 1.10E+00 | 1.10E+00 | 1.10E+00 | 1.10E+00 | 1.10E+00 |
| DBR* = | 361 | 1090 | 631 | 572 | 261 |
| A = | 1 | 1 | 1 | 1 | 1 |
| EF = | 350 | 350 | 350 | 350 | 350 |
| AT = | 70 | 70 | 70 | 70 | 70 |
| FAH = | 1.00 | 1.00 | 1.00 | 1.00 | 0.73 |

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

| Exposure Year | Exposure Duration (years) | Age | Infant/Child - Exposure Information | | Age Sensitivity Factor | Infant/Child Cancer Risk (per million) | Adult - Exposure Information | | Age Sensitivity Factor | Adult Cancer Risk (per million) | Maximum | |
|------------------------------------|---------------------------|------------|-------------------------------------|--------|------------------------|--|------------------------------|--------|------------------------|---------------------------------|----------------|-------------|
| | | | DPM Conc (ug/m3) | | | | Modeled | | | | Fugitive PM2.5 | Total PM2.5 |
| | | | Year | Annual | | | Year | Annual | | | | |
| 0 | 0.25 | -0.25 - 0* | 2019-2020 | 0.2852 | 10 | 3.88 | 2019-2020 | 0.2852 | - | - | | |
| 1 | 1 | 0 - 1 | 2019-2020 | 0.2852 | 10 | 46.84 | 2019-2020 | 0.2852 | 1 | 0.82 | 0.0251 | 0.3103 |
| 2 | 1 | 1 - 2 | | | 10 | 0.00 | | | 1 | 0.00 | | |
| 3 | 1 | 2 - 3 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 4 | 1 | 3 - 4 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 5 | 1 | 4 - 5 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 6 | 1 | 5 - 6 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 7 | 1 | 6 - 7 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 8 | 1 | 7 - 8 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 9 | 1 | 8 - 9 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 10 | 1 | 9 - 10 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 11 | 1 | 10 - 11 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 12 | 1 | 11 - 12 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 13 | 1 | 12 - 13 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 14 | 1 | 13 - 14 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 15 | 1 | 14 - 15 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 16 | 1 | 15 - 16 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 17 | 1 | 16-17 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 18 | 1 | 17-18 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 19 | 1 | 18-19 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 20 | 1 | 19-20 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 21 | 1 | 20-21 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 22 | 1 | 21-22 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 23 | 1 | 22-23 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 24 | 1 | 23-24 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 25 | 1 | 24-25 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 26 | 1 | 25-26 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 27 | 1 | 26-27 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 28 | 1 | 27-28 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 29 | 1 | 28-29 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 30 | 1 | 29-30 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| Total Increased Cancer Risk | | | | | | 50.7 | | | | 0.82 | | |

* Third trimester of pregnancy

**4898 El Camino Real, Los Altos, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height**

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹
 ASF = Age sensitivity factor for specified age group
 ED = Exposure duration (years)
 AT = Averaging time for lifetime cancer risk (years)
 FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10⁻⁶

Where: C_{air} = concentration in air (µg/m³)
 DBR = daily breathing rate (L/kg body weight-day)
 A = Inhalation absorption factor
 EF = Exposure frequency (days/year)
 10⁻⁶ = Conversion factor

Values

| Age -> Parameter | Infant/Child | | | | Adult |
|---------------------|---------------|----------|----------|----------|----------|
| | 3rd Trimester | 0 - 2 | 2 - 9 | 2 - 16 | 16 - 30 |
| ASF = | 10 | 10 | 3 | 3 | 1 |
| CPF = | 1.10E+00 | 1.10E+00 | 1.10E+00 | 1.10E+00 | 1.10E+00 |
| DBR* = | 361 | 1090 | 631 | 572 | 261 |
| A = | 1 | 1 | 1 | 1 | 1 |
| EF = | 350 | 350 | 350 | 350 | 350 |
| AT = | 70 | 70 | 70 | 70 | 70 |
| FAH = | 1.00 | 1.00 | 1.00 | 1.00 | 0.73 |

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

| Exposure Year | Exposure Duration (years) | Age | Infant/Child - Exposure Information | | | Infant/Child Cancer Risk (per million) | Adult - Exposure Information | | | Adult Cancer Risk (per million) | Maximum | |
|------------------------------------|---------------------------|------------|-------------------------------------|--------|------------------------|--|------------------------------|--------|------------------------|---------------------------------|----------------|-------------|
| | | | DPM Conc (ug/m3) | | Age Sensitivity Factor | | Modeled | | Age Sensitivity Factor | | Fugitive PM2.5 | Total PM2.5 |
| | | | Year | Annual | | | Year | Annual | | | | |
| 0 | 0.25 | -0.25 - 0* | 2019-2020 | 0.0296 | 10 | 0.40 | 2019-2020 | 0.0296 | - | - | | |
| 1 | 1 | 0 - 1 | 2019-2020 | 0.0296 | 10 | 4.86 | 2019-2020 | 0.0296 | 1 | 0.08 | 0.0108 | 0.0404 |
| 2 | 1 | 1 - 2 | | | 10 | 0.00 | | | 1 | 0.00 | | |
| 3 | 1 | 2 - 3 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 4 | 1 | 3 - 4 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 5 | 1 | 4 - 5 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 6 | 1 | 5 - 6 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 7 | 1 | 6 - 7 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 8 | 1 | 7 - 8 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 9 | 1 | 8 - 9 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 10 | 1 | 9 - 10 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 11 | 1 | 10 - 11 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 12 | 1 | 11 - 12 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 13 | 1 | 12 - 13 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 14 | 1 | 13 - 14 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 15 | 1 | 14 - 15 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 16 | 1 | 15 - 16 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 17 | 1 | 16-17 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 18 | 1 | 17-18 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 19 | 1 | 18-19 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 20 | 1 | 19-20 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 21 | 1 | 20-21 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 22 | 1 | 21-22 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 23 | 1 | 22-23 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 24 | 1 | 23-24 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 25 | 1 | 24-25 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 26 | 1 | 25-26 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 27 | 1 | 26-27 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 28 | 1 | 27-28 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 29 | 1 | 28-29 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 30 | 1 | 29-30 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| Total Increased Cancer Risk | | | | | | 5.3 | | | | 0.08 | | |

* Third trimester of pregnancy

**4898 El Camino Real, Los Altos, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height**

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹
 ASF = Age sensitivity factor for specified age group
 ED = Exposure duration (years)
 AT = Averaging time for lifetime cancer risk (years)
 FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10⁻⁶

Where: C_{air} = concentration in air (µg/m³)
 DBR = daily breathing rate (L/kg body weight-day)
 A = Inhalation absorption factor
 EF = Exposure frequency (days/year)
 10⁻⁶ = Conversion factor

Values

| Age -> Parameter | Infant/Child | | | | Adult |
|---------------------|---------------|----------|----------|----------|----------|
| | 3rd Trimester | 0 - 2 | 2 - 9 | 2 - 16 | 16 - 30 |
| ASF = | 10 | 10 | 3 | 3 | 1 |
| CPF = | 1.10E+00 | 1.10E+00 | 1.10E+00 | 1.10E+00 | 1.10E+00 |
| DBR* = | 361 | 1090 | 631 | 572 | 261 |
| A = | 1 | 1 | 1 | 1 | 1 |
| EF = | 350 | 350 | 350 | 350 | 350 |
| AT = | 70 | 70 | 70 | 70 | 70 |
| FAH = | 1.00 | 1.00 | 1.00 | 1.00 | 0.73 |

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

| Exposure Year | Exposure Duration (years) | Age | Infant/Child - Exposure Information | | | Infant/Child Cancer Risk (per million) | Adult - Exposure Information | | | Adult Cancer Risk (per million) | Maximum | |
|------------------------------------|---------------------------|------------|-------------------------------------|--------|------------------------|--|------------------------------|--------|------------------------|---------------------------------|----------------|-------------|
| | | | DPM Conc (ug/m3) | | Age Sensitivity Factor | | Modeled | | Age Sensitivity Factor | | Fugitive PM2.5 | Total PM2.5 |
| | | | Year | Annual | | | Year | Annual | | | | |
| 0 | 0.25 | -0.25 - 0* | 2019-2020 | 0.2489 | 10 | 3.38 | 2019-2020 | 0.2489 | - | - | | |
| 1 | 1 | 0 - 1 | 2019-2020 | 0.2489 | 10 | 40.88 | 2019-2020 | 0.2489 | 1 | 0.71 | 0.0221 | 0.2710 |
| 2 | 1 | 1 - 2 | | | 10 | 0.00 | | | 1 | 0.00 | | |
| 3 | 1 | 2 - 3 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 4 | 1 | 3 - 4 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 5 | 1 | 4 - 5 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 6 | 1 | 5 - 6 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 7 | 1 | 6 - 7 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 8 | 1 | 7 - 8 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 9 | 1 | 8 - 9 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 10 | 1 | 9 - 10 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 11 | 1 | 10 - 11 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 12 | 1 | 11 - 12 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 13 | 1 | 12 - 13 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 14 | 1 | 13 - 14 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 15 | 1 | 14 - 15 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 16 | 1 | 15 - 16 | | | 3 | 0.00 | | | 1 | 0.00 | | |
| 17 | 1 | 16-17 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 18 | 1 | 17-18 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 19 | 1 | 18-19 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 20 | 1 | 19-20 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 21 | 1 | 20-21 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 22 | 1 | 21-22 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 23 | 1 | 22-23 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 24 | 1 | 23-24 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 25 | 1 | 24-25 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 26 | 1 | 25-26 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 27 | 1 | 26-27 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 28 | 1 | 27-28 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 29 | 1 | 28-29 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| 30 | 1 | 29-30 | | | 1 | 0.00 | | | 1 | 0.00 | | |
| Total Increased Cancer Risk | | | | | | 44.3 | | | | 0.71 | | |

* Third trimester of pregnancy

Attachment 4: Screening Community Risk Calculations

Highway 82 (i.e. El Camino Real) BAAQMD Highway Screening Tool



BAAQMD Response

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

ducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

mmended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

| | |
|--|--|
| Date of Request | 1/22/2019 |
| Contact Name | Mimi McNamara |
| Affiliation | Illingworth & Redkin, Inc. |
| Phone | 707-794-040 x111 mimcnamara@illingworthredkin.com |
| Email | |
| Click here for guidance on completing the form. | |
| Click here for District's Requester Information Table. | |
| Table A: Requester Contact Information | |
| Date of Request | |
| Contact Name | Mimi Mc |
| Affiliation | Illingwor |
| Phone | 707-794- |
| Email | |

For Air District assistance, the following steps must be completed:

- Complete all the contact and project information requested in **Table A**. Incomplete forms will not be processed. Please include a project site map.
- Download and install the free program Google Earth, <http://www.google.com/earth/download/ge/>, and then download the county specific Google Earth stationary source application files from the District's website, <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>. The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.
- Find the project site in Google Earth by inputting the site's address in the Google Earth search box.
- Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.
- List the stationary source information in **Table B** section only.
- Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.
- Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

| Distance from Receptor (feet) or MFE ¹ | Facility Name | Address | Plant No. | Cancer Risk ⁴ | Hazard Risk ⁴ | PM _{2.5} ⁵ | Source No. ⁶ | Type of Source ⁷ | Fuel Code ⁸ | Status/Comments |
|---|--|-----------------------|-----------|--------------------------|--------------------------|--------------------------------|-------------------------|-----------------------------|------------------------|-----------------------|
| 450 | BP West El Camino LLC, c/o Boston Properties | 2440 W El Camino Real | 21037 | 6.4718865 | 0.00336117 | 0.008433 | 51 | Generator | | Use Diesel Multiplier |
| 800 | Target Corporation- Store T-322 | 555 Showers Drive | 15853 | 0.5700059 | 0.0009 | 0.000723 | 51 | Generator | | Use Diesel Multiplier |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

- Footnotes:**
- Maximally exposed individual
 - These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
 - Each plant may have multiple permits and sources.
 - Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
 - Fuel codes: 98 = diesel, 189 = Natural Gas.
 - If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
 - The date that the HRSA was completed.
 - Engineer who completed the HRSA. For District purposes only.
 - All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
 - The HRSA "Chronic Health" number represents the Hazard Index.
 - Further information about common sources:
 - Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
 - The risk from natural gas boilers used for space heating when <25 MM BTU/yr would have an estimated cancer risk of one in a million or less, and a chronic hazard c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
 - Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Multiplier worksheet.
 - Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
 - This spray booth is considered to be insignificant.



Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

[Click here for guidance on conducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.](#)

[Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.](#)

Table A: Requester Contact Information

| | |
|---|----------------------------------|
| Date of Request | 1/22/2019 |
| Contact Name | Mimi McNamara |
| Affiliation | Illingworth & Rodkin, Inc. |
| Phone | 707-794-040 X111 |
| Email | mimcnamara@illingworthrodkin.com |
| Project Name | 4898 ECR |
| Address | 4898 El Camino Real |
| City | Los Altos |
| County | Santa Clara |
| Type (residential, commercial, mixed use, industrial, etc.) | Residential |
| Project Size (# of units or building square feet) | 23 units |
| Comments: | |

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in **Table A**. Incomplete forms will not be processed. Please include a project site map.
2. Download and install the free program Google Earth, <http://www.google.com/earth/download/ge/>, and then download the county specific Google Earth stationary source application files from the District's website, <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>. The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.
3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.
4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.
5. List the stationary source information in **Table B** section only.
6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.
7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Adjusted Risk

Table B: Google Earth data

| Distance from Receptor (feet) or MEI ¹ | Facility Name | Address | Plant No. | Cancer Risk ² | Hazard Risk ³ | PM _{2.5} ⁴ | Source No. ⁵ | Type of Source ⁶ | Fuel Code ⁵ | Status/Comments | Project Site | | | | Construction MEI | | | | |
|---|--|-----------------------|-----------|--------------------------|--------------------------|--------------------------------|-------------------------|-----------------------------|------------------------|-----------------------|--------------------------------|-------------------------------|----------------------|----------------|---|--------------------------------|-------------------------------|----------------------|----------------|
| | | | | | | | | | | | Distance Adjustment Multiplier | Adjusted Cancer Risk Estimate | Adjusted Hazard Risk | Adjusted PM2.5 | Distance from Receptor (feet) or MEI ¹ | Distance Adjustment Multiplier | Adjusted Cancer Risk Estimate | Adjusted Hazard Risk | Adjusted PM2.5 |
| 450 | BP West El Camino LLC, c/o Boston Properties | 2440 W El Camino Real | 21037 | 6.4718865 | 0.00336117 | 0.008433 | | Generator | | Use Diesel Multiplier | 0.14 | 0.91 | 0.00047 | 0.0012 | 610 | 0.09 | 0.58 | 0.00030 | 0.00076 |
| 800 | Target Corporation- Store T-322 | 555 Showers Drive | 15853 | 0.5700059 | 0.0009 | 0.000723 | | Generator | | Use Diesel Multiplier | 0.06 | 0.03 | 0.00005 | 0.00004 | 1000 | 0.04 | 0.02 | 0.00004 | 0.00003 |

Footnotes:

1. Maximally exposed individual.
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
 - a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
 - b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard.
 - c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
 - d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period.
 - e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Multiplier worksheet.
 - f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
 - g. This spray booth is considered to be insignificant.

Date last updated:
03/13/2018







Attachment 5: City of Los Altos Climate Action Plan Checklist



NEW DEVELOPMENT CLIMATE ACTION PLAN CHECKLIST

As required in the Los Altos Climate Action Plan, which was adopted in December of 2013, new development shall demonstrate compliance with all applicable best management practices outlined in the checklist below. This list should be included in the project plans and, for all applicable best management practices, provide a description for how the project will complying.

| Best Management Practice | Applicable to | Project Compliance | | |
|--|--|--------------------|----|-------|
| 1.1 Improve Non-Motorized Transportation | | | | |
| <input type="checkbox"/> Provide end-of-trip facilities to encourage alternative transportation, including showers, lockers, and bicycle racks. | Nonresidential projects over 10,000 square feet | Yes | No | (N/A) |
| <input type="checkbox"/> Connect to and include non-motorized (bicycle and pedestrian) infrastructure on-site. | Nonresidential projects over 10,000 square feet | Yes | No | (N/A) |
| <input checked="" type="checkbox"/> Where appropriate, require new projects to provide pedestrian access that internally links all surrounding uses. Applicable to all new commercial and multiple-family development. | Nonresidential projects over 10,000 square feet | (Yes) | No | N/A |
| 1.2 Expand Transit and Commute Options | | | | |
| <input type="checkbox"/> Develop a program to reduce employee vehicle miles traveled (VMT). | Nonresidential projects over 10,000 square feet (or over 50 employees) | Yes | No | (N/A) |
| 1.3 Provide Alternative-Fuel Vehicle Infrastructure | | | | |
| <input checked="" type="checkbox"/> Provide electric vehicle (EV) pre-wiring and/or charging stations. | All projects | (Yes) | No | N/A |
| 2.2 Increase Energy Efficiency | | | | |
| <input checked="" type="checkbox"/> Install higher-efficiency appliances. | All new construction | (Yes) | No | N/A |
| <input checked="" type="checkbox"/> Install high-efficiency outdoor lights. | All new construction | (Yes) | No | N/A |
| <input type="checkbox"/> Obtain third-party heating, ventilating and air conditioning (HVAC) commissioning. | All new nonresidential construction | Yes | No | (N/A) |

| Best Management Practice | Applicable to | Project Compliance | | |
|--|----------------------------|--------------------|----|-----|
| 3.1 Reduce and Divert Waste | | | | |
|  Develop and implement a Construction and Demolition (C&D) waste plan. | All new projects | Yes | No | N/A |
| 3.2 Conserve Water | | | | |
|  Reduce turf area and increase native plant landscaping. | All new projects | Yes | No | N/A |
| 3.3 Use Carbon-Efficient Construction Equipment | | | | |
|  Implement applicable Bay Area Air Quality Management District construction site and equipment best practices. <i>Tables 8-1 and 8-2 in the District's Air Quality Guidelines (see separate handout).</i> | All new projects | Yes | No | N/A |
| 4.1 Sustain a Green Infrastructure System and Sequester Carbon | | | | |
|  Create or restore vegetated common space. | Projects over 10,000 sq ft | Yes | No | N/A |
|  Establish a carbon sequestration project or similar off-site mitigation strategy. | Projects over 10,000 sq ft | Yes | No | N/A |
|  Plant at least one well-placed shade tree per dwelling unit. | New residential projects | Yes | No | N/A |

4898 El Camino Real (Altos II) CAP Checklist Project Compliance

1.1 Improve Non-Motorized Transportation

- Provide end-of-trip facilities to encourage alternative transportation, including showers, lockers, and bicycle racks.
- Connect to and include non-motorized infrastructure on-site
- Where appropriate, require new projects to provide pedestrian access that internally links all surrounding uses. Applicable to all new commercial and multiple-family development.
 - Project Compliance: **N/A**
 - Reasoning: **The Altos II project is a residential project. This BMP only applies to non-residential projects.**

1.2 Expand Transit and Commute Options

- Develop a program to reduce employee VMT
 - Project Compliance: **N/A**
 - Reasoning: **The Altos II project is a residential project. This BMP only applies to non-residential projects.**

1.3 Provide Alternative-Fuel Vehicle Infrastructure

- Provide electric vehicle (EV) pre-wiring and/or charging stations
 - Project Compliance: **YES**
 - Description of compliance: **Out of the 56 parking spots proposed for Altos II, 25% of those spaces will be capable of being EV charging spaces for future installation.**

2.2 Increase Energy Efficiency

- Install higher efficiency appliances
 - Project Compliance: **YES**
 - Description of Compliance: **The project will include high-efficiency appliances as applicable**
- Install high-efficiency outdoor lights
 - Project Compliance: **YES**
 - Description of Compliance: **The project will include high-efficiency outdoor lights**
- Obtain third-party heating, ventilating and air conditioning (HVAC) commissioning.
 - Project Compliance: **N/A**
 - Description of Compliance: **HVAC commissioning is not required for residential projects.**

3.1 Reduce and Divert Waste

- Develop and implement a Construction and Demolition (C&D) waste plan
 - Project Compliance: **YES**
 - Description of Compliance: **A Construction and Demolition (C&D) waste plan will be developed and implemented prior to commencing demolition of existing structures.**

3.2 Conserve Water

- Reduce turf area and increase native plant landscaping
 - Project Compliance: **YES**
 - Description of compliance: The project's landscape design does not include any turf or lawns. Vegetation incorporated into the landscape will comply with the State Water Efficient Landscape Ordinance.

3.3 Use Carbon Efficient Construction Equipment

- Implement applicable Bay Area Air Quality Management District construction site and equipment best practices. Tables 8-1 and 8-2 in the District's Air Quality Guidelines (see separate handout)
 - Project Compliance: **YES**
 - Description of compliance: As stated within the Air Quality report for Altos II, the project must implement the Bay Area Air Quality Management District (BAAQMD) Best Management Practices during construction. Mitigation Measure 3 implements additional measures to reduce emissions from construction.

4.1 Sustain a Green Infrastructure System and Sequester Carbon

- Create or restore vegetative common space.
 - Project Compliance: **YES**
 - Description of compliance: The landscape design includes common social areas that include new planters, shrubbery, and trees on both the ground-level and roof deck.
- Establish a carbon sequestration project or similar off-site strategy
 - Project Compliance: **YES**
 - Description of compliance: The GHG emissions associated with the are less than significant because the project would have emissions below the levels that BAAQMD identified in their CEQA Air Quality Guidelines. In addition, the project is replacing an existing source of GHG emissions. As noted, the project landscaping would maintain mature vegetation and new tree and shrub planting (e.g. 12 new trees onsite) to assist with carbon sequestration.
- Plant at least one well-placed shade tree per dwelling unit.
 - Project Compliance: **YES**
 - Description of compliance: The project cannot plant one shade tree per dwelling unit due to the architecture of the multi-family residential building. However, the project proposes to plant at least 12 trees on the ground-level and roof deck, which is an improvement over the current vegetation planted on the current site.

***ALTOS II RESIDENTIAL PROJECT
4898 EL CAMINO REAL
NOISE AND VIBRATION ASSESSMENT***

Los Altos, California

August 5, 2019

Prepared for:

**City of Los Altos
ATTN: Sean Gallegos
1 N San Antonio Rd,
Los Altos, California 94022**

Prepared by:

**Cameron Heyvaert
Michael S. Thill**

ILLINGWORTH & RODKIN, INC.
/// Acoustics • Air Quality ///

**429 E. Cotati Avenue
Cotati, CA 94931
(707) 794-0400**

I&R Job No.: 19-010

INTRODUCTION

The Altos II residential project proposes to construct a residential complex at 4898 El Camino Real, in the city of Los Altos, California. The project would consist of 28 condominiums within a five-story complex located on .434 acres. Existing development includes one two-story building that hosts commercial offices with parking lots in the front and rear of the building. The project is bordered by commercial offices to the east, a parking lot and apartment complexes to the south, Jordan Avenue to the west, and El Camino Real to the north. Beyond Jordan Avenue to the west, there is one single-family residential unit and a Jack in the Box drive-through.

This report evaluates the project's potential to result in significant noise and vibration impacts with respect to applicable California Environmental Quality Act (CEQA) guidelines. The report is divided into three sections: 1) the Setting Section provides a brief description of the fundamentals of environmental noise, summarizes applicable regulatory criteria, and discusses the results of the ambient noise monitoring survey completed to document existing noise conditions; 2) the General Plan Consistency Section discusses noise and land use compatibility utilizing policies in the City's General Plan; and, 3) the Impacts and Mitigation Measures Section describes the significance criteria used to evaluate project impacts, provides a discussion of each project impact, and presents mitigation measures, where necessary, to provide a compatible project in relation to adjacent noise sources and land uses.

SETTING

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (*frequency*) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA)*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA

are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise descriptor* is called L_{eq} . The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level (CNEL)* is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level (DNL or L_{dn})* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noises of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA L_{dn} . Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn} and nighttime levels are 10 dB lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12 to 17 dB with open windows. With standard construction and closed windows in good condition, the noise attenuation factor is around 20 dB for an older structure and 25 dB for a newer dwelling. Sleep and speech interference is therefore of concern when exterior noise levels are about 57 to 62 dBA L_{dn} with open windows and 65 to 70 dBA L_{dn} if the windows are closed. Levels of 55 to 60 dBA are common along collector streets and secondary arterials, while 65 to 70 dBA is a typical value for a primary/major arterial. Levels of 75 to 80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, those facing major roadways and freeways typically need special glass windows.

TABLE 1 Definition of Acoustical Terms Used in this Report

| Term | Definition |
|---|--|
| Decibel, dB | A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals. |
| Sound Pressure Level | Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e. g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter. |
| Frequency, Hz | The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz. |
| A-Weighted Sound Level, dBA | The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. |
| Equivalent Noise Level, L_{eq} | The average A-weighted noise level during the measurement period. |
| L_{max} , L_{min} | The maximum and minimum A-weighted noise level during the measurement period. |
| L_{01} , L_{10} , L_{50} , L_{90} | The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period. |
| Day/Night Noise Level, DNL or L_{dn} | The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am. |
| Community Noise Equivalent Level, CNEL | The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am. |
| Ambient Noise Level | The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location. |
| Intrusive | That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level. |

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

TABLE 2 Typical Noise Levels in the Environment

| Common Outdoor Activities | Noise Level (dBA) | Common Indoor Activities |
|-----------------------------------|-------------------|--|
| | 110 dBA | Rock band |
| Jet fly-over at 1,000 feet | | |
| | 100 dBA | |
| Gas lawn mower at 3 feet | | |
| | 90 dBA | |
| Diesel truck at 50 feet at 50 mph | | Food blender at 3 feet |
| | 80 dBA | Garbage disposal at 3 feet |
| Noisy urban area, daytime | | |
| Gas lawn mower, 100 feet | 70 dBA | Vacuum cleaner at 10 feet |
| Commercial area | | Normal speech at 3 feet |
| Heavy traffic at 300 feet | 60 dBA | |
| | | Large business office |
| Quiet urban daytime | 50 dBA | Dishwasher in next room |
| Quiet urban nighttime | 40 dBA | Theater, large conference room |
| Quiet suburban nighttime | | |
| | 30 dBA | Library |
| Quiet rural nighttime | | Bedroom at night, concert hall (background) |
| | 20 dBA | |
| | | Broadcast/recording studio |
| | 10 dBA | |
| | 0 dBA | |

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

Fundamentals of Groundborne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One method is the Peak Particle Velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. Table 3 displays the reactions of people and the effects on buildings that continuous or frequent intermittent vibration levels produce. The guidelines in Table 3 represent syntheses of vibration criteria for human response and potential damage to buildings resulting from construction vibration.

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

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. 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. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher. The damage criteria presented in Table 3 include several categories for ancient, fragile, and historic structures, the types of structures most at risk to damage. Most buildings are included within the categories ranging from “Historic and some old buildings” to “Modern industrial/commercial buildings”. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

The annoyance levels shown in Table 3 should be interpreted with care since vibration may be found to be annoying at lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

TABLE 3 Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

| Velocity Level, PPV (in/sec) | Human Reaction | Effect on Buildings |
|-------------------------------------|--|---|
| 0.01 | Barely perceptible | No effect |
| 0.04 | Distinctly perceptible | Vibration unlikely to cause damage of any type to any structure |
| 0.08 | Distinctly perceptible to strongly perceptible | Recommended upper level of the vibration to which ruins and ancient monuments should be subjected |
| 0.1 | Strongly perceptible | Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings |
| 0.25 | Strongly perceptible to severe | Threshold at which there is a risk of damage to historic and some old buildings. |
| 0.3 | Strongly perceptible to severe | Threshold at which there is a risk of damage to older residential structures |
| 0.5 | Severe - Vibrations considered unpleasant | Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures |

Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, September 2013.

Regulatory Background

The State of California and the City of Los Altos have established regulatory criteria that are applicable in this assessment. The State CEQA Guidelines, Appendix G, are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. A summary of the applicable regulatory criteria is provided below.

State CEQA Guidelines. The California Environmental Quality Act (CEQA) contains guidelines to evaluate the significance of effects of environmental noise attributable to a proposed project. Under CEQA, noise impacts would be considered significant if the project would result in:

- (a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- (b) Generation of excessive groundborne vibration or groundborne noise levels;
- (c) For a project located within the vicinity of a private airstrip or 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, if the project would expose people residing or working in the project area to excessive noise levels.

Checklist items (a) and (b) are applicable to the proposed project. The project is not located within two miles of a public airport or in the vicinity of a private airstrip and would not expose people

residing or working in the project area to excessive aircraft noise levels; therefore, item (c) is not carried further in this analysis.

2016 California Building Code, Title 24, Part 2. The current version of the California Building Code (CBC) requires interior noise levels attributable to exterior environmental noise sources to be limited to a level not exceeding 45 dBA L_{dn} /CNEL in any habitable room.

City of Los Altos General Plan. The Natural Environment & Hazards Element of the City of Los Altos' General Plan contains Noise and Land Use Compatibility Standards policies that are applicable to the Project. Residential land uses are considered “normally acceptable” when sites are exposed to noise levels below 60 dBA L_{dn} , “conditionally acceptable” when exposed to noise levels between 60 and 70 dBA L_{dn} , “normally unacceptable” when exposed to noise levels of between 70 and 75 dBA L_{dn} and “clearly unacceptable” when exposed to noise levels above 75 dBA L_{dn} .

City of Los Altos Municipal Code. Chapter 6.16 Noise Control of the City’s Municipal Code establishes noise level limits applicable to the project as follows:

6.16.050 Exterior noise limits.

A. Maximum permissible sound levels by receiving land use.

1. The noise standards for the various categories of land use identified by the noise control office as presented in Table 4 of this section, unless otherwise specifically indicated, shall apply to all such property within a designated zone.
2. No person shall operate, or cause to be operated, any source of sound at any location within the city, or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level, when measured on any other property, either incorporated or unincorporated, to exceed:
 - a. The noise standard for that land use as specified in Table 4 for a cumulative period of more than thirty (30) minutes in any hour (L_{50}); or
 - b. The noise standard plus five dB for a cumulative period of more than fifteen (15) minutes in any hour (L_{25}); or
 - c. The noise standard plus ten (10) dB for a cumulative period of more than five (5) minutes in any hour (L_{08}); or
 - d. The noise standard plus fifteen (15) dB for a cumulative period of more than one minute in any hour (L_{02}); or
 - e. The noise standard plus twenty (20) dB or the maximum measured ambient for any period of time (L_{max});.
3. If the measured ambient level exceeds that permissible within any of the first four noise limit categories above, the allowable noise exposure standard shall be increased in five dB increments in each category as appropriate to encompass or reflect such ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.
4. If the noise measurement occurs on a property adjacent to a zone boundary, the noise level limit applicable to the lower noise zone, plus five dB, shall apply.

5. If possible, the ambient noise shall be measured at a consistent location on the property with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, the ambient noise shall be estimated by performing a measurement in the same general source at least ten (10) dB below the ambient in order that only the ambient level be measured. If the difference between the ambient and the noise source is five to ten (10) dB, then the level of the ambient itself can be reasonably determined by subtracting a one decibel correction to account for the contribution of the source.
- B. Corrections for character of sound. In the event the alleged offensive noise contains a steady, audible tone, such as a whine, screech, or hum, or contains music or speech conveying informational content, the standard limits set forth in Table 4 shall be reduced by five dB.

TABLE 4: Exterior Noise Limits, L₅₀

| Receiving Land Use Category | Time Period | L ₅₀ Noise Level (dBA)* |
|---------------------------------|-------------------------|------------------------------------|
| All R1 Zoning Districts | 10:00 p.m. -- 7:00 a.m. | 45 |
| | 7:00 a.m. -- 10:00 p.m. | 55 |
| All R3 and PCF Zoning Districts | 10:00 p.m. -- 7:00 a.m. | 50 |
| | 7:00 a.m. -- 10:00 p.m. | 55 |
| All OA Zoning Districts | 10:00 p.m. -- 7:00 a.m. | 55 |
| | 7:00 a.m. -- 10:00 p.m. | 60 |
| All C Zoning Districts | 10:00 p.m. -- 7:00 a.m. | 60 |
| | 7:00 a.m.--10:00 p.m. | 65 |

* Levels not to be exceeded more than 30 minutes in any hour, L₅₀

6.16.060 - Interior noise standards.

- A. Maximum permissible dwelling interior sound levels.
1. The interior noise standards for multi-family residential dwellings as presented in Table 5 of this section shall apply, unless otherwise specifically indicated, within all such dwellings with windows in their normal seasonal configuration.
 2. No person shall operate, or cause to be operated, within a dwelling unit any source of sound or allow the creation of any noise which causes the noise level when measured inside a neighboring receiving dwelling unit to exceed:
 - a. The noise standard as specified in Table 5 for a cumulative period of more than five minutes in any hour; or
 - b. The noise standard plus five dB for a cumulative period of more than one minute in any hour; or
 - c. The noise standard plus ten (10) dB or the maximum measured ambient for any period of time.
 3. If the measured ambient level exceeds that permissible within any of the noise limit categories above, the allowable noise exposure standard shall be increased in five dB increments in each category as appropriate to reflect such ambient noise level.
- B. Corrections for character of sound. In the event the alleged offensive noise contains a steady, audible tone, such as a whine, screech, or hum, or contains music or speech conveying informational content, the standard limits set forth in Table 5 shall be reduced by five dB.

TABLE 5: Interior Noise Standards

| Noise Zone | Land Use | Time Interval | Allowable Interior Noise Level, dBA |
|-------------------------|--------------------------|-------------------------|-------------------------------------|
| All R3 Zoning Districts | Multi-Family Residential | 10:00 p.m. -- 7:00 a.m. | 35 |
| | | 7:00 a.m.--10:00 p.m. | 45 |

6.16.070 Prohibited acts.

A. Noise disturbances prohibited. No person shall unnecessarily make or continue, or cause to be made or continued, any noise disturbance.

B. Specific prohibitions. The following acts, and the causing or permitting thereof, are declared to be in violation of this chapter:

6. Construction and demolition.

a. i. Single-family zoning districts. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work on weekdays before 7:00 a.m. and after 5:30 p.m. and on Saturdays before 9:00 a.m. or after 3:00 p.m. or any time on Sundays or the city observed holidays of New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day, such that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public utilities or by special exception. This section shall apply to operations on residentially zoned property only. This section shall not apply to the use of lawn or garden tools;

ii. All other zoning districts (excluding single-family districts). Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work on weekdays before 7:00 a.m. and after 7:00 p.m. and Saturdays before 9:00 a.m. or after 6:00 p.m. or any time on Sundays or the city observed holidays of New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day, such that the sound there from creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by special exception. This section shall apply to operations on properties other than residentially zoned property. This section shall not apply to the use of lawn or garden tools;

b. Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected properties will not exceed those listed in the following schedules:

i. Mobile equipment. Maximum noise levels for the nonscheduled, intermittent, short-term operation (less than ten (10) days) of mobile equipment:

TABLE 6: Maximum Noise Levels for the nonscheduled, Intermittent, and Short-Term Operations (Less than ten (10) days) for Mobile Equipment

| | All R1 Zoning Districts | All PCF and R3 Zoning Districts | All OA and C Zoning Districts |
|---|-------------------------|---------------------------------|-------------------------------|
| Daily, except Sundays and legal holidays 7:00 a.m. & 7:00 p.m. | 75 dBA | 80 dBA | 85 dBA |
| Daily, 7:00 p.m. & 7:00 a.m. and all day Sundays and legal holidays | 50 dBA | 55 dBA | 60 dBA |

- ii. Stationary equipment. Maximum noise levels for the respectively scheduled and relatively long-term operation (periods of ten (10) days or more) of stationary equipment:

TABLE 7: Maximum Noise Levels for the nonscheduled, Intermittent, and Short-Term Operations (Less than ten (10) days) for Stationary Equipment

| | All R1 Zoning Districts | All PCF and R3 Zoning Districts | All OA and C Zoning Districts |
|---|-------------------------|---------------------------------|-------------------------------|
| Daily, except Sundays and legal holidays 7:00 a.m. & 7:00 p.m. | 75 dBA | 80 dBA | 85 dBA |
| Daily, 7:00 p.m. & 7:00 a.m. and all day Sundays and legal holidays | 50 dBA | 55 dBA | 60 dBA |

- c. Deliveries, start-up and closing down. The construction times above shall apply to deliveries of materials and equipment, and arrival of workers, start-up and closing down and departure activities on a job site.

- 12. Air-conditioning or air-handling equipment. Operating or permitting the operation of any air-conditioning or air-handling equipment in such a manner as to exceed any of the following sound levels without a variance:

TABLE 8: Air-Conditioning or Air-Handling Equipment Operational Sound Levels

| Measurement Location | Residentially zoned properties, dB(A) |
|---|---------------------------------------|
| Any point on a neighboring property line, five feet above grade level, no closer than three feet from any wall | 50 |
| Center of a neighboring patio, five feet above grade level, no closer than three feet from any wall | 45 |
| Outside the neighboring living area window nearest the equipment location, not more than three feet from the window opening, but at least three feet from any other surface | 45 |

Existing Noise Environment

Figure 1 shows the project site, vicinity, and noise measurement locations. As shown on this figure, the project site is surrounded by commercial land uses along El Camino Real. Further to the south, there are multi-family residences as well as one single-family residence to the southwest. A noise monitoring survey was performed to quantify and characterize ambient noise levels at the site and in the project vicinity between Tuesday, January 22, 2019 and Friday, January 25, 2019. The monitoring survey included one long-term noise measurement (LT-1) and three short-term noise measurements (ST-1, ST-2, and ST-3). The noise environment at the site results primarily from vehicle traffic along El Camino Real and Jordan Avenue.

Long-term noise measurement LT-1 was made in front of 4906 El Camino Real, 18 feet southeast of the property line bordering 4898 El Camino Real, and 50 feet from the center median of El Camino Real. This location was selected to quantify noise levels generated by traffic along El Camino Real. The noise levels measured at 4906 El Camino Real were considered acoustically equivalent to the noise levels expected along the frontage of the project site. Hourly average noise levels at this location ranged from 71 to 75 dBA L_{eq} during the day and from 61 to 72 dBA L_{eq} at night. The day-night average noise level between Tuesday and Friday averaged 75 dBA L_{dn} . The daily trends in noise levels at LT-1 for all measured days are shown in Figures 2-5.

Short-term noise measurement ST-1 was made on Tuesday, January 22, 2019 over a ten-minute interval starting at 12:40 p.m. and concluding at 12:50 p.m. ST-1 was made at the rear of 4898 El Camino Real, near the wall adjacent to the multi-family residential apartment complex. This location was selected to quantify the ambient noise levels at the nearest sensitive receptors. The 10-minute average noise level measured at this location was 52 dBA L_{eq} .

Short-term noise measurement ST-2 was made between 1:00 p.m. and 1:10 p.m. on the western boundary of the project site, across from the drive-through lane at the neighboring Jack in the Box. This location was selected to quantify noise levels resulting from the drive-through at Jack in the Box and to quantify traffic noise along Jordan Avenue.

Short-term noise measurement ST-3 was made between 1:20 p.m. and 1:30 p.m. in the parking lot in front of 4898 El Camino Real, 25 feet back from LT-1. This location was selected to quantify ambient noise levels at the setback distance of the proposed project. The 10-minute average noise level measured at this location was 71 dBA L_{eq} . Table 9 summarizes the results of the short-term measurements.

FIGURE 1 Noise Measurement Locations

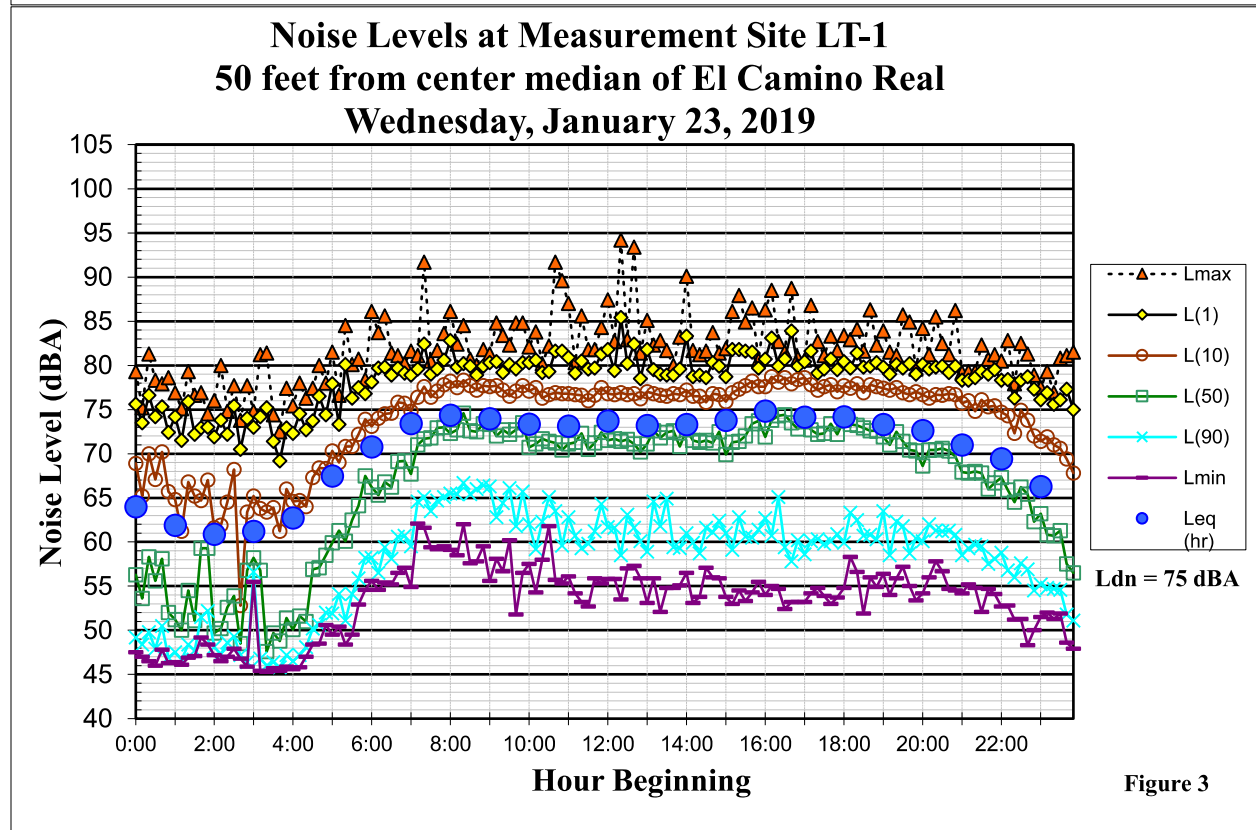
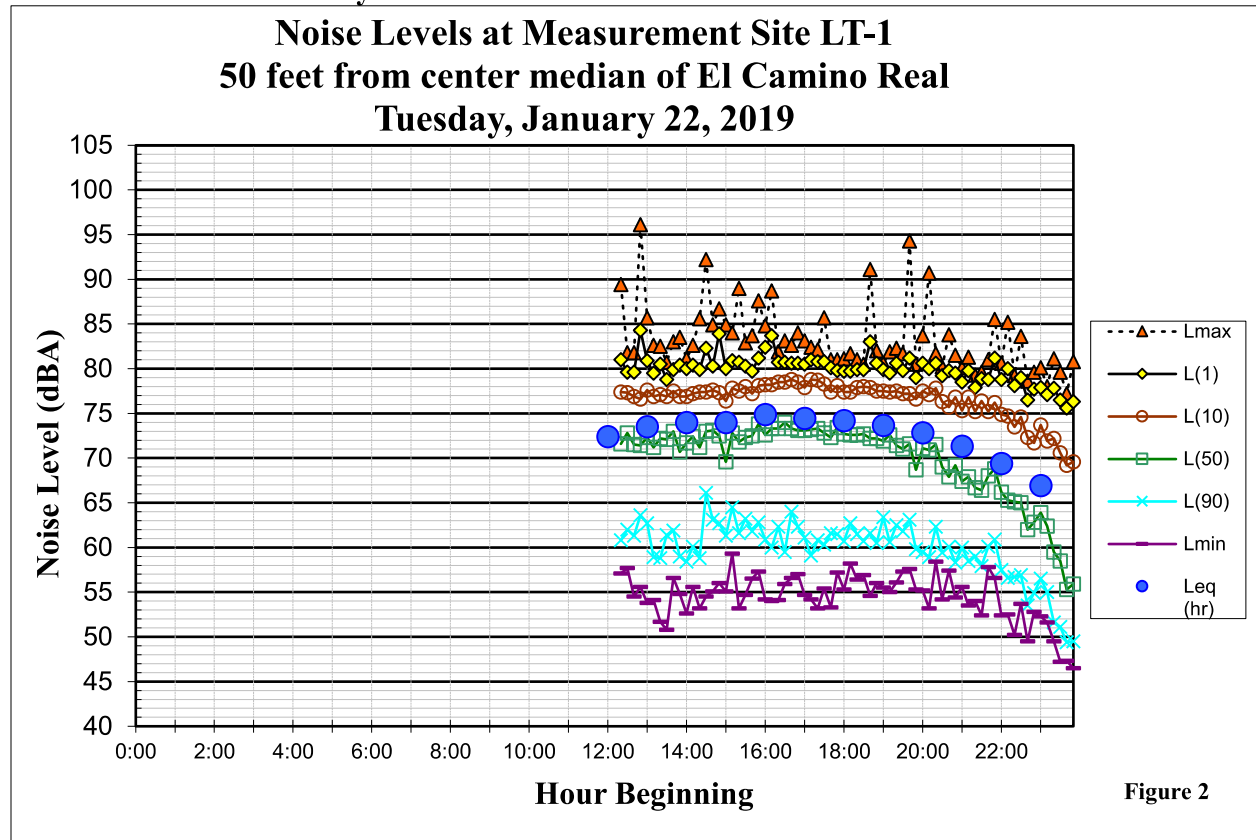


Source: Google Earth

TABLE 9 Summary of Short-Term Noise Measurement Data (dBA)

| Noise Measurement Location | L _{max} | L ₍₁₎ | L ₍₁₀₎ | L ₍₅₀₎ | L ₍₉₀₎ | L _{eq} |
|--|------------------|------------------|-------------------|-------------------|-------------------|-----------------|
| ST-1: Parking lot behind 4898 El Camino Real. (01/22/2019, 12:40 p.m. - 12:50 p.m.) | 65 | 61 | 56 | 50 | 45 | 52 |
| ST-2: Western property line of 4898 El Camino Real. (01/22/2019, 1:00 p.m. - 1:10 p.m.) | 83 | 80 | 68 | 62 | 57 | 67 |
| ST-3: Parking lot in front of 4898 El Camino Real. (01/22/2019, 1:20 p.m. - 1:30 p.m.) | 80 | 79 | 75 | 70 | 57 | 71 |

FIGURES 2-5 Daily Trends in Noise Levels at LT-1



**Noise Levels at Measurement Site LT-1
50 feet from center median of El Camino Real
Thursday, January 24, 2019**

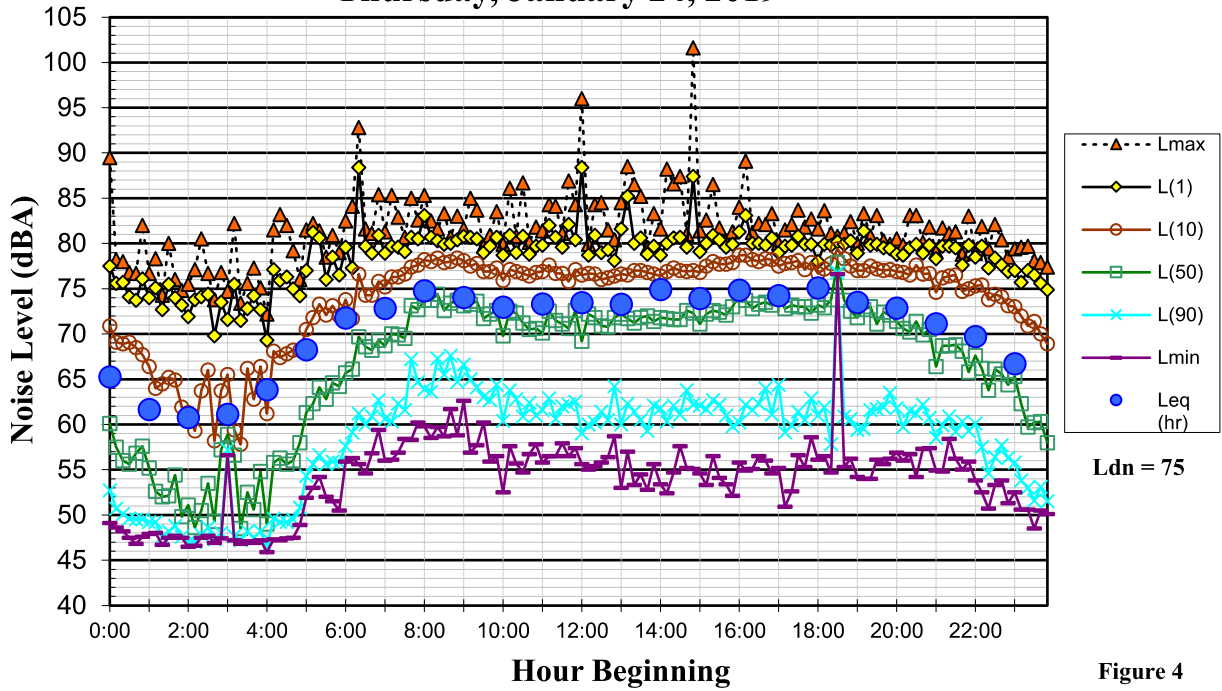


Figure 4

**Noise Levels at Measurement Site LT-1
50 feet from center median of El Camino Real
Friday, January 25, 2019**

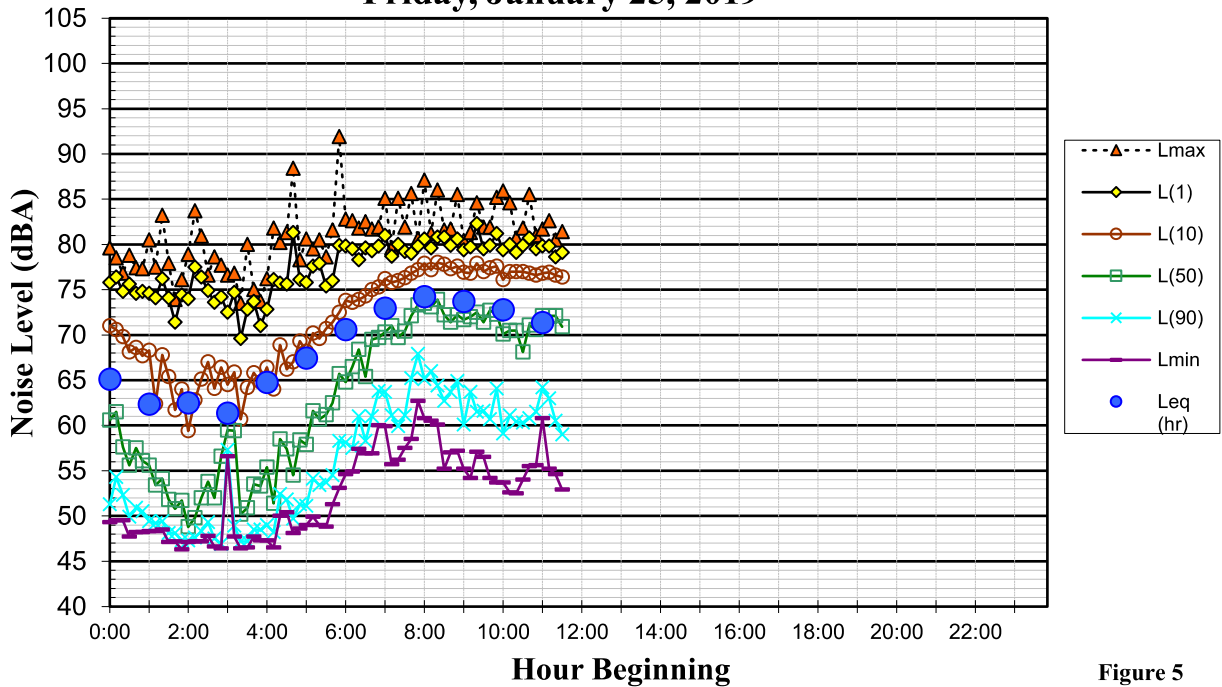


Figure 5

GENERAL PLAN CONSISTENCY ANALYSIS

The impacts of site constraints such as exposure of the proposed project to excessive levels of noise and vibration are not considered under CEQA. This section addresses Noise and Land Use Compatibility for consistency with the policies set forth in the City's General Plan.

Noise and Land Use Compatibility

The applicable Los Altos General Plan policies were presented in detail in the Regulatory Background section and are summarized below for the proposed project:

- The City's Noise Element establishes 60 dBA L_{dn} or less as the "Normally Acceptable" noise level threshold for residential land uses (Noise Element Table NEH-1). Policy 7.2 states that 65 dBA CNEL is the maximum acceptable outdoor noise exposure level for multiple-family residential areas.
- The City's standard for interior noise levels in residences is 45 dBA L_{dn} .

Future Exterior Noise Environment

The future noise environment at the project site would continue to result from transportation related noise sources along El Camino Real and Jordan Avenue. A review of the transportation study provided by the project applicant indicates that there will be a reduction in the number of daily trips generated by the proposed project in comparison to existing conditions.

Traffic noise increases along El Camino Real are estimated to result in a future noise increase of 1 dBA L_{dn} above existing conditions, assuming a 1% to 2% increase in traffic volumes per year over the next 20 years. Therefore, future exterior noise levels are calculated to be 75 dBA L_{dn} along the side of the building that borders El Camino Real and up to 72 dBA L_{dn} along the northwest and southeast façades.

Outdoor use areas include private patios and balconies as well as a communal rooftop deck. Industry practice is to apply the exterior noise threshold to common outdoor use areas in multi-family projects because these are the areas that are frequently used by residents. Small decks and patios associated with multi-family residential land uses are normally used for the storage of bicycles, barbecues, etc., and are rarely used by residents for outdoor enjoyment, particularly when adjacent to transportation-related noise sources. Residents desiring a quiet outdoor use area normally choose to use an interior courtyard or roof deck for quiet outdoor enjoyment as opposed to a balcony overlooking a busy roadway.

At the exterior setback of the building façade along El Camino Real, where patios and decks are proposed, traffic noise exposure would be 75 dBA L_{dn} . It is not possible to mitigate high noise exposures produced by El Camino Real traffic (by up to 10 dBA) to meet the exterior noise thresholds without completely enclosing the space. The necessary mitigation to meet the exterior noise threshold eliminates the outdoor space altogether. Mitigation measures are not recommended to reduce noise levels at these locations.

The site plan indicates that a rooftop deck will be located on the northern end of the building. At the center of the deck, where it is anticipated that residents will spend most of their time, exterior noise levels are calculated to be 57 dBA L_{dn} , which would be considered “Normally Acceptable” in terms of noise and land use compatibility.

Built-in bench seating areas provided at the buildings’ frontages on El Camino Real would also be exposed to noise levels as high as 75 dBA L_{dn} . Again, it is not acoustically feasible to reduce exterior noise levels in these seating areas to meet the City’s 60 dBA L_{dn} exterior noise level objective. Alternate noise reduction strategies that would reduce day-night average noise levels to 60 dBA L_{dn} or less include fully enclosing the outdoor use areas or redesigning the site plan to locate the outdoor use areas within the interior of the project building. This strategy allows the building itself to provide acoustical shielding from traffic noise to the outdoor areas.

Future Interior Noise Environment

The City of Los Altos requires that interior noise levels be maintained at 45 dBA L_{dn} or less for residences. Site plans indicate that residential units on the northeast side of the building could be as close as 26 feet from the edge of El Camino Real. At this distance, exterior traffic noise exposure would be 75 dBA L_{dn} . Residential units along the northwest and southeast façades of the building would experience exterior noise exposures of up to 70 dBA L_{dn} .

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 construction with the windows closed provides approximately 20 to 25 dBA of noise reduction in interior spaces. Where exterior noise levels range from 60 to 65 dBA L_{dn} , the inclusion of adequate forced-air mechanical ventilation is often the method selected to reduce interior noise levels to acceptable levels by closing the windows to control noise. In noise environments of 70 dBA L_{dn} or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit. Such methods or materials may include a combination of smaller window and door sizes as a percentage of the total building façade facing the noise source, sound-rated windows and doors, sound-rated exterior wall assemblies, and mechanical ventilation so windows may be kept closed at the occupant’s discretion.

Based on the updated project description, dated March 15, 2019, the exterior walls of the building façade would be constructed with three-coat (7/8” thick) stucco (STC¹ 46 or greater). Based on preliminary calculations, all residential units would require the inclusion of forced-air mechanical ventilation to achieve the 45 dBA L_{dn} interior threshold. Residential units fronting El Camino Real would achieve the 45 dBA L_{dn} interior standard with windows and exterior doors with minimum STC ratings of 33 to 34. For residential units along the northwest and southeast façades of the building, windows and doors with STC ratings of 28 to 29 or higher would achieve the 45 dBA

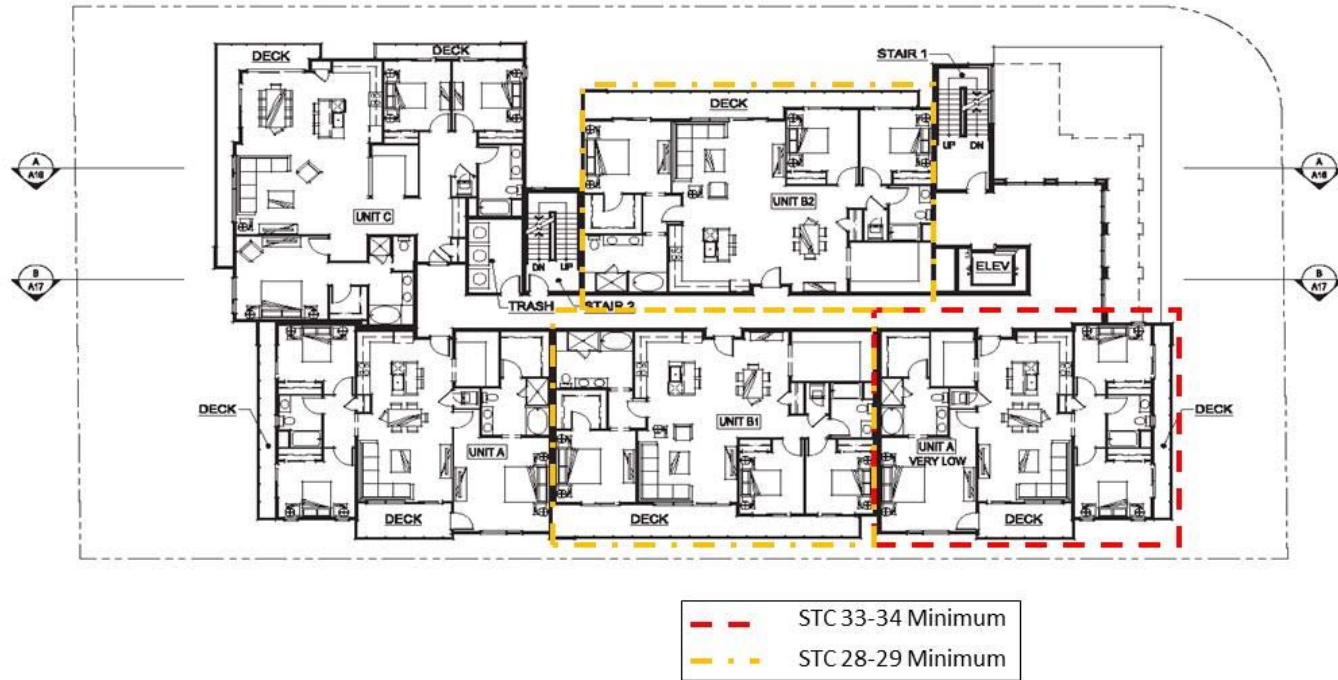
¹ **Sound Transmission Class (STC)** A single figure rating designed to give an estimate of the sound insulation properties of a partition. Numerically, STC represents the number of decibels of speech sound reduction from one side of the partition to the other. The STC is intended for use when speech and office noise constitute the principal noise problem.

L_{dn} interior standard (see Figure 6). The analysis assumes that the façade area is made up of 40% windows or less. These recommendations are applicable to all floors in the proposed complex. Where STC rated windows are recommended, windows are assumed to be in the closed position, requiring forced-air ventilation to allow occupants the option of keeping windows closed.

For consistency with the General Plan, the following Conditions of Approval are recommended for consideration by the City:

- When refining the project's site plan, locate outdoor use areas away from El Camino Real and continue to shield noise-sensitive outdoor spaces with buildings or noise barriers where feasible.
- Provide a suitable form of forced-air mechanical ventilation, as determined by the local building official, for all residential buildings, so that windows can be kept closed to control noise.
- Provide sound rated windows to maintain interior noise levels at acceptable levels. Preliminary calculations show that sound-rated windows with minimum STC Rating of 33 to 34 would be satisfactory for units fronting El Camino Real and windows with minimum STC Rating of 28 to 29 would be satisfactory for northwest and southeast facing units to achieve acceptable interior noise levels, assuming a wall construction with STC 46 or greater and 40% windows or less. The specific determination of what noise insulation treatments are necessary shall be conducted on a unit-by-unit basis during final design of the project once final building plans and elevations are available.

FIGURE 6 Preliminary Recommendations to Reduce Interior Noise to Acceptable Levels



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NOISE IMPACTS AND MITIGATION MEASURES

This section describes the significance criteria used to evaluate project impacts under CEQA, provides a discussion of each project impact, and presents mitigation measures, where necessary, to provide a compatible project in relation to adjacent noise sources and land uses.

Significance Criteria

The following criteria were used to evaluate the significance of environmental noise and vibration resulting from the project:

1. **Temporary or Permanent Noise Increases in Excess of Established Standards.** A significant impact would be identified if project construction or operations would result in a substantial temporary or permanent increase in ambient noise levels at sensitive receivers in excess of the local noise standards contained in the Los Altos General Plan or Municipal Code, as follows:
 - Operational Noise in Excess of Standards. A significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the General Plan or Municipal Code. The City of Los Altos limits sound levels generated by air-conditioning or air-handling equipment to 50 dBA at residential property lines and 45 dBA at residential patios and building façades. Other operational noise sources are limited to the levels specified in Table 4.
 - Permanent Noise Increase. A significant impact would be identified if traffic or school activity noise generated by the project would substantially increase noise levels at sensitive receivers in the vicinity. A substantial increase would occur if: a) the noise level increase is 5 dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn} , or b) the noise level increase is 3 dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater.
 - Temporary Noise Increase. A significant temporary noise impact would be identified if construction would occur outside of the hours specified in the Municipal Code or if construction noise levels were to exceed the City's construction noise limits at adjacent noise sensitive land uses. Construction occurring during allowable hours is limited to 75 dBA in single-family residential areas, 80 dBA in multi-family residential areas, and 85 dBA in commercial areas.
2. **Generation of Excessive Groundborne Vibration.** A significant impact would be identified if the construction of the project would generate excessive vibration levels. Groundborne vibration levels exceeding 0.3 in/sec PPV would be considered excessive as such levels would have the potential to result in cosmetic damage to buildings.

Impact 1: Temporary or Permanent Noise Increases in Excess of Established Standards. Project traffic would not result in a substantial permanent noise level increase at existing noise-sensitive land uses in the project vicinity. However, existing noise-sensitive land uses could be exposed to operational and construction noise levels in excess of the applicable noise thresholds. **This is a potentially significant impact.**

Permanent Noise Increases from On-Site Operational Noise

The City of Los Altos limits sound levels generated by air-conditioning or air-handling equipment to 50 dBA at residential property lines and 45 dBA at residential patios and building façades. The descriptor for the noise limit is not specified. For consistency with the provisions of the code, a reasonable interpretation of this standard would identify the criteria as an hourly average L_{eq} . Other operational noise sources are limited to the levels specified in Table 4.

Parking

The majority of parking would be provided in the underground garage. Parking activities occurring in the underground garage would not be anticipated to be audible outside of the parking structure. Noise associated with on-site circulation and parking for the townhomes would be similar to levels generated by use of the current parking lot and below noise levels generated by vehicular traffic traveling along El Camino Real and those specified in Table 4. This is a **less-than-significant** impact.

Mechanical Equipment

The proposed project would include mechanical equipment such as heating, ventilation, and air conditioning systems (HVAC). Based on the project plans, dated January 30, 2019, solar panels and mechanical equipment would be located on the southwestern side of the rooftop, as close as about 120 feet from the nearest residential land use to the southwest. Typical residential rooftop mechanical 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.

Existing residences are located as close as about 120 feet from the edge of the rooftop mechanical equipment area. Assuming a credible worst-case scenario with unshielded equipment located as close as 10 feet from the edge of the rooftop, mechanical equipment would be anticipated to generate a noise level of 42 to 52 dBA L_{eq} at these closest residences. Mechanical equipment located 150 feet or further from residential property lines or in shielded areas would be anticipated to meet the 50 dBA L_{eq} limit. This is a **potentially significant** impact.

Mitigation Measure 1a: The following mitigation measures would reduce this impact to a less-than-significant level.

Prior to the issuance of building permits, mechanical equipment shall be selected and designed to reduce impacts on surrounding uses to meet the City's requirements. A qualified acoustical consultant shall be retained by the project applicant to review mechanical noise as the equipment systems are selected in order to determine specific noise reduction measures necessary to reduce noise to comply with the City's 50 dBA L_{eq} 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.

Permanent Noise Increases from Project Traffic

Neither the City of Los Altos nor the State of California define the traffic noise level increase that is considered substantial. A significant impact would typically be identified if project generated traffic were to result in a permanent noise level increase of 3 dBA L_{dn} or greater in a residential area where the resulting noise environment would exceed or continue to exceed 60 dBA L_{dn} or result in a permanent noise increase of 5 dBA L_{dn} or greater in a residential area where the resulting in a noise environment would continue to be 60 dBA L_{dn} or less. For reference, a 3 dBA L_{dn} noise increase would be expected if the project would double existing traffic volumes along a roadway.

A review of the project's trip generation information indicates that there will be a reduction in the number of daily trips generated by the proposed project in comparison to existing conditions. Traffic noise increases resulting from the proposed project would not result in noise increases of 3 dBA L_{dn} or more on the surrounding roadway network. This is a **less-than-significant** impact.

Temporary Noise Increases from Project Construction

Chapter 6.16.070 of the City's Municipal Code establishes allowable hours of construction within residentially zoned properties between 7:00 a.m. and 5:30 p.m. Monday through Friday and between 9:00 a.m. and 3:00 p.m. on Saturdays. Construction in all other zoning districts (excluding single-family districts) is permissible between 7:00 a.m. and 7:00 p.m. Monday through Friday and 9:00 a.m. and 6:00 p.m. on Saturdays. Construction activities are not permitted on Sundays or the City observed holidays of New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day. In addition, where technically and economically feasible, maximum noise levels from construction activities should not exceed those listed in Tables 3 and 4 in Chapter 6.16.070 of the City's Municipal Code.

The City also provides recommended maximum noise level limits for construction activities occurring over a period of less than 10 days but does not provide limits for longer duration construction. This analysis applies the noise limits to project construction, given that construction would occur for a period greater than 10 days. Construction occurring during allowable hours is limited to 75 dBA in single-family residential areas, 80 dBA in multi-family residential areas, and 85 dBA in commercial areas. This code is not explicit in terms of the acoustical descriptor associated with the noise level limit. A reasonable interpretation of this standard would identify the criteria as an hourly average L_{eq} .

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. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), if the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

Construction activities would include demolition, excavation, site preparation, grading, building construction, paving, and architectural coating. 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 hauling of excavated materials and construction materials would generate truck trips on local roadways as well.

Typical construction noise levels at a distance of 50 feet are shown in Tables 10 and 11. Table 10 shows the average noise level ranges, by construction phase and Table 11 shows the maximum noise level ranges for different construction equipment. As shown in Tables 10 and 11, construction activities generate considerable amounts of noise, especially during demolition and earth-moving activities when heavy equipment is used. The typical range of maximum instantaneous noise levels for construction equipment used at this site would be 77 to 90 dBA L_{max} at a distance of 50 feet, as shown in Table 11. Project construction would occur within 5 feet of adjoining commercial property to the southeast and 85 feet of adjoining residential property to the south and west. Additional commercial uses are located about 110 feet to the northwest across Jordan Avenue and 215 feet to the northeast, across El Camino Real. Construction noise levels would be anticipated to exceed the single family residential limit of 75 dBA when heavy construction is located within about 150 feet of the residential property across Jordan Avenue to the west, to exceed the multi-family residential limit of 80 dBA when heavy construction is located within about 90 feet of the residential property to the south, and to exceed the commercial limit of 85 dBA when heavy construction is located within about 50 feet of the shared southeastern property line. Construction noise is not anticipated to exceed 85 dBA L_{eq} at commercial property to the northeast.

Construction would be in compliance with City of Los Altos' Municipal Code specified hours of construction, but would be anticipated to exceed the construction noise limits during some periods of construction when heavy construction is located adjacent to shared property lines. This is a **potentially significant** temporary impact.

Mitigation Measure 1b: Modification, placement, and operation of construction equipment are possible means for minimizing the impact of construction noise on existing sensitive receptors. Construction equipment should be well-maintained and used judiciously to be as quiet as possible. Additionally, construction activities for the proposed project should include the following best management practices to reduce noise from construction activities near sensitive land uses:

- Construction activities shall be limited to the hours between 7:00 a.m. and 5:30 p.m., Monday through Friday, and on Saturdays between 9:00 a.m. and 3:00 p.m., in accordance with the City's Municipal Code. Construction is prohibited on Sundays and holidays, unless permission is granted with a development permit or other planning approval.
- Use of the concrete saw within 50 feet of shared property lines shall be limited, as feasible.
- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Unnecessary idling of internal combustion engines should be strictly prohibited.

- Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- A temporary noise control blanket barrier could be erected, if necessary, along building facades facing construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. Noise control blanket barriers can be rented and quickly erected.
- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

Implementation of the above best management practices would reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance. With the implementation of these measures and recognizing that noise generated by construction activities would occur over a temporary period, the impact would be **less-than-significant**.

TABLE 10 Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

| | Domestic Housing | | Office Building, Hotel, Hospital, School, Public Works | | Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station | | Public Works Roads & Highways, Sewers, and Trenches | |
|--|--------------------|----|---|----|--|----|--|----|
| | I | II | I | II | I | II | I | II |
| | Ground Clearing | 83 | 83 | 84 | 84 | 84 | 83 | 84 |
| Excavation | 88 | 75 | 89 | 79 | 89 | 71 | 88 | 78 |
| Foundations | 81 | 81 | 78 | 78 | 77 | 77 | 88 | 88 |
| Erection | 81 | 65 | 87 | 75 | 84 | 72 | 79 | 78 |
| Finishing | 88 | 72 | 89 | 75 | 89 | 74 | 84 | 84 |
| I - All pertinent equipment present at site. II - Minimum required equipment present at site. | | | | | | | | |

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

TABLE 11 Construction Equipment 50-Foot Noise Emission Limits

| Equipment Category | L_{max} Level (dBA)^{1,2} | Impact/Continuous |
|---|--|--------------------------|
| Arc Welder | 73 | Continuous |
| Auger Drill Rig | 85 | Continuous |
| Backhoe | 80 | Continuous |
| Bar Bender | 80 | Continuous |
| Boring Jack Power Unit | 80 | Continuous |
| Chain Saw | 85 | Continuous |
| Compressor ³ | 70 | Continuous |
| Compressor (other) | 80 | Continuous |
| Concrete Mixer | 85 | Continuous |
| Concrete Pump | 82 | Continuous |
| Concrete Saw | 90 | Continuous |
| Concrete Vibrator | 80 | Continuous |
| Crane | 85 | Continuous |
| Dozer | 85 | Continuous |
| Excavator | 85 | Continuous |
| Front End Loader | 80 | Continuous |
| Generator | 82 | Continuous |
| Generator (25 KVA or less) | 70 | Continuous |
| Gradall | 85 | Continuous |
| Grader | 85 | Continuous |
| Grinder Saw | 85 | Continuous |
| Horizontal Boring Hydro Jack | 80 | Continuous |
| Hydra Break Ram | 90 | Impact |
| Impact Pile Driver | 105 | Impact |
| Insitu Soil Sampling Rig | 84 | Continuous |
| Jackhammer | 85 | Impact |
| Mounted Impact Hammer (hoe ram) | 90 | Impact |
| Paver | 85 | Continuous |
| Pneumatic Tools | 85 | Continuous |
| Pumps | 77 | Continuous |
| Rock Drill | 85 | Continuous |
| Scraper | 85 | Continuous |
| Slurry Trenching Machine | 82 | Continuous |
| Soil Mix Drill Rig | 80 | Continuous |
| Street Sweeper | 80 | Continuous |
| Tractor | 84 | Continuous |
| Truck (dump, delivery) | 84 | Continuous |
| Vacuum Excavator Truck (vac-truck) | 85 | Continuous |
| Vibratory Compactor | 80 | Continuous |
| Vibratory Pile Driver | 95 | Continuous |
| All other equipment with engines larger than 5 HP | 85 | Continuous |

Notes:

¹ Measured at 50 feet from the construction equipment, with a “slow” (1 sec.) time constant.

² Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.

³ Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

Impact 2 Exposure to Excessive Groundborne Vibration due to Construction. Construction-related vibration levels could exceed 0.3 in/sec PPV at the nearest structures. **This is a potentially significant impact.**

The City of Los Altos does not specify a construction vibration limit. For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.25 in/sec PPV for historic and some old buildings (see Table 3). The 0.3 in/sec PPV vibration limit would be applicable to properties in the vicinity of the project site.

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. Construction activities would include demolition, site preparation, grading and excavation, trenching and foundation, building (exterior), interior/ architectural coating and paving. Pile driving is not anticipated for construction of the building foundation.

Table 12 presents typical vibration levels from construction equipment at 25 feet. Jackhammers typically generate vibration levels of 0.035 in/sec PPV and drilling typically generates vibration levels of 0.09 in/sec PPV at 25 feet. Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Table 12 also presents construction vibration levels at various distances from the construction equipment. Calculations were made to estimate vibration levels at distances of 5 feet from construction, as well as distances of 85 feet from the site to represent other nearby buildings. Vibration levels are highest close to the source, and then attenuate with increasing distance at the rate $(D_{ref}/D)^{1.1}$, where D is the distance from the source in feet and D_{ref} is the reference distance of 25 feet.

TABLE 12 Vibration Levels for Construction Equipment at Various Distances

| Equipment | PPV at 5 ft. (in/sec) | PPV at 25 ft. (in/sec) | PPV at 85 ft. (in/sec) |
|----------------------------|--------------------------|---------------------------|---------------------------|
| Clam shovel drop | 1.186 | 0.202 | 0.053 |
| Hydromill (slurry wall) | in soil | 0.003 | 0.002 |
| | in rock | 0.006 | 0.004 |
| Vibratory Roller | 1.233 | 0.210 | 0.055 |
| Hoe Ram | 0.523 | 0.089 | 0.023 |
| Large bulldozer | 0.523 | 0.089 | 0.023 |
| Caisson drilling | 0.523 | 0.089 | 0.023 |
| Loaded trucks | 0.446 | 0.076 | 0.020 |
| Jackhammer | 0.206 | 0.035 | 0.009 |
| Small bulldozer | 0.018 | 0.003 | 0.001 |

Source: Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006, as modified by Illingworth & Rodkin, Inc., August 2019.

Project construction activities, such as drilling, 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 of construction activities. The closest

structures to the project site include a commercial building adjoining the site to the southeast, and residential buildings located approximately 90 feet to the southwest and northwest. Commercial structures are also located about 200 feet to the northeast, across El Camino Real.

As indicated in Table 12, heavy vibration generating construction equipment, such as vibratory rollers or clam shovel drops, would have the potential to produce vibration levels of 0.3 in/sec PPV or more within 20 feet of construction. One structure is located within 20 feet of the project site, a commercial building that is adjacent to the southeastern property line. Heavy construction located within 5 feet of the shared property line would have the potential to exceed the 0.3 in/sec PPV threshold for buildings that are found to be structurally sound but not where structural damage is a major concern. Vibration levels at all other buildings in the vicinity are calculated to be below the 0.3 in/sec PPV threshold and would not be anticipated to be impacted by project construction generated vibration.

The US Bureau of Mines has analyzed the effects of blast-induced vibration on buildings in USBM RI 8507², and these findings have been applied to vibrations emanating from construction equipment on buildings³. Figure 7 presents the damage probability as reported in USBM RI 8507 and reproduced by Dowding assuming a maximum vibration level of 1.2 in/sec PPV, the maximum vibration level that would be anticipated when construction is located 5 feet from structures. As shown on Figure 7, these studies indicate an approximate 20% probability of “threshold damage” (referred to as cosmetic damage elsewhere in this report) at vibration levels of 1.2 in/sec PPV or less and no observations of “minor damage” or “major damage” at vibration levels of 1.2 in/sec PPV or less. Based on these data, cosmetic or threshold damage would be manifested in the form of hairline cracking in plaster, the opening of old cracks, the loosening of paint or the dislodging of loose objects. However, minor damage (e.g., hairline cracking in masonry or the loosening of plaster) or major structural damage (e.g., wide cracking or shifting of foundation or bearing walls) would not occur assuming a maximum vibration level of 1.2 in/sec PPV.

In summary, the construction of the project would generate vibration levels exceeding the threshold of 0.3 in/sec PPV at the adjoining commercial structure to the southeast when construction is located within 20 feet of structures and such vibration levels would be capable of cosmetically damaging these buildings. Project-generated vibration levels would fall below the 0.3 in/sec PPV threshold at structures located 20 feet or further from construction. This is a **potentially significant** impact.

Mitigation Measure 2: Implementation of the following measures would reduce the vibration impact to a less-than-significant level at the adjoining commercial structure to the southeast of the project:

- A construction vibration-monitoring plan shall be implemented to document conditions at all structures located within 20 feet of proposed construction prior to, during, and after vibration generating construction activities. All plan tasks shall be undertaken under the

2 Siskind, D.E., M.S. Stagg, J.W. Kopp, and C.H. Dowding, Structure Response and Damage Produced by Ground Vibration from Surface Mine Blasting, RI 8507, Bureau of Mines Report of Investigations, U.S. Department of the Interior Bureau of Mines, Washington, D.C., 1980.

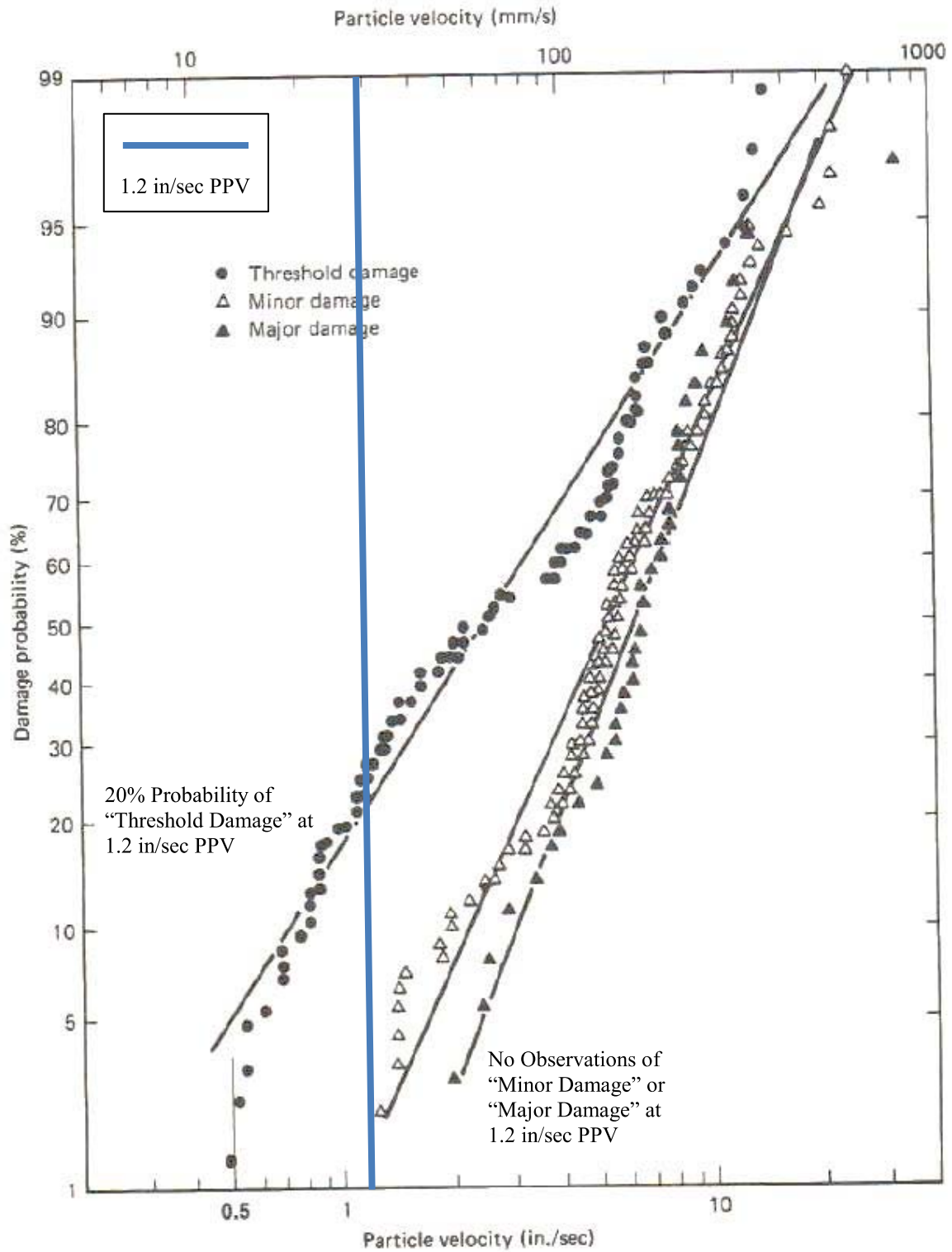
3 Dowding, C.H., Construction Vibrations, Prentice Hall, Upper Saddle River, 1996.

direction of a licensed Professional Structural Engineer in the State of California and be in accordance with industry accepted standard methods. The construction vibration monitoring plan should be implemented to include the following tasks:

- Identification of sensitivity to groundborne vibration of all structures located within 20 feet of construction.
- Performance of a photo survey, elevation survey, and crack monitoring survey for all structures located within 20 feet of construction. Surveys shall be performed prior to, in regular intervals during, and after completion of vibration generating construction activities and shall include internal and external crack monitoring in the structure, settlement, and distress and shall document the condition of the foundation, walls and other structural elements in the interior and exterior of said structure.
- Conduct a post-survey on the structure where either monitoring has indicated high levels or complaints of damage. Make appropriate repairs or provide compensation where damage has occurred as a result of construction activities.
- Designate a person responsible for registering and investigating claims of excessive vibration. The contact information of such person shall be clearly posted on the construction site.

Implementation of the above measures would reduce this impact to a **less-than-significant** level.

FIGURE 7 Probability of Cracking and Fatigue from Repetitive Loading



Source: Dowding, C.H., Construction Vibrations, Prentice Hall, Upper Saddle River, 1996 as modified by Illingworth & Rodkin, Inc., August 2019.