INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

FOR THE

SOMA APARTMENTS PROJECT

NOVEMBER 21, 2022

Prepared for:

City of Manteca – City Hall
1001 West Center Street
Manteca, CA 95337
(209) 456-8000

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

D e N o v o P l a n n i n g G r o u p

A Land Use Planning, Design, and Environmental Firm

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Proposed Mitigated Negative Declaration

Lead Agency:
City of Manteca
1001 West Center Street
Manteca, CA 95337

Project Title: SOMA Apartments Project

Project Location: The Project site includes approximately 10.32 acres located in the central portion of the City of Manteca, south of State Route 120, in Manteca, California. The Project site is identified as Assessor's Parcel Numbers (APNs) 224-040-09 and -04, by the San Joaquin County Assessor's Office. The Project site is bound by E. Atherton Drive to the north, S. Main Street to the west, a single-family residential neighborhood to the south and east, and vacant land to the east.

Project Description: The proposed Project includes a 210-apartment complex consisting of studios, one-, two-, and three-bedroom dwelling units, as well as a community center, dog park and pool. The Project would include 50 percent site coverage and the density of the Project would be approximately 21 units/acre. The apartment buildings would be two and three stories with a maximum height of 45 feet. All the buildings fronting S. Main Street and E. Atherton Drive are proposed to be two stories tall. All existing structures within the Project site would be demolished, and the associated infrastructure removed, including any septic tanks, leach fields, and wells on-site, per City of Manteca requirements.

The proposed Project would be served by existing City water, sewer, and storm drainage infrastructure. The existing City laterals and lines currently located in S. Main Street and E. Atherton Drive would be extended into the Project site. A storm water treatment basin would be provided along the Project site's southern boundary, adjacent to the "Pet Area" in Figure 3. On-site storm water infrastructure would convey runoff into the storm water treatment basin and ultimately connect via an existing stub to the City's existing storm drain basin located directly east of the Project site.

The Project site would be accessed via a main gated access point off E. Atherton Drive and have a gated residential exit-only access off S. Main Street (Figure 3). The Project site is anticipated to contain approximately 363 parking spaces and will provide 38 electric vehicle (EV) chargers. Approximately 218 parking spaces would be covered by carports.

Findings:

In accordance with the California Environmental Quality Act, the City of Manteca has prepared an Initial Study to determine whether the proposed project may have a significant adverse effect on the environment. The Initial Study and Proposed Mitigated Negative Declaration reflect the independent judgment of City of Manteca staff. On the basis of the Initial Study, the City of Manteca hereby finds:

> *Although the proposed project could have a significant adverse effect on the environment, there will not be a significant adverse effect in this case because the project has incorporated specific provisions to reduce impacts to a less than significant level and/or the mitigation measures described herein have been added to the project. A Mitigated Negative Declaration has thus been prepared.*

The Initial Study, which provides the basis and reasons for this determination, is attached and/or referenced herein and is hereby made a part of this document.

_____ _____

Signature Date

Proposed Mitigation Measures:

The following Mitigation Measures are extracted from the Initial Study. These measures are designed to avoid or minimize potentially significant impacts, and thereby reduce them to an insignificant level. A Mitigation Monitoring and Reporting Program (MMRP) is an integral part of project implementation to ensure that mitigation is properly implemented by the City and the implementing agencies. The MMRP will describe actions required to implement the appropriate mitigation for each CEQA category including identifying the responsible agency, program timing, and program monitoring requirements. Based on the analysis and conclusions of the Initial Study, the impacts of proposed project would be mitigated to less-than-significant levels with the implementation of the mitigation measures presented below.

AGRICULTURE AND FORESTRY RESOURCES

Mitigation Measure AG-1: Prior to the conversion of important farmland on the Project site, the Project applicant shall participate in the City's agricultural mitigation fee program by paying the established fees on a per-acre basis for the loss of important farmland. Fees paid toward the City's program shall be used to fund conservation easements on comparable or better agricultural lands to provide compensatory mitigation.

BIOLOGICAL RESOURCES

Mitigation Measure BIO-1: Prior to commencement of any grading activities, the Project proponent shall seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization Measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.

CULTURAL RESOURCES

Mitigation Measure CUL-1: The Project applicant shall ensure that a training session for all workers is conducted in advance of the initiation of construction activities at the site. The training session will provide information on recognition of artifacts, human remains, and cultural deposits to help in the recognition of potential issues.

Mitigation Measure CUL-2: The Project applicant shall retain a qualified archaeologist to observe initial ground disturbance activities, during initial grading. If artifacts, exotic rock, shell or bone are uncovered during the construction, the archaeologist will be able to document the finding, and determine if additional work is necessary to excavate or remove the artifacts or feature.

Mitigation Measure CUL-3: If cultural resources (i.e., prehistoric sites, historic sites, isolated artifacts/features, and paleontological sites) are discovered during construction, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Manteca shall be notified, and a qualified archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology (or a qualified paleontologist in the event paleontological resources are found) shall be retained to determine the significance of the discovery. The City of Manteca shall consider recommendations presented by the professional for any unanticipated discoveries and shall carry out the measures deemed feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Specific measures are developed based on the significance of the find.

Mitigation Measure CUL-4: If any human remains are found during grading and construction activities, all work shall be halted immediately within 50 meters (165 feet) of the discovery and the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed. Additionally, if the Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and, if required, shall be retained at the applicant's expense.

GEOLOGY AND SOILS

Mitigation Measure GEO-1: Prior to issuance of any building permits, the Project applicant shall be required to submit building plans to the City of Manteca for review and approval. The building plans shall also comply with all applicable requirements of the most recent California Building Standards Code and recommendations in the design-level geotechnical study. All on-site soil engineering activities shall be conducted under the supervision of a licensed geotechnical engineer or certified engineering geologist.

HAZARDS AND HAZARDOUS MATERIALS

Mitigation Measure HAZ-1: The Project applicant shall hire a qualified consultant to perform soil and site testing to check whether hazardous conditions are present, prior to any grading activities. The soil sampling shall address the presence/absence of hazardous substances in the soils, including agrichemicals and/or petroleum products. A soil sampling and analysis workplan shall be shall be prepared and meet the requirements of the Department of Toxic Substances Control Interim Guidance for Sampling Agricultural Properties (2008). The soils in the area where farming equipment and/or tanks have been stored should be included in the soil sampling and analysis workplan.

If the sampling results indicate the presence of agrichemicals that exceed commercial screening levels, a removal action workplan shall be prepared in coordination with San Joaquin County Environmental Health Department. The removal action workplan shall include a detailed engineering plan for conducting the removal action, a description of the on-site contamination, the goals to be achieved by the removal action, and any alternative removal options that were considered and rejected and the basis for that rejection. A no further action letter shall be issued by San Joaquin County Environmental Health Department upon completion of the removal action. The removal action shall be deemed complete when the confirmation samples exhibit concentrations below the commercial screening levels, which will be established by the agencies.

If asbestos-containing materials and/or lead are found in the buildings, a California Occupational Safety and Health Administration (Cal/OSHA) certified asbestos containing building materials (ACBM) and lead based paint contractor shall be retained to remove the asbestos-containing materials and lead in accordance with EPA and Cal/OSHA standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility.

Mitigation Measure HAZ-2: Prior to grading activities, any onsite wells or septic systems intended to be removed shall be destroyed under permit and inspection with San Joaquin County Environmental Health Department.

HYDROLOGY AND WATER QUALITY

Mitigation Measure HYD-1: The Project applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the Project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Manteca and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.

NOISE

Mitigation Measure NOISE-1: Construction activities shall adhere to the requirements of the City of Manteca Municipal Code with respect to hours of operation. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department.

All equipment shall be fitted with factory equipped mufflers, and in good working order. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department.

Mitigation Measure NOISE-2: The first rows of residential units adjacent to the East Atherton Drive and South Main Street right of way shall include the following noise control measures:

- Windows shall have a sound transmission class (STC) rating of 36;

- Interior gypsum at exterior walls shall be 5/8" on resilient channels or staggered stud walls;
- Ceiling gypsum shall be 5/8";
- Flooring shall be carpet on foam padding in bedrooms and vinyl plank in living rooms;
- Exterior finish shall be stucco, fiber cement lap siding, or system with equivalent weight per square foot;
- Mechanical ventilation shall be installed in all residential uses to allow residents to keep doors and windows closed, as desired for acoustical isolation.
- As an alternative to the above-listed interior noise control measures, the applicant may provide a detailed analysis of interior noise control measures once building plans become available. The analysis should be prepared by a qualified noise control engineer and shall outline the specific measures required to meet the City of Manteca 45 dB Ldn interior noise level standard.

Interior noise control measures are based upon an estimate of the future residence layouts. These assumptions shall be verified once floor plans become available for an accurate assessment of interior noise control measures.

PUBLIC SERVICES

Mitigation Measure PUBLIC-1: The Project applicant shall pay applicable park in-lieu fees or dedicate parkland in accordance with the City of Manteca Municipal Code standards outlined in Chapter 3.20. Proof of payment of the in-lieu fees shall be submitted to the City Engineer.

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INITIAL STUDY CHECKLIST

PROJECT TITLE

The Soma Apartments Project

LEAD AGENCY NAME AND ADDRESS

City of Manteca – City Hall
1001 West Center Street
Manteca, CA 95337
(209) 456-8000

CONTACT PERSON AND PHONE NUMBER

Albert Boyce
SOMA Manteca, LLC
P.O. Box 1870
Manteca, CA 95336
(209) 239-4014

PROJECT LOCATION AND SETTING

The Project site includes approximately 10.32 acres located in the central portion of the City of Manteca, south of State Route 120, in Manteca, California. The Project site is identified as Assessor's Parcel Numbers (APNs) 224-040-09 and -04, by the San Joaquin County Assessor's Office. The Project site is bound by E. Atherton Drive to the north, S. Main Street to the west, a single-family residential neighborhood to the south and east, and vacant land to the east.

Currently, the Project site is mostly undeveloped; however, the site has been used for agricultural purposes in the past. There are two monitoring wells located at the Project site, one in the southwest corner and one in the northeast corner. One irrigation well and irrigation valve are located on the center-north portion of the Project site, along with a utility pole with mounted meters and power switches for the well pump, as well as two pole-mounted transformers. There is one approximately 200 square foot storage shed located near the northwest corner of the Project site. The Project site is approximately 34 feet above mean sea level with flat topography.

See Figures 1 and 2 for the regional location and the project vicinity. Figure 3 contains the proposed Project site plan.

PROJECT DESCRIPTION

The proposed Project includes a 210-apartment complex consisting of studios, one-, two-, and three-bedroom dwelling units, as well as a community center, dog park and pool. The Project would include 50 percent site coverage and the density of the Project would be approximately 21 units/acre. The apartment buildings would be two and three stories with a maximum height of 45 feet. All the buildings fronting S. Main Street and E. Atherton Drive are proposed to be two stories tall. All existing structures within the Project site would be demolished, and the associated infrastructure removed, including any septic tanks, leach fields, and wells on-site, per City of Manteca requirements.

Infrastructure and Access

The proposed Project would be served by existing City water, sewer, and storm drainage infrastructure. The existing City laterals and lines currently located in S. Main Street and E. Atherton Drive would be extended into the Project site. A storm water treatment basin would be provided along the Project site's southern boundary, just east of the "Pet Area" in Figure 3. On-site storm water infrastructure would convey runoff into the storm water treatment basin and ultimately connect to an existing stub to the City's existing storm drain basin located directly east of the Project site.

The Project site would be accessed via a main gated access point off E. Atherton Drive and have a gated residential exit-only access off S. Main Street (Figure 3). The Project site is anticipated to contain approximately 363 parking spaces and will provide 38 electric vehicle (EV) chargers. Approximately 218 parking spaces would be covered by carports.

GENERAL PLAN AND ZONING DESIGNATIONS

The Project site is designated CMU (Commercial Mixed Use) by the Manteca General Plan land use map. The City's CMU land use designation accommodates a variety of purposes including high density residential, employment centers, retail commercial, and professional office. The mixed-use concept is intended to integrate a mix of compatible uses on a single site that include sales, services, and activities which residents may need on a daily basis. Infill sites in the existing urban area, particularly along Main Street, Airport Way and Yosemite Avenue corridors may be developed entirely as multi-family residential projects. The allowed density within the City's CMU designation is 15.1 to 25 dwelling units per acre. With 210 units on approximately 10.32 acres, the proposed density would be 21 dwelling units per acre, which is within the allowed density range.

The Project site is zoned Commercial Mixed Use (CMU) by the Manteca Zoning Map. The CMU zone accommodates a variety of uses, including high-density residential, employment centers, retail commercial, and professional offices.

A General Plan Amendment or rezone would not be required for the Project. The existing General Plan land uses and the zoning designations are shown on Figure 4. However, a determination of similar use is required as related to the allowable building height of 35 feet within the CMU zoning district to match the allowable building height of 45 feet within the Multiple Family Dwelling (R-3) zoning district for a high-density residential project.

REQUESTED ENTITLEMENTS AND OTHER APPROVALS

The City of Manteca is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050.

This document will be used by the City of Manteca to take the following actions:

- Adoption of the Mitigated Negative Declaration (MND);
- Adoption of the Mitigation Monitoring and Reporting Program;
- Approval of Development Agreement;
- Approval of future Improvement Plans;
- Approval of future Grading Plans;
- Approval of future Site Plan and Design Review;
- City review, approval, of construction and utility plans; and

- Approval of future Building Permits.

The following agencies may be required to issue permits or approve certain aspects of the proposed project:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- RWQCB – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Approval of construction-related air quality permits;
- San Joaquin Council of Governments (SJCOG) – Review of project application to determine consistency with the San Joaquin County Multi-Species Habitat, Conservation, and Open Space Plan (SJMSCP).

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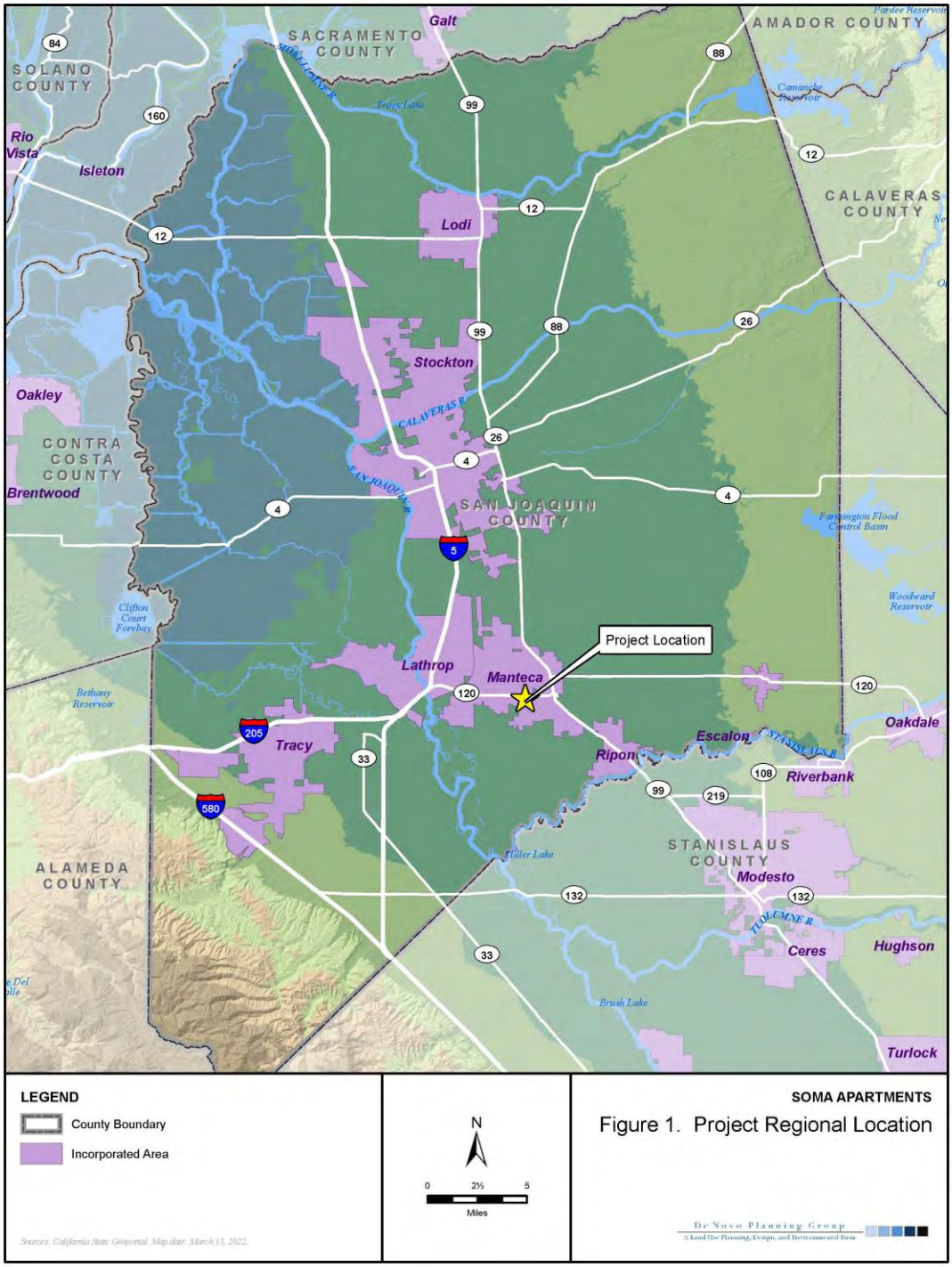
Galt
SACRAMENTO COUNTY
AMADOR COUNTY
SOLANO COUNTY
Rio Vista
Isleton
Lodi
CALAVERAS COUNTY
Stockton
Oakley
CONTRA COSTA COUNTY
Brentwood
SAN JOAQUIN COUNTY
Project Location
Lathrop
Manteca
Tracy
Escalon
Ripon
Oakdale
Riverbank
ALAMEDA COUNTY
STANISLAUS COUNTY
Modesto
Ceres
Hughson
Turlock
Bethany Reservoir
Clifton Court Forebay
Farmington Flood Control Basin
Woodward Reservoir
Camanche Reservoir
Pardee Reservoir
Tracy Lake
Brush Lake
Miller Lake
LEGEND
County Boundary
Incorporated Area
N
0 2½ 5
Miles
SOMA APARTMENTS
Figure 1. Project Regional Location
De Novo Planning Group

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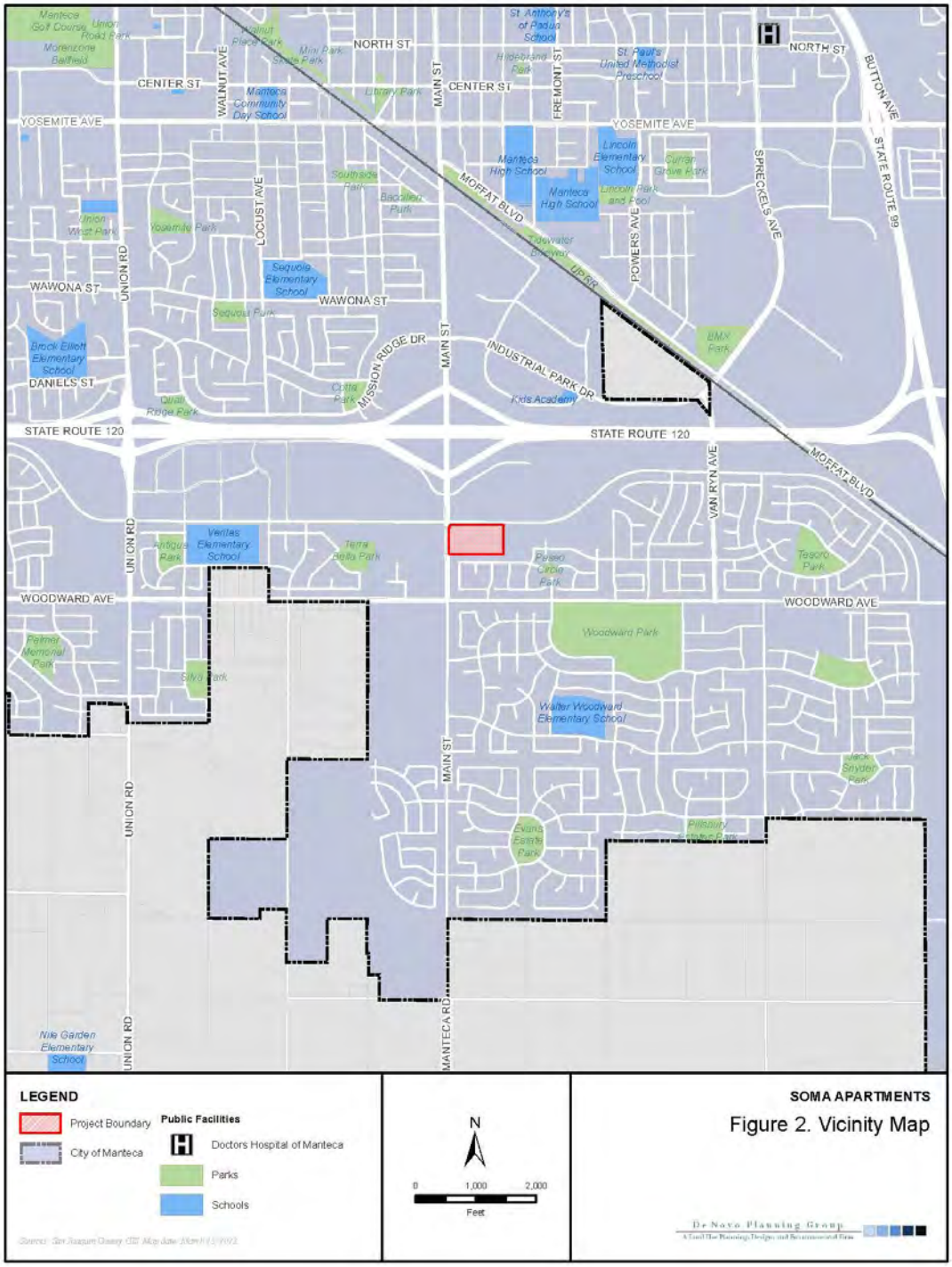
NORTH ST
CENTER ST
YOSEMITE AVE
WAWONA ST
DANIELS ST
STATE ROUTE 120
WOODWARD AVE
MORFAT BLVD
MAIN ST
UNION RD
WALNUT AVE
LOCUST AVE
FREMONT ST
POWERS AVE
SPRECKELS AVE
BUTTON AVE
STATE ROUTE 99
VAN RYN AVE
MANTECA RD
INDUSTRIAL PARK DR
MISSION RIDGE DR
UP RR
Manteca High School
Lincoln Elementary School
Sequoia Elementary School
Brock Elliott Elementary School
Veritas Elementary School
Walter Woodward Elementary School
Nile Garden Elementary School
Woodward Park
Tesoro Park
BMX Park
Kids Academy
LEGEND
Project Boundary
City of Manteca
Public Facilities
Doctors Hospital of Manteca
Parks
Schools
N
0
1,000
2,000
Feet
SOMA APARTMENTS
Figure 2. Vicinity Map
De Novo Planning Group

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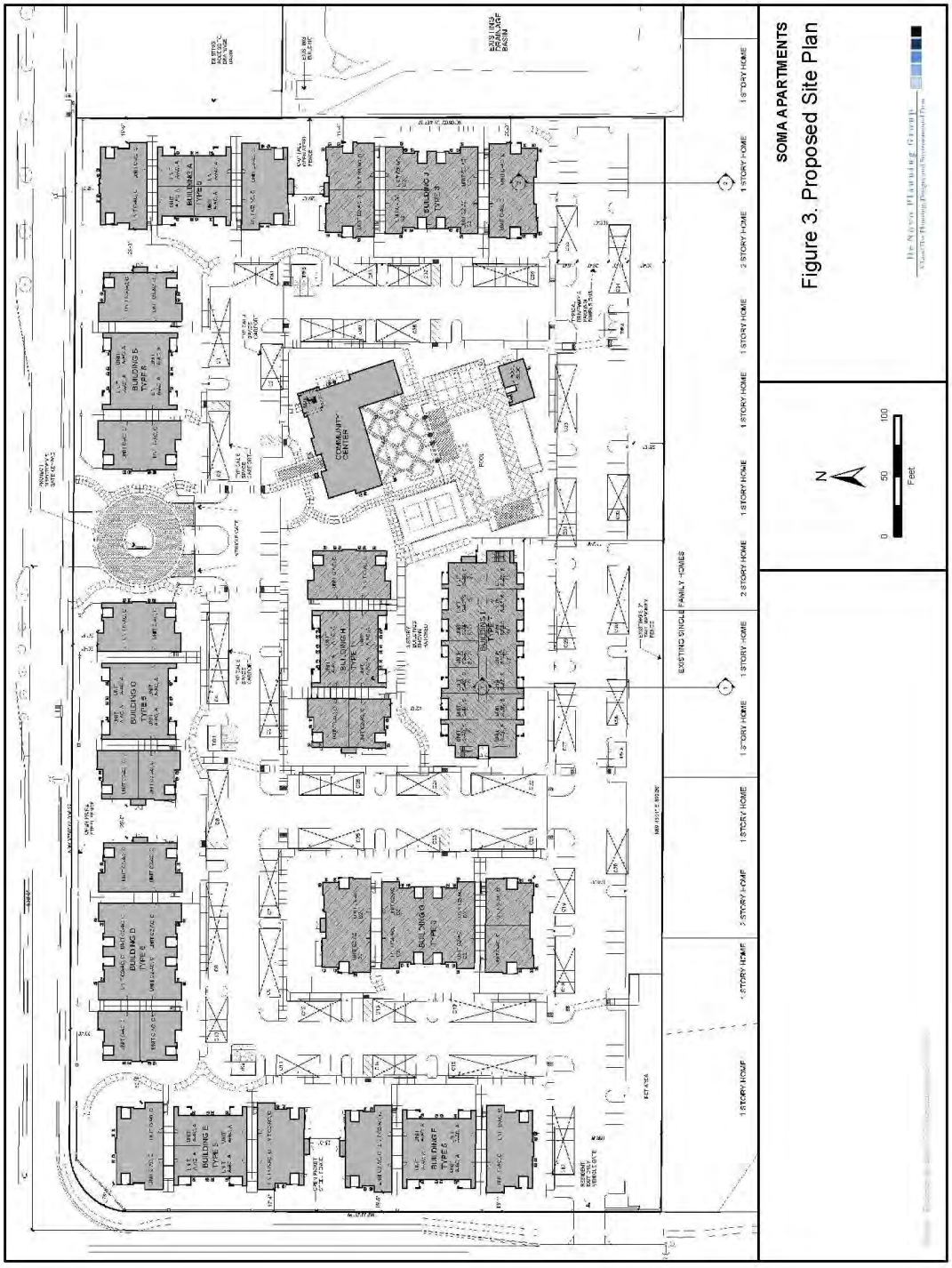

Figure 3. Proposed Site Plan

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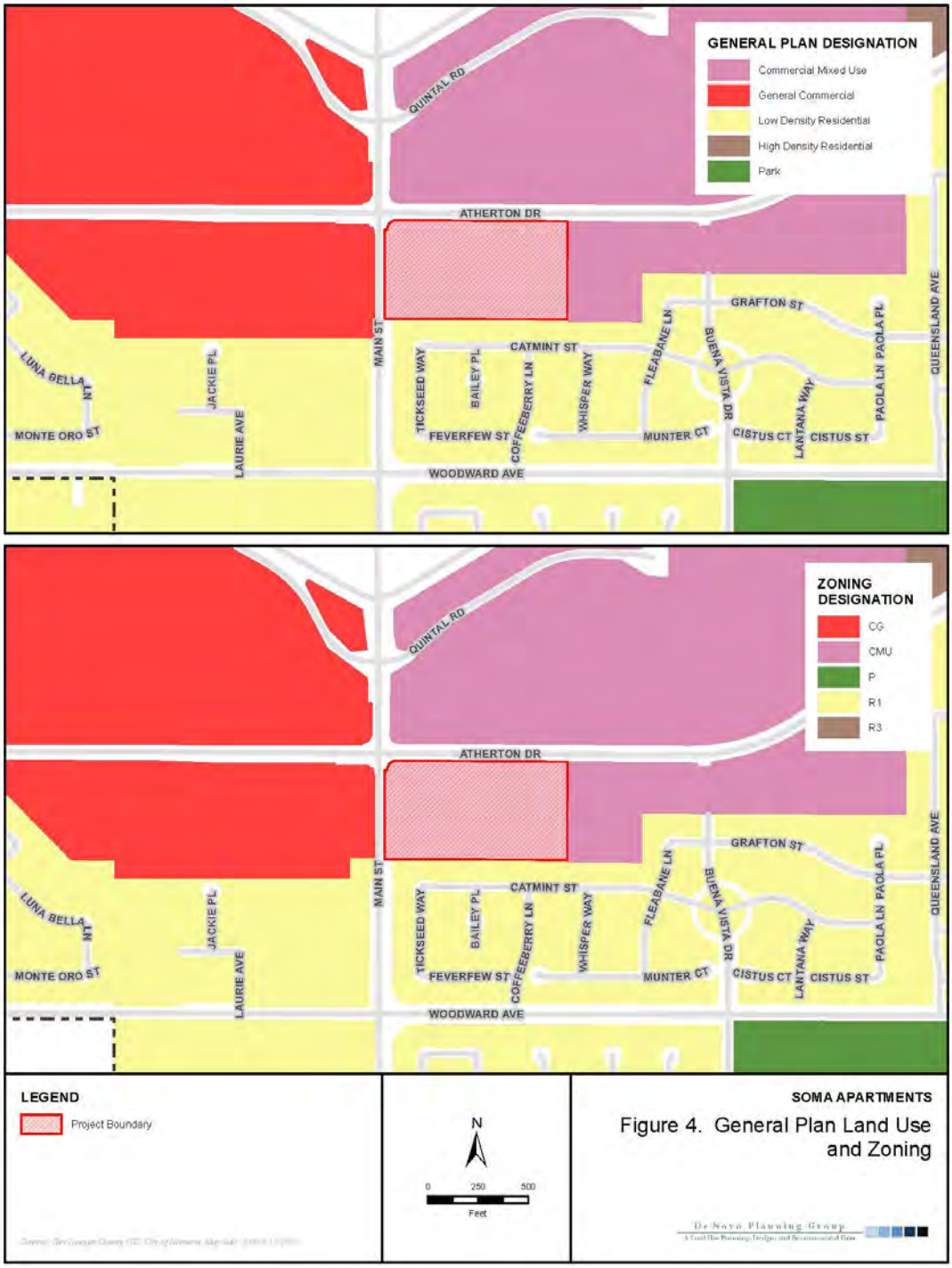
GENERAL PLAN DESIGNATION
Commercial Mixed Use
General Commercial
Low Density Residential
High Density Residential
Park
ZONING DESIGNATION
CG
CMU
P
R1
R3
QUINTAL RD
ATHERTON DR
GRAFTON ST
CATMINT ST
MAIN ST
LUNA BELLA LN
JACKIE PL
MONTE ORO ST
LAURIE AVE
TICKSEED WAY
BAILEY PL
COFFEEBERRY LN
WHISPER WAY
FLEABANE LN
BUENA VISTA DR
LANTANA WAY
PAOLA LN
PAOLA PL
QUEENSLAND AVE
FEVERFEW ST
MUNTER CT
CISTUS CT
CISTUS ST
WOODWARD AVE
LEGEND
Project Boundary
N
0
250
500
Feet
SOMA APARTMENTS
Figure 4. General Plan Land Use and Zoning
De Novo Planning Group

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

None of the environmental factors listed below would have potentially significant impacts as a result of development of this project, as described on the following pages.

	Aesthetics		Agriculture and Forestry Resources		Air Quality
	Biological Resources		Cultural Resources		Energy
	Geology and Soils		Greenhouse Gasses		Hazards and Hazardous Materials
	Hydrology and Water Quality		Land Use and Planning		Mineral Resources
	Noise		Population and Housing		Public Services
	Recreation		Transportation		Tribal Cultural Resources
	Utilities and Service Systems		Wildfire		Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature Date

EVALUATION INSTRUCTIONS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9) The explanation of each issue should identify:
    a) The significance criteria or threshold, if any, used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impact to less than significant.

EVALUATION OF ENVIRONMENTAL IMPACTS

In each area of potential impact listed in this section, there are one or more questions which assess the degree of potential environmental effect. A response is provided to each question using one of the four impact evaluation criteria described below. A discussion of the response is also included.

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries, upon completion of the Initial Study, an EIR is required.
- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.
- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the project.

ENVIRONMENTAL CHECKLIST

This section of the Initial Study incorporates the most current Appendix "G" Environmental Checklist Form contained in the CEQA Guidelines. Impact questions and responses are included in both tabular and narrative formats for each of the 21 environmental topic areas.

I. AESTHETICS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Responses to Checklist Questions

Responses a), c): There are no scenic viewsheds within the City of Manteca, and the 2023 City of Manteca General Plan does not specifically designate any scenic viewsheds within the city. The Manteca General Plan EIR does, however, note Manteca's scenic environmental resources including the San Joaquin River environment, and scenic vistas of the Coast Range and the Sierra.

For analysis purposes, a scenic vista can be discussed in terms of a foreground, middle ground, and background viewshed. The middle ground and background viewsheds are often referred to as the broad viewshed. Examples of scenic vistas can include mountain ranges, valleys, ridgelines, or water bodies from a focal point of the forefront of the broad viewshed, such as visually important trees, rocks, or historic buildings. An impact would generally occur if a project would change the view to the middle ground or background elements of the broad viewshed, or remove the visually important trees, rocks, or historic buildings in the foreground. There are no scenic middle ground or background views from the Project site that would be significantly affected by the proposed project.

The proposed Project would not significantly disrupt middle ground or background views from public viewpoints. The proposed Project would result in changes to the foreground views from the public viewpoint by adding residential buildings to a site that is currently vacant.

Upon build-out, the Project site would be of similar visual character to nearby and adjacent developments (such as the residential community located to the south and east of the Project site). For motorists travelling along nearby roadways, such as State Route 120 or S. Main Street, the Project site would appear to be visually similar to the adjacent residential land uses and would not present unexpected or otherwise unpleasant aesthetic values within the general vicinity.

The greatest visual change would apply to neighbors that are located to the south and east of the Project site with a direct view of the area from their backyards. Views of the Project site are generally not visible from residences beyond those that immediately surround the Project site. The proposed Project would change the view from those that do have visibility of the Project site from a vacant agricultural area to a multi-family residential neighborhood.

The change in character of the Project site, once developed, is anticipated by the 2023 General Plan and would be visually compatible with surrounding existing land uses. Moreover, although the City considers the visual impact from the loss of agricultural lands, not all agricultural lands are the same. The Project site does not have characteristics that would normally be considered a significant scenic amenity or visual resource. Furthermore, proposed setbacks and landscaping around the perimeter and at the entrance of the Project site will buffer the foreground viewshed from residents in the immediate vicinity. Therefore, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Response b): The Project site is not located within view of a state scenic highway. Only one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of Interstate 580 from Interstate 5 to State Route 205. The City of Manteca is not visible from this roadway segment. Therefore, the proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Implementation of the proposed Project would have ***no impact*** relative to this topic.

Response d): The Project site is mostly undeveloped with one approximately 200 square foot storage shed. The Project site contains no existing lighting. The proposed Project will create new sources of light and glare. Examples of lighting would include construction lighting, street lighting, security lighting along sidewalks, exterior building lighting, interior building lighting, and automobile lighting. Examples of glare would include reflective building materials and automobiles.

Contributors to light and glare impacts would include construction lighting and street lighting that would create ongoing light impacts to the area. Nighttime construction activities are not anticipated to be required. Operational light sources from street lighting may be required to provide for safe travel. However, to minimize light and glare impacts, the City has adopted ordinances that establish lighting standards for all new and existing development. All street lighting would have to comply with the City of Manteca's existing lighting standards. Section 17.50.060 of the Manteca Municipal Code identifies general lighting standards for light shielding, illumination levels, and nuisance prevention.

LED is the best illumination source for reducing urban glare. All streetlights within the Project site would comply with the CPTED streetlight illumination standards. LED lights are 40 to 60% more energy efficient than traditional lighting technologies. By using LED luminaries, it is possible to provide better quality lighting with no glare, lower energy consumption, and reduce CO_2 emissions.

Lastly, it is noted that sky glow is an effect of light pollution, which has historically not been an environmental concern in the City of Manteca given their enforcement of their lighting ordinance which imposes design conditions on lighting within the City's jurisdiction. It is also noted that sky glow can also be a function of lighting density, which is a function of building density. For instance, nighttime light pollution and sky glow is much more common in densely populated urban environments, but is not common within the small suburban communities of the Central Valley.

Therefore, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

II. AGRICULTURE AND FORESTRY RESOURCES

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526)?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			X	

Responses to Checklist Questions

Response a): The Project site is considered Farmland of Local Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency (California Department of Conservation, 2016).

The proposed land use is consistent with the City's overall planning vision, as identified in the 2023 General Plan, which assumes the site would be developed with multi-family residential and commercial uses. The General Plan and General Plan EIR anticipated development of the Project site as part of the overall evaluation of buildout of the City. Additionally, the proposed General Plan Update designates this land for Commercial Mixed Use uses consistent with the proposed Project and is anticipated in the overall buildout of the City as part of the General Plan Update EIR, currently out for public review. The 2023 General Plan EIR also addressed the conversion and loss of agricultural land that would result from buildout of the 2023 General Plan, providing a discussion of the General Plan policies intended to reduce impacts. The City certified the General Plan EIR, adopted Statement of Overriding Considerations and Findings of Fact, and adopted the 2023 General Plan in 2003. The proposed Project is consistent with the General Plan policies related to this topic, and the proposed Project does not cause an impact greater than what has already been considered in the City's certified EIR.

The proposed Project is subject to the City's agricultural mitigation fee program, as per VI. *Development Fees*, of the City Municipal Code. Payment of these fees is standard for the conversion of farmland in the City of Manteca. Different types of land require different levels of mitigation. The entirety of San Joaquin County is mapped according to each land use category so that landowners, project proponents, and project reviewers are aware of the applicable City fees for the proposed development. The appropriate fees are collected by the City and remitted to SJCOG for administration. SJCOG uses the funds to preserve open space land of comparable types

throughout the County, often coordinating with other private or public land trusts to purchase conservation easements or buy land outright for preservation. Fees are automatically adjusted on an annual basis.

The Project proponent will be required to pay the established fees on a per-acre basis for the loss of Farmland of Local Importance. Fees paid toward the City's program are required to be used to fund conservation easements on comparable or better agricultural lands to provide compensatory mitigation. Therefore, with implementation of the following mitigation measure the proposed Project would be reduced to a ***less than significant*** impact relative to this issue.

Mitigation Measure(s)

Mitigation Measure AG-1*: Prior to the conversion of important farmland on the Project site, the Project applicant shall participate in the City's agricultural mitigation fee program by paying the established fees on a per-acre basis for the loss of important farmland. Fees paid toward the City's program shall be used to fund conservation easements on comparable or better agricultural lands to provide compensatory mitigation.*

Response b): The Project site is not zoned for agricultural use by the City of Manteca, nor is it under a Williamson Act contract (California Department of Conservation, 2022). Therefore, the proposed Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. Implementation of the proposed Project would have ***no impact*** relative to this issue.

Response c): The Project site is not zoned for forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526). Thus, the proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland. Implementation of the proposed Project would have ***no impact*** relative to this issue.

Response d): The Project site is not forest land. The proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. Implementation of the proposed Project would have ***no impact*** relative to this issue.

Response e): The Project site does not contain forest land, and there is no forest land in the vicinity of the Project site. The Project site is designated CMU and would result in a conversion of the land to a non-farmland use. This is consistent with the General Plan. The proposed Project does not involve any other changes in the existing environment not disclosed under the previous responses which, due to their location or nature, could result in conversion of farmland, to non-agricultural use, or conversion of forest land to non-forest use. Implementation of the proposed Project would have a ***less than significant*** impact relative to this issue.

III. AIR QUALITY

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) 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?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Existing Setting

The Project site is located within the San Joaquin Valley Air Pollution Control District (SJVAPCD). This agency is responsible for monitoring air pollution levels and ensuring compliance with federal and state air quality regulations within the San Joaquin Valley Air Basin (SJVAB) and has jurisdiction over most air quality matters within its borders.

Responses to Checklist Questions

Responses a), b): Air quality emissions would be generated during construction and during operation of the proposed Project. Operational emissions would come primarily from vehicle emissions from vehicle trips generated by the proposed Project and from the use of energy (i.e., electricity and natural gas) within the proposed Project residences and associated on-site amenities.

SJVAPCD Small Project Analysis Level (SPAL)

The SJVAPCD has established CEQA Small Project Analysis Level (SPAL) screening thresholds, which are based on District New Source Review (NSR) offset requirements for stationary sources (SJVAPCD, 2020). Projects that fit the descriptions and are less than the project sizes provided are deemed to have a less than significant impact on air quality due to criteria pollutant emissions and as such are excluded from quantifying criteria pollutant emissions for CEQA purposes. The Apartment, Low Rise land use category was chosen for the purposes of the SPAL screening thresholds. According to the SPAL screening thresholds, Apartment, Low Rise projects that are less than 224 units in project size would have a less than significant impact on air quality due to criteria pollutant emissions. The proposed Project would develop up to 210 multi-family residential units, which is smaller than the 224-unit SPAL screening threshold for Apartment, Low Rise Projects.

Construction-Related Emissions

The SJVAPCD's approach to analysis of construction impacts is to require implementation of effective and comprehensive control measures, rather than to require detailed quantification of emission concentrations for modeling of direct impacts. PM_{10} emitted during construction can vary greatly depending on the level of activity, the specific operations taking place, the equipment

being operated, local soils, weather conditions, and other factors, making quantification difficult. Despite this variability in emissions, experience has shown that there are a number of feasible control measures that can be reasonably implemented to significantly reduce PM_{10} emissions from construction activities. The SJVAPCD has determined that, on its own, compliance with Regulation VIII for all sites and implementation of all other control measures indicated in Tables 6-2 and 6-3 of the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (as appropriate) would constitute sufficient mitigation to reduce construction PM_{10} impacts to a level considered less than significant.

Construction would result in numerous activities that would generate dust. The sandy, silty soils in the Project area and often strong afternoon winds exacerbate the potential for dust, particularly in the summer months. Impacts would be localized and variable. Construction impacts would last for a period of several months to several years. The initial phase of Project construction would involve grading and site preparation activities, followed by building construction. Construction activities that could generate dust and vehicle emissions are primarily related to grading, soil excavation, and other ground-preparation activities, as well as building construction.

Control measures are required and enforced by the SJVAPCD under Regulation VIII. The SJVAPCD considers construction-related emissions from all projects in this region to be mitigated to a less than significant level if SJVAPCD-recommended PM_{10} fugitive dust rules and equipment exhaust emissions controls are implemented. The proposed Project would be required to comply with all applicable measures from SJVAPCD Rule VIII. The proposed Project would have a less than significant impact related to construction activities.

In addition, Table AIR-1 provides the results of the construction-related emissions modeling results from CalEEMod in comparison to the SJVAPCD thresholds for criteria air pollutants.

Table AIR-1: Project Unmitigated Construction Criteria Pollutant Emissions (tons/year)

Emissions Type	*Proposed Project Emissions*	*SJVAPCD Threshold*	*Above Threshold in Proposed Project?*
ROG	0.7	10	N
NO_x	2.0	10	N
CO	2.6	100	N
PM_{10}	0.2	15	N
$PM_{2.5}$	0.1	15	N
SO_x	<0.1	27	N

Source: CalEEMod, v. 2020.4.0

Operational Emissions

For the purposes of this operational air quality analysis, actions that violate Federal standards for criteria pollutants (i.e., primary standards designed to safeguard the health of people considered to be sensitive receptors while outdoors and secondary standards designed to safeguard human welfare) are considered significant impacts. Additionally, actions that violate State standards developed by the CARB or criteria developed by the SJVAPCD, including thresholds for criteria pollutants, are considered significant impacts.

SJVAPCD Rule 9510 Indirect Source Review

District Rule 9510 requires developers of large residential, commercial and industrial projects to reduce smog-forming (NOx) and particulate (PM_{10} and $PM_{2.5}$) emissions generated by their projects. The Rule applies to many project types, including to projects which, upon full build-out, will include 50 residential units or more. Project developers are required to reduce:

- 20 percent of construction-exhaust nitrogen oxides;
- 45 percent of construction-exhaust PM_{10};
- 33 percent of operational nitrogen oxides over 10 years; and
- 50 percent of operational PM_{10} over 10 years.

Developers are encouraged to meet these reduction requirements through the implementation of on-site mitigation; however, if the on-site mitigation does not achieve the required baseline emission reductions, the Project applicant will mitigate the difference by paying an off-site fee to the District. Fees reduce emissions by helping to fund clean-air projects in the District. The proposed Project would be required to consult with the SJVAPCD regarding the applicability of Rule 9510 Indirect Source Review including the fees.

Criteria Pollutant Emissions and Thresholds

Project operational emissions are provided in Table AIR-2 (further detail is provided in Appendix A), in comparison to the SJVAPCD criteria pollutant thresholds.

Table AIR-2: Project Unmitigated Operational Criteria Pollutant Emissions (tons/year)

Emissions Type	*Proposed Project Emissions*	*SJVAPCD Threshold*	*Above Threshold in Proposed Project?*
ROG	1.6	10	N
NO_x	1.2	10	N
CO	7.7	100	N
PM_{10}	1.5	15	N
$PM_{2.5}$	0.4	15	N
SO_x	<0.1	27	N

Source: CalEEMod, v.2020.4.0

As shown above, the proposed Project would not exceed the applicable SJVAPCD thresholds associated with operational emissions. Therefore, the proposed Project would have a ***less than significant*** impact with regard to operational emissions.

Conclusion

As described above, the proposed Project would have ***a less than significant*** impact related to the potential to conflict with or obstruct implementation of the applicable air quality plan, or to 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.

Response c): Sensitive receptors are those parts of the population that can be severely impacted by air pollution. Sensitive receptors include children, the elderly, and those with pre-existing

serious health problems affected by air quality, and sensitive receptor locations include schools, parks and playgrounds, day care center, nursing homes, hospitals, and residences. The closest sensitive receptors are the existing single-family residences located adjacent to the Project site to the south, east and west of the site.

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards. The proposed Project is a multi-family residential project that would not generate notable TACs during its operational phase.

Construction-Related Impacts on Sensitive Receptors: The construction phase of the Project would be temporary and short-term, and the implementation of all State, Federal, and SJVAPCD requirements would greatly reduce pollution concentrations generated during construction activities. As shown in Table AIR-1, the proposed Project's construction-related criteria pollutant emissions would not exceed the applicable thresholds. Therefore, impacts to sensitive receptors during construction would be negligible and this is a ***less than significant*** impact.

Toxic Air Contaminant Impacts on Sensitive Receptors:

Overall, the proposed Project would not exceed the maximum risk values established by the SJVAPCD for TACs, as described above. All receptor types would be below the applicable SJVAPCD significance thresholds. In addition, criteria pollutant emission would be below the applicable SJVAPCD significance thresholds for criteria pollutants, as described under Impacts a) and b). Impacts to sensitive receptors from substantial pollutant concentrations would be a ***less than significant*** impact.

CO Hotspots: Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

Although the SJVAPCD has not established a specific numerical screening threshold for CO impacts, the Bay Area Air Quality Management District (BAAQMD) has established that, under existing and future vehicle emissions rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix (i.e., bridges and tunnels)—in order to generate a substantial CO impact. The proposed Project would generate a maximum of approximately 84 AM peak hour trips and 107 PM peak hour trips (for all vehicles), which would be significantly less than the volumes cited above. Thus, the proposed Project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the Project site, and impacts would be ***less than significant***.

Implementation of the proposed Project would not expose the sensitive receptors to substantial pollutant concentrations. Air emissions would be generated during the construction and operational phases of the Project. The construction phase of the Project would be temporary and short-term, and the implementation of all State, Federal, and SJVAPCD requirements would greatly reduce pollution concentrations generated during construction activities. Additionally, operational emissions would be minimal and would have a negligible effect on nearby sensitive receptors.

Operation of the proposed Project would result in emissions from vehicle trips and from building energy use. However, as described under Response a) – b) above, the proposed Project would not generate significant concentrations of air emissions. Therefore, impacts to sensitive receptors would be negligible and this is a ***less than significant*** impact.

Response d): The proposed Project would not generate objectionable odors. People in the immediate vicinity of construction activities may be subject to temporary odors typically associated with construction activities (diesel exhaust, hot asphalt, etc.). However, any odors generated by construction activities would be minor and would be short and temporary in duration.

Examples of facilities that are known producers of operational odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g., auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant. If a project would locate receptors and known odor sources in proximity to each other further analysis may be warranted; however, if a project would not locate receptors and known odor sources in proximity to each other, then further analysis is not warranted.

The Project does not include any of the aforementioned uses. Additionally, construction activities would be temporary and minor. Lastly, other emissions are evaluated in responses a-c), as provided above. As such, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

IV. BIOLOGICAL RESOURCES

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?		X		

Regional Setting

The City of Manteca is located in the western portion of the Great Valley Geomorphic Province of California. The Great Valley Province is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The San Joaquin River is located just south and west of the City. This major river drains the Great Valley Province into the San Joaquin Delta to the north, ultimately discharging into the San Francisco Bay to the northwest.

The City of Manteca is located within the San Joaquin Valley Bioregion, which is comprised of Kings County, most of Fresno, Kern, Merced, and Stanislaus counties, and portions of Madera, San Luis Obispo, and Tulare counties. The San Joaquin Valley Bioregion is the third most populous out of ten bioregions in the state, with an estimated 2 million people. The largest cities are Fresno, Bakersfield, Modesto, and Stockton. Interstate 5 and State Route 99 are the major north-south roads that run the entire length of the bioregion. Habitat in the bioregion includes vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, orchards, and oak savannah. Historically, millions of acres of wetlands flourished in the bioregion, but stream diversions for irrigation dried all but about five percent. Remnants of the wetland habitats are

protected in this bioregion in publicly owned parks, reserves, and wildlife areas. The bioregion is considered the state's top agricultural producing region with the abundance of fertile soil.

The region has a Mediterranean climate that is subject to cool, wet winters (often blanketed with fog) and hot, dry summers. The average annual precipitation is approximately 13.81 inches. Precipitation occurs as rain, most of which falls between the months of November through April, peaking in January at 2.85 inches. The average temperatures range from December lows of 37.5 F to July highs of 94.3 F.

Currently, the Project site is mostly undeveloped; however, it has been used for agricultural purposes in the past. There are two monitoring wells located at the Project site, one in the southwest corner and one in the northeast corner. One irrigation well and irrigation valve are located on the center-north portion of the Project site, along with a utility pole with mounted meters and power switches for the well pump, as well as two pole-mounted transformers. There is one approximately 200 square foot storage shed located near the northwest corner of the Project site. The Project site is approximately 34 feet above mean sea level with flat topography. While there are no rivers, streams, or other natural aquatic habitats on the Project site, there is an existing storm drain basin located directly east of the Project site.

Vegetation on the Project site consists of barren, agricultural, ruderal, and landscaping. Common plant species observed along the fringe area include: wild oat (*Avena barbata*), softchess (*Bromus hordeaceus*) alfalfa (*Medicago sativa*), Russian thistle (Salsola tragus), Italian thistle (*Carduus pycnocephalus*), rough pigweed (*Amaranthus retroflexus*), sunflower (*Helianthus annuus*), tarragon (*Artemisia dracunculus*), prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sow thistle (*Sonchus asper*), barley (*Hordeum* sp.), mustard (*Brassica niger*), and heliotrope (*Heliotropium curassavicum*).

Agricultural and ruderal vegetation found on the Project site provides habitat for both common and a few special-status wildlife populations. For example, some commonly observed wildlife species in the region include: California ground squirrel (*Spermophilus beecheyi*), California vole (*Microtus californicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus),* American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), American killdeer (*Charadrius vociferus*), gopher snake (*Pituophis melanoleucus*), garter snake (*Thamnophis species*), and western fence lizard (*Sceloporus occidentalis*), as well as many native insect species. There are also several bat species in the region. Bats often feed on insects as they fly over agricultural and natural areas.

Locally common and abundant wildlife species are important components of the ecosystem. Due to habitat loss, many of these species must continually adapt to using agricultural, ruderal, and ornamental vegetation for cover, foraging, dispersal, and nesting.

Responses to Checklist Questions

Response a): The following discussion is based on a background search of special-status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants, and the U.S. Fish and Wildlife Service's (USFWS) records of listed endangered and threatened species from the IPAC database. The background search was regional in scope and focused on the documented occurrences within 10 miles of the Project site. Table BIO-1 provides a list of special-status plants and Table BIO-2 provides a list of special-status animals.

TABLE BIO-1: SPECIAL-STATUS PLANT SPECIES WHICH MAY OCCUR IN PROJECT AREA

Species	*Status (Fed./CA/ CNPS/SJMSCP)*	*Geographic Distribution*	*Habitat and Blooming Period*
Big tarplant *Blepharizonia plumosa*	--/--/1B.1/No	San Francisco Bay area with occurrences in Alameda, Contra Costa, San Joaquin, Stanislaus, and Solano Counties	Valley and foothill grassland; 30-505 m. July-Oct.
Slough thistle *Cirsium crassicaule*	--/--/1B.1/Yes	San Joaquin Valley: Kings, Kern, and San Joaquin Counties	Freshwater sloughs and marshes; 3-100 m. May-August.
Recurved larkspur *Delphinium recurvatum*	--/--/1B.2/Yes	Central Valley from Colusa to Kern Counties	Alkaline soils in saltbush scrub, cismontane woodland, valley and foothill grassland; 3-750 m. March-May.
Round-leaved filaree *Erodium macrophyllum*	--/--/2.1/No	Scattered occurrences in the Great Valley, southern north Coast Ranges, San Francisco Bay area, south Coast Ranges, Channel Islands, Transverse Ranges, and Peninsular Ranges	Cismontane woodland, valley and foothill grassland on clay soils; 15-1,200 m. March-May.
Delta button-celery *Eryngium racemosum*	--/E/1B.1/Yes	San Joaquin River delta floodplains and adjacent Sierra Nevada foothills: Calaveras, Merced, San Joaquin, and Stanislaus Counties	Riparian scrub, seasonally inundated depressions along floodplains on clay soils; below 75 m. June-August.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	--/--/2B.1/Yes	Scattered locations in the Central Valley; southern coast of Texas	Floodplains, moist places, on alkaline soils; below 450 m. May-September.
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	--/--/1B.1/Yes	Historically known from the northwest San Joaquin Valley and adjacent Coast Range foothills; currently known from Fresno, Monterey, and San Luis Obispo Counties	Alkaline hills in valley and foothill grassland; below 455 m. March-April.

NOTES: CNPS = CALIFORNIA NATIVE PLANT SOCIETY
SJMSCP = SAN JOAQUIN MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

FEDERAL
E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.

STATE
E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE FEDERAL CALIFORNIA ENDANGERED SPECIES ACT.
R = RARE UNDER THE CALIFORNIA ENDANGERED SPECIES ACT

CALIFORNIA NATIVE PLANT SOCIETY
1B = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA AND ELSEWHERE.
2 = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA, BUT MORE COMMON ELSEWHERE.
3 = A REVIEW LIST – PLANTS ABOUT WHICH MORE INFORMATION IS NEEDED.
4 = PLANTS OF LIMITED DISTRIBUTION – A WATCH LIST
.1 = SERIOUSLY ENDANGERED IN CALIFORNIA (OVER 80% OF OCCURRENCES THREATENED-HIGH DEGREE AND IMMEDIACY OF THREAT).
.2 = FAIRLY ENDANGERED IN CALIFORNIA (20-80% OCCURRENCES THREATENED).
.3 = NOT VERY ENDANGERED IN CALIFORNIA (<20% OF OCCURRENCES THREATENED).

Special Status Plant Species

There are seven special status plants identified as having the potential to occur on the Project site based on known occurrences in the region. These include: Big tarplant (*Blepharizonia plumose*), Slough thistle (*Cirsium crassicaule*), Recurved larkspur (*Delphinium recurvatum*), Round-leaved filaree (*Erodium macrophyllum*), Delta button-celery (*Eryngium racemosum*), Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*), and Caper-fruited tropidocarpum (*Tropidocarpum capparideum*).

Of the seven species, there are no federal listed species, one state listed species (endangered), five CNPS 1B listed species (including the state listed species), and two CNPS 2 listed species. The state listed species and CNPS 1B listed species are covered species under the San Joaquin County Multi-Species Habitat, Conservation, and Open Space Plan (SJMSCP). The CNPS 2 listed species are not covered under the SJMSCP.

TABLE BIO-2: SPECIAL-STATUS WILDLIFE AND FISH SPECIES WHICH MAY OCCUR IN PROJECT AREA

Species	*Status (Fed/CA/ SJMSCP)*	*Geographic Distribution*	*Habitat Requirements*
INVERTEBRATES			
Vernal pool fairy shrimp *Branchinecta lynchi*	T/--/Yes	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County	Common in vernal pools; they are also found in sandstone rock outcrop pools.
Vernal pool tadpole shrimp *Lepidurus packardi*	E/--/Yes	Shasta County south to Merced County	Vernal pools and ephemeral stock ponds.
Molestan blister beetle *Lytta molesta*	--/--/Yes	Distribution of this species is poorly known.	Annual grasslands, foothill woodlands or saltbush scrub.
Sacramento anthicid beetle *Anthicus sacramento*	--/--/No	Found in several locations along the Sacramento and San Joaquin rivers, from Shasta to San Joaquin counties, and at one site along the Feather River.	Sand dune area, sand slipfaces among bamboo and willow, but may not depend on these plants.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/--/Yes	Stream side habitats below 3,000 feet throughout the Central Valley	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.
AMPHIBIANS			
California tiger salamander *Ambystoma californiense (A. tigrinum c.)*	T/SSC/Yes	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.

Species	*Status (Fed/CA/ SJMSCP)*	*Geographic Distribution*	*Habitat Requirements*
California red-legged frog *Rana aurora draytoni*	T/SSC/Yes	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County	Permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.
BIRDS			
Aleutian goose *Branta canadensis leucopareia*	D/--/Yes	The entire population winters in Butte Sink, then moves to Los Banos, Modesto, the Delta, and East Bay reservoirs; stages near Crescent City during spring before migrating to breeding grounds.	Roosts in large marshes, flooded fields, stock ponds, and reservoirs; forages in pastures, meadows, and harvested grainfields; corn is especially preferred
American Peregrine Falcon *Falco peregrinus anatum*	D (BCC)/D/No	Patchy breeding distribution and occur across the continental U.S., with bigger concentrations taking place in the western states and Alaska. They winter in the northern limits of their range, including portions of Canada, and are very widespread during migration.	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.
Bald eagle *Haliaeetus leucocephalus*	D (BCC)/E/No	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. Reintroduced into central coast. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean
Burrowing owl *Athene cunicularia*	BCC/SSC/Yes	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows
California black rail *Laterallus jamaicensis coturniculus*	BCC/T/Yes	Permanent resident in the San Francisco Bay and east-ward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations

Species	*Status (Fed/CA/ SJMSCP)*	*Geographic Distribution*	*Habitat Requirements*
Fox sparrow *Passerella iliaca*	BCC/--/No	Found throughout North American, with several subspecies wintering in chaparral in California.	Breed in thickets and chaparral across northern North America and south along the western mountains. During migration, Fox Sparrows forage in the leaf litter of open hardwood forests as well as swampy thickets. Winter in chaparral.
Least Bittern *Ixobrychus exilis*	BCC/SSC/No	Nest in large marshes with dense vegetation from southern Canada to northern Argentina. These birds migrate from the northern parts of their range in winter for the southernmost coasts of the United States and areas further south, travelling at night.	Colonial nester in marshlands and borders of ponds and reservoirs which provide ample cover. Nests usually placed low in tules, over water. Marsh & swamp wetland.
lesser yellowlegs *Tringa flavipes*	BCC/--/No	Wintering occurs along the coasts of California, Baja California, southeastern U.S., and along the Gulf of Mexico, in addition to southeastern Texas and throughout Central America.	Wintering habitat use varies with rainfall; tidal flats may be frequented during the dry season, while adjacent shallow lagoons and marshes are used during the rainy season.
lewis's woodpecker *Melanerpes lewis*	BCC/--/No	Breed from southern British Columbia down to Arizona and New Mexico; this range also covers California east to Colorado. They winter from southern British Columbia throughout the southwestern U.S. Within the northern portion of its breeding range, it remains present throughout the year in many portions of its breeding range.	Open ponderosa pine forest, open riparian woodland dominated by cottonwood, and logged or burned pine forest. Their breeding distribution is widely associated with ponderosa pine distribution in western North America. Lewis's Woodpeckers commonly reuse existing nest holes or natural cavities in trees, as they do not use newly excavated ones.
Loggerhead shrike *Lanius ludovicianus*	BCC/SSC/Yes	Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches
Long-billed curlew *Numenius americanus*	BCC/--/Yes	Nests in northeastern California in Modoc, Siskiyou, and Lassen Counties. Winters along the coast and in interior valleys west of Sierra Nevada	Nests in high-elevation grasslands adjacent to lakes or marshes. During migration and in winter; frequents coastal beaches and mudflats and interior grasslands and agricultural fields

Species	*Status (Fed/CA/ SJMSCP)*	*Geographic Distribution*	*Habitat Requirements*
Marbeled godwit *Limosa fedoa*	BCC/--/No	Breeds in Montana as well as North and South Dakota, with this range extending through Alberta, Saskatchewan and Manitoba in Canada. Marbled Godwits winter along both coasts and the Gulf of Mexico and are transient elsewhere.	Breeds in marshes and flooded plains, in migration and winter also on mudflats and beaches.
Mountain plover *Charadrius montanus*	BCC/SSC/Yes	Does not breed in California; in winter, found in the Central Valley south of Yuba County, along the coast in parts of San Luis Obispo, Santa Barbara, Ventura, and San Diego Counties; parts of Imperial, Riverside, Kern, and Los Angeles Counties	Occupies open plains or rolling hills with short grasses or very sparse vegetation; nearby bodies of water are not needed; may use newly plowed or sprouting grainfields
Nuttalls woodpecker *Dryobates nuttallii*	BCC/--/No	Year-round distribution occurs from northern California and southward to northwestern Baja California.	Found primarily in oak woodlands, but also found in riparian woodlands. Tree nest cavity excavated by males with little assistance from females; male may roost in cavity as it nears completion.
Oak titmouse *Baeolophus inornatus*	BCC/S/No	Nonmigratory species that breeds from Oregon, through California and to northwest Baja California, Mexico.	Live in warm, open, dry oak or oak-pine woodlands. Many will use scrub oaks or other brush as long as woodlands are nearby. Nests are built in tree cavities. Occasionally, Oak Titmice nest in stumps, fenceposts, pipes, eaves, or holes in riverbanks. They will also use nest boxes.
Short-eared owl *Asio flammeus*	BCC/SSC/Yes	Permanent resident along the coast from Del Norte County to Monterey County although very rare in summer north of San Francisco Bay, in the Sierra Nevada north of Nevada County, in the plains east of the Cascades, and in Mono County; small, isolated populations	Freshwater and salt marshes, lowland meadows, and irrigated alfalfa fields; needs dense tules or tall grass for nesting and daytime roosts.

Species	*Status (Fed/CA/ SJMSCP)*	*Geographic Distribution*	*Habitat Requirements*
Song sparrow (Modesto Population) *Melospiza melodia*	BCC/SSC/Yes	Restricted to California, where it is locally numerous in the Sacramento Valley, Sacramento–San Joaquin River Delta, and northern San Joaquin Valley. Exact boundaries of range uncertain.	Found in emergent freshwater marshes dominated by tules (*Scirpus* spp.) and cattails (*Typha* spp.) as well as riparian willow (*Salix* spp.) thickets. They also nest in riparian forests of Valley Oak (*Quercus lobata*) with a sufficient understory of blackberry (*Rubus* spp.), along vegetated irrigation canals and levees, and in recently planted Valley Oak restoration sites.
Swainson's hawk *Buteo swainsoni*	BCC/T/Yes	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields
Merlin *Falco columbarius*	--/--/Yes	Does not nest in California. Rare but widespread winter visitor to the Central Valley and coastal areas	Forages along coastline in open grasslands, savannas, and woodlands. Often forages near lakes and other wetlands
Tricolored blackbird *Agelaius tricolor*	BCC/C (SSC)/Yes	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony
Western grebe *Aechmophorus occidentalis*	BCC/--/No	Breeds mainly from western Canada, east to southwestern Manitoba, and south through U.S. from California and Utah through the northern Rocky Mountain and upper Great Plains states. Winters mainly along Pacific Coast from southeastern Alaska to northwestern Mexico.	Breed on freshwater lakes and marshes with extensive open water bordered by emergent vegetation. During winter they move to saltwater or brackish bays, estuaries, or sheltered sea coasts and are less frequently found on freshwater lakes or rivers.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	T (BCC)/E/Yes	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley oak riparian habitats where scrub jays are abundant

Species	*Status (Fed/CA/ SJMSCP)*	*Geographic Distribution*	*Habitat Requirements*
Williamson's sapsucker *Sphyrapicus thyroideus*	BCC/--/No	Breeding: Southern British Columbia, through central Washington to California; extending to Idaho, Montana, Utah, Wyoming, Colorado, New Mexico and Arizona. Winter: Arizona, New Mexico, through the Sierra Madres and into central Mexico.	Inhabits open coniferous and mixed coniferous-deciduous forests.
Yellow-billed magpie *Pica nuttalli*	BCC/--/No	The year-round range of Yellow-billed Magpies is entirely in California.	Resides in oak savanna, open areas with large trees, and along streams. This species also forages in grassland, pasture, fields, and orchards.
Yellow-headed blackbird *Xanthocephalus*	--/SSC/Yes	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds.	Nests only where large insects such as odonatan are abundant, nesting timed with maximum emergence of aquatic insects.
FISH			
Delta smelt *Hypomesus transpacificus*	T/T/Yes	Primarily in the Sacramento–San Joaquin Estuary but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay.	Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand.
Hardhead *Mylopharodon conocephalus*	--/SSC/No	Tributary streams in the San Joaquin drainage; large tributary streams in the Sacramento River and the main stem	Resides in low to mid-elevation streams and prefer clear, deep pools and runs with slow velocities. They also occur in reservoirs.
Central Valley steelhead *Oncorhynchus mykiss*	T/--/No	Sacramento River and tributary Central Valley rivers.	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8°C to 18°C. Habitat types are riffles, runs, and pools.
Central Valley fall- /late fall-run Chinook salmon *Oncorhynchus tshawytscha*	--/SSC/No	Sacramento and San Joaquin Rivers and tributary Central Valley rivers.	Have the same general habitat requirements as winter and spring-run Chinook salmon.

Species	*Status (Fed/CA/ SJMSCP)*	*Geographic Distribution*	*Habitat Requirements*
Longfin smelt *Spirinchus thaleichthys*	--/SSC/Yes	Occurs in estuaries along the California coast. Adults concentrated in Suisun, San Pablo, and North San Francisco Bays.	Prior to spawning, these fish aggregate in deepwater habitats available in the northern Delta, including, primarily, the channel habitats of Suisun Bay and the Sacramento River. Spawning occurs in fresh water on the San Joaquin River below Medford Island and on the Sacramento River below Rio Vista.
MAMMALS			
Riparian (San Joaquin Valley) woodrat *Neotoma fuscipes riparia*	E/SSC, FP/Yes	Historical distribution along the San Joaquin, Stanislaus, and Tuolumne Rivers, and Caswell State Park in San Joaquin, Stanislaus, and Merced Counties; presently limited to San Joaquin County at Caswell State Park and a possible second population near Vernalis	Riparian habitats with dense shrub cover, willow thickets, and an oak overstory
Riparian brush rabbit *Sylvilagus bachmani riparius*	E/E/Yes	Limited to San Joaquin County at Caswell State Park near the confluence of the Stanislaus and San Joaquin Rivers and Paradise Cut area on Union Pacific right-of-way lands	Native valley riparian habitats with large clumps of dense shrubs, low-growing vines, and some tall shrubs and trees
American badger *Taxidea taxus*	--/SSC/Yes	In California, badgers occur throughout the state except in humid coastal forests of northwestern California in Del Norte and Humboldt Counties	Badgers occur in a wide variety of open, arid habitats but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub; the principal habitat requirements for the species appear to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground
San Joaquin kit fox *Vulpes macrotis mutica*	E/T/Yes	Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County	Saltbush scrub, grassland, oak, savanna, and freshwater scrub
REPTILES			
Giant garter snake *Thamnophis couchi gigas*	T/T/Yes	Central Valley from the vicinity of Burrel in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno	Sloughs, canals, low gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; they are also found in irrigation

Species	*Status (Fed/CA/ SJMSCP)*	*Geographic Distribution*	*Habitat Requirements*
			ditches and rice fields; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.

STATUS EXPLANATIONS:
FEDERAL
E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
PE = PROPOSED FOR ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
PT = PROPOSED FOR THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE FEDERAL ENDANGERED SPECIES ACT.
D = DELISTED FROM FEDERAL LISTING STATUS.
BCC = BIRD OF CONSERVATION CONCERN

STATE
E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE STATE ENDANGERED SPECIES ACT.
FP = FULLY PROTECTED UNDER THE CALIFORNIA FISH AND GAME CODE.
SSC = SPECIES OF SPECIAL CONCERN IN CALIFORNIA.

Special Status Wildlife Species

Invertebrates: There are three special-status invertebrates that are documented within a 10-mile radius of the Project site according to the CNDDB including: Molestan blister beetle (*Lytta molesta*), Sacramento anthicid beetle (*Anthicus sacramento*), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). In addition, the Vernal pool fairy shrimp (*Branchinecta lynchi*) and Vernal pool tadpole shrimp (*Lepidurus packardi*) are documented in the USFWS IPAC database as potentially occurring within the region.

Vernal pool fairy shrimp (VPFS) is a federally threatened invertebrate found in the Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. They are commonly found in vernal pools and in sandstone rock outcrop pools. VPFS is not anticipated to be directly affected by any individual phase or component of the proposed Project because there is not appropriate vernal pool habitat on the Project site.

Vernal pool tadpole shrimp (VPTS) is a federally endangered invertebrate found in vernal pools and stock ponds from Shasta County south to Merced County. VPTS is not anticipated to be directly affected by any individual phase or component of the proposed Project because there is not appropriate vernal pool habitat on the Project site.

Valley elderberry longhorn beetle (VELB) is a federally threatened insect, proposed for delisting. Elderberry (*Sambucus* sp.), which is a primary host species for valley elderberry longhorn beetle (VELB). VELB is not anticipated to be directly affected by the proposed Project.

Essential habitat for Molestan blister beetle and Sacramento anthicid beetle is not present on the Project site.

No special-status invertebrates are expected to be affected by the proposed Project. Nevertheless, Mitigation Measure BIO-1 requires the Project proponent to seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and

minimization measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.

Reptile and amphibian species: There is one special-status amphibian that is documented within a 10-mile radius of the Project site according to the CNDDB including: California tiger salamander (*Ambystoma californiense*). In addition, the California red-legged frog (*Rana aurora draytoni*) and Giant garter snake (*Thamnophis couchi gigas*) are documented in the USFWS IPAC database as potentially occurring within the region. There is no essential habitat for any of these three species within the Project site.

No special-status reptiles or amphibians are expected to be affected by the proposed Project. Nevertheless, Mitigation Measure BIO-1 requires the Project proponent to seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. As stated, coverage involves compensation for habitat impacts on covered species through implementation of ITMMs and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.

Birds: Special-status birds that are documented in the CNDDB within a ten-mile radius of the Project site include: Aleutian goose (*Branta canadensis leucopareia*), Yellow-headed blackbird (*Xanthocephalus xanthocephalus*), Swainson's hawk (*Buteo swainsoni*), song sparrow (Modesto population) (*Melospiza melodia*), Merlin (*Falco columbarius*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), burrowing owl (*Athene cunicularia*), Tricolored blackbird (*Agelaius tricolor*). In addition, the bald eagle (*Haliaeetus leucocephalus*), black rail (*Laterallus jamaicensis*), fox sparrow (*Passerella iliaca*), least bittern (*Ixobrychus exilis*), lesser yellowlegs (*Tringa flavipes*), Lewis's woodpecker (*Melanerpes lewis*), loggerhead shrike (*Lanius ludovicianus*), long-billed curlew (*Numenius americanus*), marbeled godwit (*Limosa fedoa*), mountain plover (*Charadrius montanus*), Nuttalls woodpecker (*Picoides nuttallii*), oak titmouse (*Baeolophus inornatus*), peregrine falcon (*Falco peregrinus*), short-eared owl (*Asio flammeus*), western grebe (A*echmophorus occidentalis*), Williamson's sapsucker (*Sphyrapicus thyroideus*), and yellow-billed magpie (*Pica nuttalli*) are documented in the USFWS IPAC database as potentially occurring within the region. The Project site may provide suitable foraging habitat for a variety of potentially occurring special-status birds, including those listed above. Potential nesting habitat is very limited located within the Project site, but may be found in the vicinity. There are no mature trees on the Project site with the potential for raptor nests. There is also the potential for other special-status birds that do not nest in this region and represent migrants or winter visitants to forage on the Project site.

Year-round birds: Special-status birds that can be present in the region throughout the year include: bald eagle (*Haliaeetus leucocephalus*), black rail (*Laterallus jamaicensis*), burrowing owl (*Athene cunicularia*), loggerhead shrike *(Lanius ludovicianus*), Nuttalls woodpecker (*Picoides nuttallii*), oak titmouse (*Baeolophus inornatus*), song sparrow (Modesto population) (*Melospiza melodia*), tricolored blackbird *(Agelaius tricolor*), Williamson's sapsucker (*Sphyrapicus*

thyroideus), yellow-billed magpie (*Pica nuttalli*), among others. Some of these species are migratory, but also reside year-round in California.

Summering Birds: Special-status birds that are only present in the region in the spring and summer months include: Aleutian goose (*Branta canadensis leucopareia*), least bittern (*Ixobrychus exilis*), Swainson's hawk (*Buteo swainsoni*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and yellow-billed magpie (*Pica nuttalli*).

Overwintering Birds: Special-status birds that are only present in the region in the fall and winter months include: fox sparrow (*Passerella iliaca*), lesser yellowlegs (*Tringa flavipes*), Lewis's woodpecker (*Melanerpes lewis*), long-billed curlew (*Numenius americanus*), marbeled godwit (*Limosa fedoa*), merlin *(Falco columbarius*), mountain plover (*Charadrius montanus*), peregrine falcon (*Falco peregrinus*), short-eared owl (*Asio flammeus*), and western grebe (A*echmophorus occidentalis*).

Nesting Raptors (Birds of Prey): All raptors (owls, hawks, eagles, falcons), including species and their nests, are protected from take pursuant to the Fish and Game Code of California Section 3503.5, and the federal Migratory Bird Treaty Act, among other federal and State regulations. Special-status raptors that are known to occur in the region include: bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), Cooper's hawk *(Accipiter cooperii*), ferruginous hawk *(Buteo rega*), golden eagle *(Aquila chrysaetos*), great horned owl *(Bubo virginianus),* prairie falcon *(Falco mexicanus*), red-tailed hawk *(Buteo jamaicensis),* short-eared owl (*Asio flammeus*), Swainson's hawk *(Buteo swainsoni*), and white-tailed kite *(Elanus leucurus*), among others.

Analysis: While the Project site contains very limited nesting habitat, there are powerlines along S. Main Street, as well as throughout the region. These represent potentially suitable nesting habitat for a variety of special-status birds. Additionally, the previously agricultural land of the Project site represents potentially suitable nesting habitat for the ground-nesting birds where disturbance is less frequent. In general, most nesting occurs from late February and early March through late July and early August, depending on various environmental conditions. The CNDDB currently contains nesting records for Swainson's hawk and burrowing owl in the vicinity of the Project site. In addition to the species described above, common raptors may nest in or adjacent to the Project site.

New sources of noise and light during the construction and operational phases of the Project could adversely affect nesters if they located adjacent to the Project site in any given year. Additionally, the proposed Project would eliminate the previously agricultural, vacant areas on the Project site, which could serve as potential foraging habitat for birds throughout the year. Mitigation Measure BIO-1 requires participation in the SJMSCP. As part of the SJMSCP, SJCOG requires preconstruction surveys for projects that occur during the avian breeding season (March 1 – August 31). When active nests are identified, the biologists develop buffer zones around the active nests as deemed appropriate until the young have fledged. SJCOG also uses the fees to purchase habitat as compensation for the loss of foraging habitat. Implementation of the proposed Project, with the Mitigation Measure BIO-1, would ensure that potential impacts to special status birds are reduced.

Mammal: Special-status mammals that are documented within a 10-mile radius of the Project site include: Riparian (San Joaquin Valley) woodrat (*Neotoma fuscipes riparia*), Riparian brush rabbit (*Sylvilagus bachmani riparius*), American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*).

Riparian (San Joaquin Valley) woodrat and riparian brush rabbit: The Project site does not contain appropriate habitat for riparian (San Joaquin Valley) woodrat and riparian brush rabbit.

American badger, San Joaquin kit fox, or San Joaquin pocket mouse: The Project site does not contain high quality habitat for the American badger. All but one of the documented occurrences of the San Joaquin kit fox occur on the southwest side of Tracy near the foothills with one documented occurrence located near Mountain House. It is unlikely that the Project site is used by American badger, San Joaquin kit fox, or San Joaquin pocket mouse and these species have not been observed during recent or previous field surveys.

Special-status bats: The Project site provides potential habitat for several special-status bats, including: Greater western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), small-footed myotis/bat (*Myotis ciliolabrum*), long-eared myotis/bat (*Myotis evotis*), fringed myotis/bat (*Myotis thysanodes*), long-legged myotis/bat (*Myotis volans*), and Yuma myotis/bat (*Myotis yumanensis*). These species are not federal, or state listed; however, they are tracked by the CNDDB. Development of the Project site would eliminate foraging habitat for special status bats by removing the agricultural areas. Additionally, special status bats can establish roosts within the structure located on the Project site. Bats can establish roosts even when absent in prior years. These special status bat species are covered by the SJMSCP.

Conclusion: No special-status species are expected to be affected by the proposed Project. Nevertheless, Mitigation Measure BIO-1 requires the Project proponent to seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through implementation of ITMMs and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.

More specifically, the SJMSCP is administered by a Joint Powers Authority consisting of members of the SJCOG, the California Department of Fish and Wildlife (CDFW), and the USFWS. According to the SJMSCP, adoption and implementation by local planning jurisdictions provides full compensation and mitigation for impacts to plants, fish and wildlife. Adoption and implementation of the SJMSCP also secures compliance pursuant to the state and federal laws such as CEQA, the National Environmental Policy Act (NEPA), the Planning and Zoning Law, the State Subdivision Map Act, the Porter-Cologne Act and the Cortese-Knox Act in regard to species covered under the SJMSCP. Applicants pay mitigation fees on a per-acre basis. The entire County is mapped according to these categories so that landowners, project proponents and project reviewers are easily aware of the applicable SJMSCP fees for the proposed development. The appropriate fees are collected by the City and remitted to SJCOG for administration. SJCOG uses the funds to preserve open space land of comparable types throughout the County, often coordinating with other private or public land trusts to purchase conservation easements or buy land outright for preservation. The fees are automatically adjusted on an annual basis. The fees have been designed to sufficiently mitigate the impacts of projects on candidate, sensitive, and special status species. Therefore, with implementation of Mitigation Measure BIO-1, the proposed Project would have a ***less than significant*** impact relative to this topic.

Mitigation Measure(s)

Mitigation Measure BIO-1*: Prior to commencement of any grading activities, the Project proponent shall seek coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization Measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.*

Responses b): There is no riparian habitat on the Project site. The CNDDB record search revealed documented occurrences of four sensitive habitats within 10 miles of the Project site including: Elderberry Savanna, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, and Great Valley Oak Riparian. None of these sensitive natural communities occur within the Project site. Implementation of the proposed Project would have a ***less than significant*** impact on riparian habitats or natural communities.

Response c): The Project site does not contain protected wetlands or other jurisdictional areas and there is no need for permitting associated with the federal or state Clean Water Acts. The irrigation ditches are man-made isolated facilities with the sole purpose of agricultural irrigation. These ditches are exempt from permitting. Absent any wetlands or jurisdictional waters, implementation of the proposed Project would have ***less than significant*** impact relative to this topic.

Response d): The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the Project site. Special status fish species documented within the region include: Delta smelt (*Hypomesus transpacificus*), Hardhead (*Mylopharodon conocephalus*), Central Valley steelhead (*Oncorhynchus mykiss*), Central Valley fall- /late fall-run Chinook salmon (*Oncorhynchus tshawytscha*), and Longfin smelt (*Spirinchus thaleichthys*). The closest major natural movement corridor for native fish that are documented in the region is the San Joaquin River, located to the west of the Project site. The land uses within the Project site would not have any direct disturbance to the San Joaquin River or its tributaries, and therefore, would not have any direct disturbance to the movement corridor or habitat.

The ongoing operational phase of the proposed Project requires discharge of stormwater into the City storm drainage system, which ultimately discharges into the Delta. The discharge of stormwater could result in indirect impacts to special status fish and wildlife if stormwater was not appropriately treated through BMPs prior to its discharge to the Delta. The Manteca Municipal Code Title 13 (Public Services) Chapter 13.28 (Stormwater Management and Discharges) establish minimum storm water management requirements and controls. Storm water drainage is managed through the implementation of best management practices to the extent they are technologically achievable to prevent and reduce pollutants. The Project would provide a storm water treatment basin along the southern Project site boundary. On-site storm water infrastructure would convey runoff into the storm water treatment basin and ultimately connect via an existing stub to the City's existing storm drain basin located directly east of the Project site. The City requires reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. The management of water quality through BMPs is intended to ensure that water quality does not degrade to levels that would interfere or impede fish or wildlife. Implementation of these

required measures would ensure that this potential impact is reduced to a ***less than significant*** level.

Responses e): The proposed Project is subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The proposed Project does not conflict with the SJMSCP. Therefore, the proposed Project would have a ***less than significant*** impact relative to this topic. The mitigation measure presented in this Initial Study requires participation in the SJMSCP.

Responses f): The Resource Conservation Element of the General Plan establishes numerous policies and implementation measures related to biological resources as listed below:

Conservation Element Policies

RC-P-31. Minimize impact of new development on native vegetation and wildlife.

- ***Consistent****: This Initial Study includes an in-depth analysis of impacts for sensitive plants and wildlife, as well as habitat. Where impacts are identified, mitigation measures are presented to minimize, avoid, or compensate to the extent practicable.*

RC-P-34. Protect special status species and other species that are sensitive to human activities.

- ***Consistent****: This Initial Study includes an in-depth analysis of impacts for sensitive plants and wildlife, as well as habitat. Where impacts are identified, mitigation measures are presented to minimize, avoid, or compensate to the extent practicable.*

RC-P-35. Allow contiguous habitat areas.

- ***Consistent****: Habitat areas in the vicinity of the Project site include agricultural plant communities which provide habitat for a variety of biological resources in the region. Agricultural areas occur throughout the region and are generally flat and well drained, and as a result are well suited for many crops. Alfalfa fields, hay, row crops, orchards, dominate the agricultural areas in the vicinity. The proposed Project does not require contiguous habitat areas to change or convert to another use.*

RC-P-36. Consider the development of new drainage channels planted with native vegetation, which would provide habitat as well as drainage.

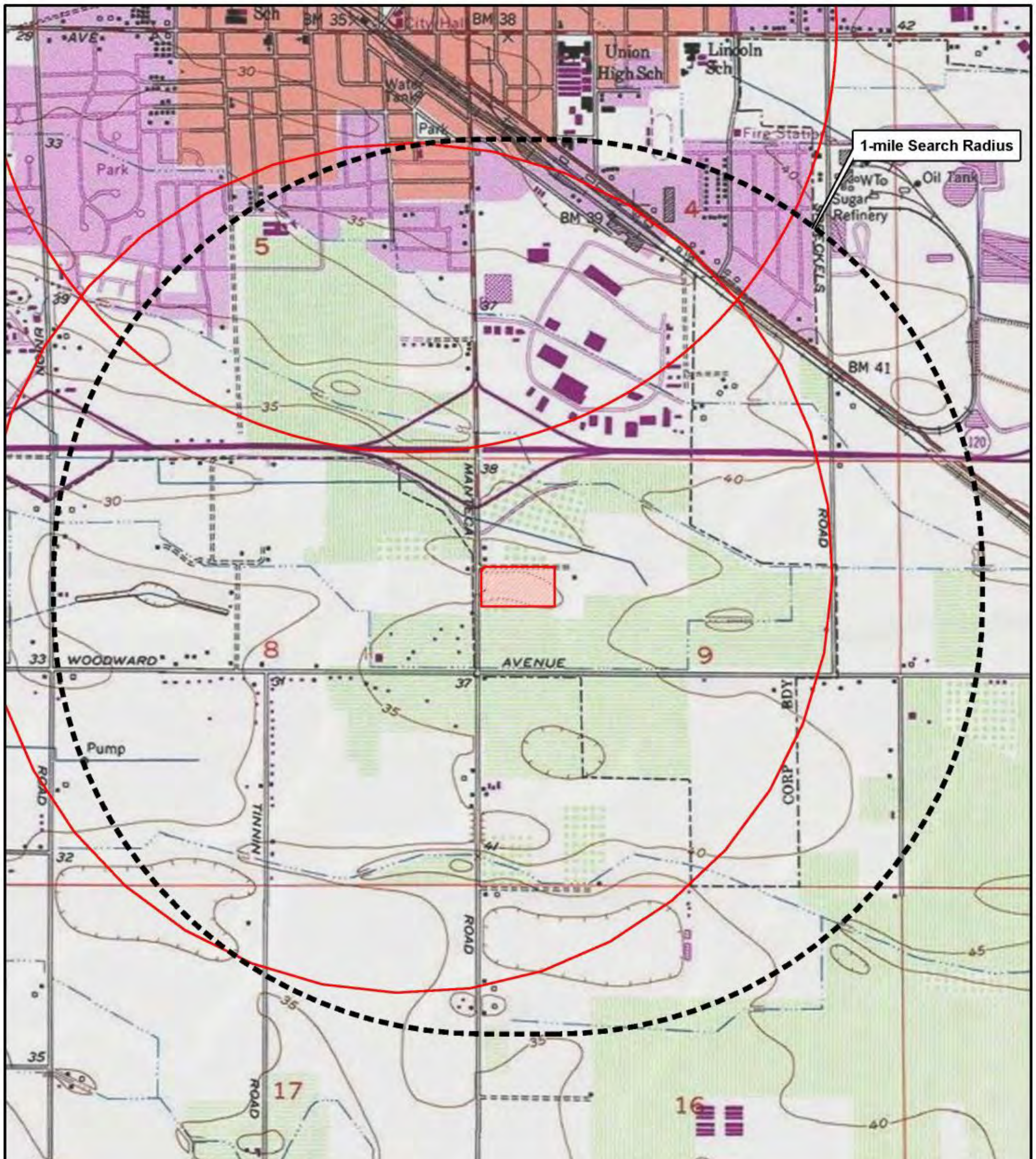
- ***Consistent****: The proposed Project does not include new drainage channels, in part because drainage channels in populated areas present health and safety considerations given the presence of water and the potential for drowning.*

Section 12.08.070 of the Municipal Code prohibits cutting, pruning, removing, injuring, or interference with any tree, shrub, or plant upon or in any street tree area or other public place in the City without prior approval from the superintendent. The City is authorized to grant such permission at their discretion and where necessary. Except for utility companies, as provided in Section 12.08.080, no such permission shall be valid for a longer period than 30 days after its issuance.

Section 17.19.060 calls for the protection of all existing trees having a diameter of six inches or more when measured 4½ feet above the ground. The City's Planning Department must be notified of planned construction or grade changes within the proximity of existing mature trees.

Existing trees must be protected from construction equipment, machinery, grade changes, and excavation for utilities, paving, and footers. Replacement of existing trees is subject to approval from the planning director and must be with a minimum 24-inch box tree of compatible species for the development site and be consistent with Section 17.19.030.

There are no heritage trees located on the Project site. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.



LEGEND

Project Boundary

Animal (circular)

Sources: ArcGIS Online USA Topo Map Service; CNDDB version 3/1/2022. Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area. Map date: March 15, 2022.

N

0 1,000 2,000

Feet

SOMA APARTMENTS

Figure 5. California Natural Diversity Database

1-mile Search

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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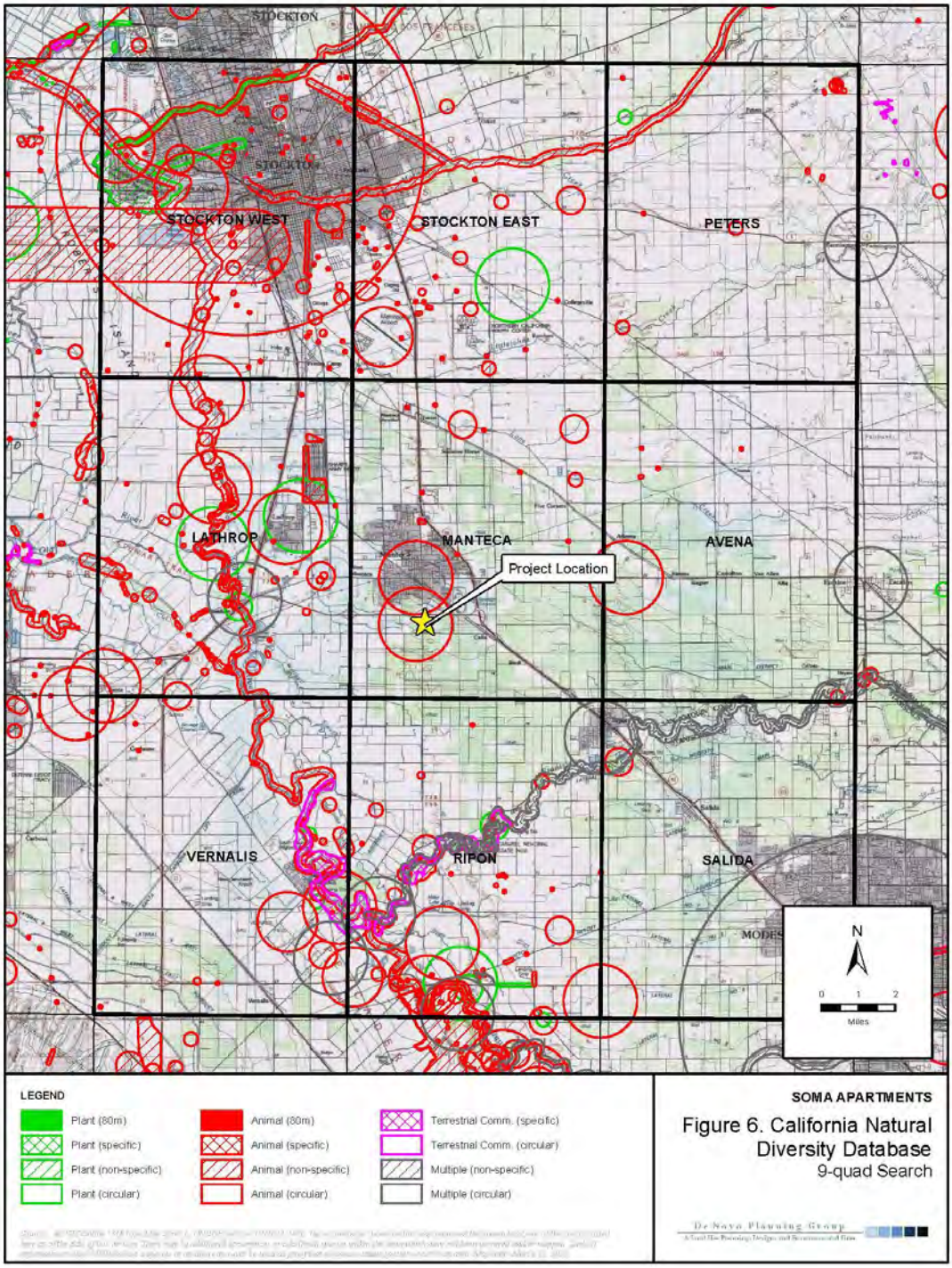
STOCKTON
STOCKTON WEST
STOCKTON EAST
PETERS
LATHROP
MANTECA
AVENA
Project Location
VERNALIS
RIPON
SALIDA
N
0 1 2
Miles
LEGEND
Plant (80m)
Plant (specific)
Plant (non-specific)
Plant (circular)
Animal (80m)
Animal (specific)
Animal (non-specific)
Animal (circular)
Terrestrial Comm. (specific)
Terrestrial Comm. (circular)
Multiple (non-specific)
Multiple (circular)
SOMA APARTMENTS
Figure 6. California Natural Diversity Database
9-quad Search
De Novo Planning Group

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V. CULTURAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Responses to Checklist Questions

Responses a), b): A Cultural Resources Assessment was prepared by Peak & Associates on May 11, 2022. The Cultural Resources Assessment included an Information Center records search and a complete field survey of the Project site. Melinda A. Peak, senior historian/archeologist with Peak & Associates, Inc. served as principal investigator for the study, with archeologist Michael Lawson completing the field survey.

The Cultural Resources Assessment included a record search that was conducted for the current APE and a 0.25-mile radius at the Central California Information Center of the California Historical Resources Information System on March 17, 2022. There are no resources recorded in the Project site or in the 0.25-mile radius search area.

The 1952 USGS topographic map indicates the presence of a residence on the Project site, but it was removed by the time the maps were re-issued. The Project site is shown as included in a 1993 preliminary overview of a large region by Napton in 1993 (SJ-01900) as part of a report done for the Windmiller and Napoli in 2002 (SJ-04786). This is an overview, with limited survey, and most private property would not have been surveyed in 2002. Three other surveys have been completed in the record search radius (complete citations in the Report List in Appendix 2 of the Cultural Report).

The property was surveyed on March 21, 2022 by Michael Lawson of Peak & Associates. The Cultural Resources Assessment identified no evidence of a historical resource. In addition, no evidence was found of prehistoric period use or occupancy of the property. Although no prehistoric sites were found during the survey, there is a slight possibility that a site may exist and be totally obscured by vegetation, fill, or other historic activities, leaving no surface evidence. Should artifacts or unusual amounts of stone, bone, or shell be uncovered during construction activities, work in that part of the Project site shall be halted, and an archeologist should be consulted for on-the-spot evaluation of the finding.

Implementation of the following mitigation measure would require investigations and avoidance methods in the event that a previously undiscovered cultural resource is encountered during construction activities. With implementation of the following mitigation measure, development of the proposed Project would have a ***less than significant*** impact on historical and archaeological resources.

Mitigation Measure(s)

Mitigation Measure CUL-1: *The Project applicant shall ensure that a training session for all workers is conducted in advance of the initiation of construction activities at the site. The training*

session will provide information on recognition of artifacts, human remains, and cultural deposits to help in the recognition of potential issues.

Mitigation Measure CUL-2: *The Project applicant shall retain a qualified archaeologist to observe initial ground disturbance activities, during initial grading. If artifacts, exotic rock, shell or bone are uncovered during the construction, the archaeologist will be able to document the finding, and determine if additional work is necessary to excavate or remove the artifacts or feature.*

Mitigation Measure CUL-3: *If cultural resources (i.e., prehistoric sites, historic sites, isolated artifacts/features, and paleontological sites) are discovered during construction, work shall be halted immediately within 50 meters (165 feet) of the discovery, the City of Manteca shall be notified, and a qualified archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology (or a qualified paleontologist in the event paleontological resources are found) shall be retained to determine the significance of the discovery. The City of Manteca shall consider recommendations presented by the professional for any unanticipated discoveries and shall carry out the measures deemed feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Specific measures are developed based on the significance of the find.*

Response c): Indications are that humans have occupied the Central Valley for at least 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials. Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Additionally, Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that human remains are inadvertently discovered during construction. Implementation of the following mitigation measure would reduce this potential impact to a ***less than significant*** level.

Mitigation Measure(s)

Mitigation Measure CUL-4: *If any human remains are found during grading and construction activities, all work shall be halted immediately within 50 meters (165 feet) of the discovery and the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed. Additionally, if the Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and, if required, shall be retained at the applicant's expense.*

VI. ENERGY

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

Responses to Checklist Questions

Response a-b): Appendix F of the State CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed Project includes the construction of 210 multi-family residential units. The amount of energy used at the Project site would directly correlate to the size of the proposed units, the energy consumption of associated unit appliances, and outdoor lighting. Other major sources of proposed Project energy consumption include fuel used by vehicle trips generated during Project construction and operation, and fuel used by off-road construction vehicles during construction.

The following discussion provides calculated levels of energy use expected for the proposed Project, based on commonly used modelling software (i.e., CalEEMod v.2020.4.0 and the California Air Resource Board's EMFAC2021). It should be noted that many of the assumptions provided by CalEEMod are conservative relative to the proposed Project. Therefore, this discussion provides a conservative estimate of proposed Project emissions.

It should be noted that the existing energy usage of the Project site is not modeled, since existing baseline energy consumption would not be greater than zero; that is, although the Project site has previously been used for agricultural purposes, it is currently vacant. Therefore, the analysis provided herein for energy represents a conservative overestimate of the net increase in emissions and energy usage generated by the proposed Project, as it does not account for the agricultural operations that have occurred within the site.

Electricity and Natural Gas

Electricity and natural gas used by the proposed Project would be used primarily to power on-site buildings. Total annual unmitigated and mitigated electricity (kWh) and natural gas (kBTU) usage associated with the operation of the proposed Project are shown in Table ENERGY-1, below

(as provided by CalEEMod). The proposed Project incorporates feasible mitigation to reduce the proposed Project's operational electricity and natural gas consumption.

According to Calico's *Appendix A: Calculation Details for CalEEMod*, the energy use from residential land uses is calculated based on the Residential Appliance Saturation Survey (RASS). This is a comprehensive energy use assessment that includes the end use for various climate zones in California.

Table ENERGY-1: Project Operational Natural Gas and Electricity Usage (Unmitigated Scenario)

Emissions	*Natural Gas (kBTU/year)*	*Electricity (kWh/year)*
Apartments Low Rise	2,447,840	859,318
Total	**2,447,840**	**859,318**

SOURCE: CALEEMOD (V.2020.4.0).

Project operational energy usage would be reduced with implementation of Project components considered mitigation by CalEEMod (note: given the limited mitigation options available in the current version of CalEEMod, the reduction attributable to mitigation represents a conservative analysis). These Project components include installation of Energy Star appliances (consistent with the requirements under the current version of California's Building Energy Efficiency Standards), and compliance with the Model Water Efficient Landscape Ordinance (as contained in the California Code of Regulations and as prescribed in Chapter 17.48 of the Manteca Municipal Code). These reductions in overall proposed Project energy usage also reflect a reduction in the Project's energy intensity.

On-Road Vehicles (Operation)

The proposed Project would generate vehicle trips during its operational phase. According to the Transportation Analysis Report prepared for the proposed Project (Fehr & Peers, 2022), the proposed Project would generate approximately 1,416 net new daily vehicles trips. In order to calculate operational on-road vehicle energy usage and emissions, default trip lengths generated by CalEEMod were used, which are based on the project location and urbanization level parameters selected within CalEEMod (i.e., "San Joaquin Valley Air Pollution Control District" project location and "Urban" setting, respectively). These values are provided by the individual districts for use a default average for the state, depending on the location of the proposed project. Using fleet mix data provide by CalEEMod (v2020.4.0), and Year 2024 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2021, De Novo derived weighted MPG factors for operational on-road vehicles of approximately 25.2 MPG for gasoline vehicles. With this information, De Novo calculated as a conservative estimate that the unmitigated proposed Project would generate vehicle trips that would use a total of approximately 523 gallons of gasoline fuel per day, on average, or 191,062 gallons of fuel per year.

On-Road Vehicles (Construction)

The proposed Project would also generate on-road vehicle trips during Project construction (from construction workers, vendors, and haulers). The Project site is essentially flat, and it is anticipated that the Project site can be balanced on site, meaning that there would be limited to no cut and fill (i.e., import/export). Estimates of vehicle fuel consumed were derived based on the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2022 gasoline MPG factors provided by EMFAC2021. For the purposes of simplicity, it was assumed that all vehicles used gasoline as a fuel source (as

opposed to diesel fuel or alternative sources). The demolition phase of the proposed Project reflects demolition of the existing 200 square foot structure located within the Project site.

Table ENERGY-2, describes gasoline and diesel fuel used by on-road mobile sources during each phase of the construction schedule. As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the proposed Project would occur during the building construction phase.

Table ENERGY-2: On-Road Mobile Fuel Generated by Project Construction Activities – By Phase

Construction Phase	*# of Days*	*Total Daily Worker Trips[(a)]*	*Total Daily Vendor Trips[(a)]*	*Total Hauling Trips[(a)]*	*Gallons of Gasoline Fuel[(b)]*	*Gallons of Diesel Fuel[(b)]*
Demolition	2	15	-	1	13	7
Site Preparation	10	18	-	-	76	-
Grading	30	20	-	-	253	-
Building Construction	300	151	22	-	19,120	7,085
Paving	20	15	-	-	127	-
Architectural Coating	20	30	-	-	253	-
Total	**N/A**	**N/A**	**N/A**	**N/A**	**19,842**	**7,092**

NOTE: [(A)] PROVIDED BY CALEEMOD. [(B)]SEE APPENDIX A FOR FURTHER DETAIL

SOURCE: CALEEMOD (V.2020.4.0); EMFAC2021.

Off-Road Vehicles (Construction)

Off-road construction vehicles would use diesel fuel during the construction phase of the proposed Project. A non-exhaustive list of off-road constructive vehicles expected to be used during the construction phase of the proposed Project includes: cranes, forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO_2 emissions expected to be generated by the proposed Project (as provided by the CalEEMod output), and a CO_2 to diesel fuel conversion factor (provided by the U.S. Energy Information Administration), the proposed Project would use up to a total of approximately 46,816 gallons of diesel fuel for off-road construction vehicles (during the site preparation and grading phases of the proposed Project). Detailed calculations are provided in Appendix A.

Other

The proposed Project landscape maintenance activities would generally require the use of fossil fuel (i.e., gasoline) energy. For example, lawn mowers require the use of fuel for power. As an approximation, it is estimated that landscape care maintenance would require approximately four individuals one full day per week, or 1,644 hours per year. Assuming an average of approximately 0.5 gallons of gasoline used per person-hour, the proposed Project would require the use of approximately 832 gallons of gasoline per year to power landscape maintenance equipment. The energy used to power landscape maintenance equipment would not differ substantially from the energy required for landscape maintenance for a similar project.

Examples of other energy sources include alternative and/or renewable energy (such as solar PV) and/or on-site stationary sources (such as on-site diesel generators) for electricity generation. However, the proposed Project does not propose to use other sources of energy at this time.

Conclusion

The proposed Project would use energy resources for the operation of Project buildings (electricity and natural gas), for on-road vehicle trips (e.g., gasoline and diesel fuel) generated by the proposed Project, and from off-road construction activities associated with the proposed Project (e.g., diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, to the extent feasible, and relies heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures.

The proposed Project would be in compliance with all applicable federal, state, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the Statewide Renewable Portfolio Standard (RPS) to increase the proportion of renewable energy (e.g., solar and wind) within its energy portfolio. PG&E is expected to achieve at least a 33% mix of renewable energy resources by 2020, and 50% by 2030. Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards ("part 6"), would be applicable to the proposed Project. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g., the Pavley Bill and the Low Carbon Fuel Standard) are improving vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

As a result, the proposed Project would not result in any significant adverse impacts related to Project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of the proposed Project including construction, operations, maintenance, and/or removal. PG&E, the electricity and natural gas provider to the Project site, maintains sufficient capacity to serve the proposed Project. The proposed Project would comply with all existing energy standards, including those established by the City of Manteca, and would not result in significant adverse impacts on energy resources. Therefore, the proposed Project would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by Appendix F of the CEQA Guidelines. This is a **less than significant** impact.

VII. GEOLOGY AND SOILS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation***	***Less Than Significant Impact***	***No Impact***
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			X	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?		X		
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?		X		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?		X		
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

Responses to Checklist Questions

Responses a.i), a.ii), a.iv): The Project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone, and known surface expression of active faults does not exist within the Project site. However, the Project site is located within a seismically active region. As illustrated in Figure 7, the U.S. Geological Survey identifies potential seismic sources within approximately 20 miles of the Project site. The closest known faults classified as active by the U.S. Geological Survey are an unnamed fault east of the City of Tracy (also referred to as Vernalis fault), located approximately 8 miles to the west, and the San Joaquin fault, located approximately 14 miles to the southwest. The Midway fault is located approximately 20 miles to the west. Other

faults that could potentially affect the proposed Project include the Black Butte fault, and the Greenville fault (Department of Conservation, 2015).

Geologic Hazards

Potential seismic hazards resulting from a nearby moderate to major earthquake could generally be classified as primary and secondary. The primary seismic hazard is ground rupture, also called surface faulting. The common secondary seismic hazards include ground shaking and ground lurching.

Ground Rupture

Because the property does not have known active faults crossing the Project site, and the Project site is not located within an Earthquake Fault Special Study Zone, ground rupture is unlikely at the subject property.

Ground Shaking

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Manteca is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. As a result of these factors the California Geological Survey has defined the entire county as a seismic hazard zone. There will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site.

In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these State requirements, which have been adopted by the City of Manteca, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level.

Landslides

The Project site is not susceptible to landslides because the area is essentially flat. This is a less than significant impact.

Conclusion

In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these State requirements, which have been adopted by the City of Manteca, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads.

Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Additionally, the City of Manteca has adopted Design and Construction Standards and incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level. Because all development in the Project site must be designed in conformance with these state and local standards and policies, any potential impact would be considered ***less than significant***.

Responses a.iii), c), d): Liquefaction normally occurs when sites underlain by saturated, loose to medium dense, granular soils are subjected to relatively high ground shaking. During an earthquake, ground shaking may cause certain types of soil deposits to lose shear strength, resulting in ground settlement, oscillation, loss of bearing capacity, landsliding, and the buoyant rise of buried structures. The majority of liquefaction hazards are associated with sandy soils, silty soils of low plasticity, and some gravelly soils. Cohesive soils are generally not considered to be susceptible to liquefaction. In general, liquefaction hazards are most severe within the upper 50 feet of the surface, except where slope faces, or deep foundations are present.

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

Soil expansion is dependent on many factors. The more clayey, critically expansive surface soil and fill materials will be subjected to volume changes during seasonal fluctuations in moisture content. There are no expansive (i.e., shrink-swell) soils within the Project site. Soils at the Project site consist of Delhi fine sand, located on most of the site, 0 to 5% slopes and Delhi loamy sand, 0 to 2% slopes, located in the northeast corner of the Project site (Figure 8).

Future development of the proposed Project could expose people or structures to adverse effects associated with liquefaction and/or soil expansion. Construction of the proposed Project would be required to comply with the City's General Plan policies related to geologic and seismic hazards. These policies obligate the City to require that new development mitigate the potential impacts of geologic hazards through building plan review (Policy S-P-2) and mitigate the potential impacts of seismic-induced settlement of uncompacted fill and liquefaction due to the presence of a high-water table (Policy S-P-3). To that end, General Plan Policy S-P-1 requires that all proposed development prepare geological reports and/or geological engineering reports for projects located in areas of potentially significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction. Moreover, Mitigation Measure GEO-1 would ensure that the project applicant will submit a design-level geotechnical study and buildings plans to the City of Manteca for review and approval.

With implementation of Mitigation Measures GEO-1, this potential impact would be ***less than significant***.

Mitigation Measure(s)

Mitigation Measure GEO-1*: Prior to issuance of any building permits, the Project applicant shall be required to submit building plans to the City of Manteca for review and approval. The building plans shall also comply with all applicable requirements of the most recent California Building*

Standards Code and recommendations in the design-level geotechnical study. All on-site soil engineering activities shall be conducted under the supervision of a licensed geotechnical engineer or certified engineering geologist.

Response b): The Project site is currently vacant land except for the approximately 200 square foot storage shed located near the northwest corner of the Project site. There are two monitoring wells located at the Project site, one in the southwest corner and one in the northeast corner. According to the Project site plans, development of the proposed Project would result in the creation of new impervious surface areas throughout the Project site. The development of the Project site would also cause ground disturbance of topsoil. The ground disturbance would be limited to the areas proposed for grading and excavation, including the proposed driveway areas, multi-family residential building pads, community center, park, pool, and drainage, sewer, and water infrastructure improvements. After grading and excavation, and prior to overlaying the disturbed ground surfaces with impervious surfaces and structures, the potential exists for wind and water erosion to occur, which could adversely affect downstream storm drainage facilities.

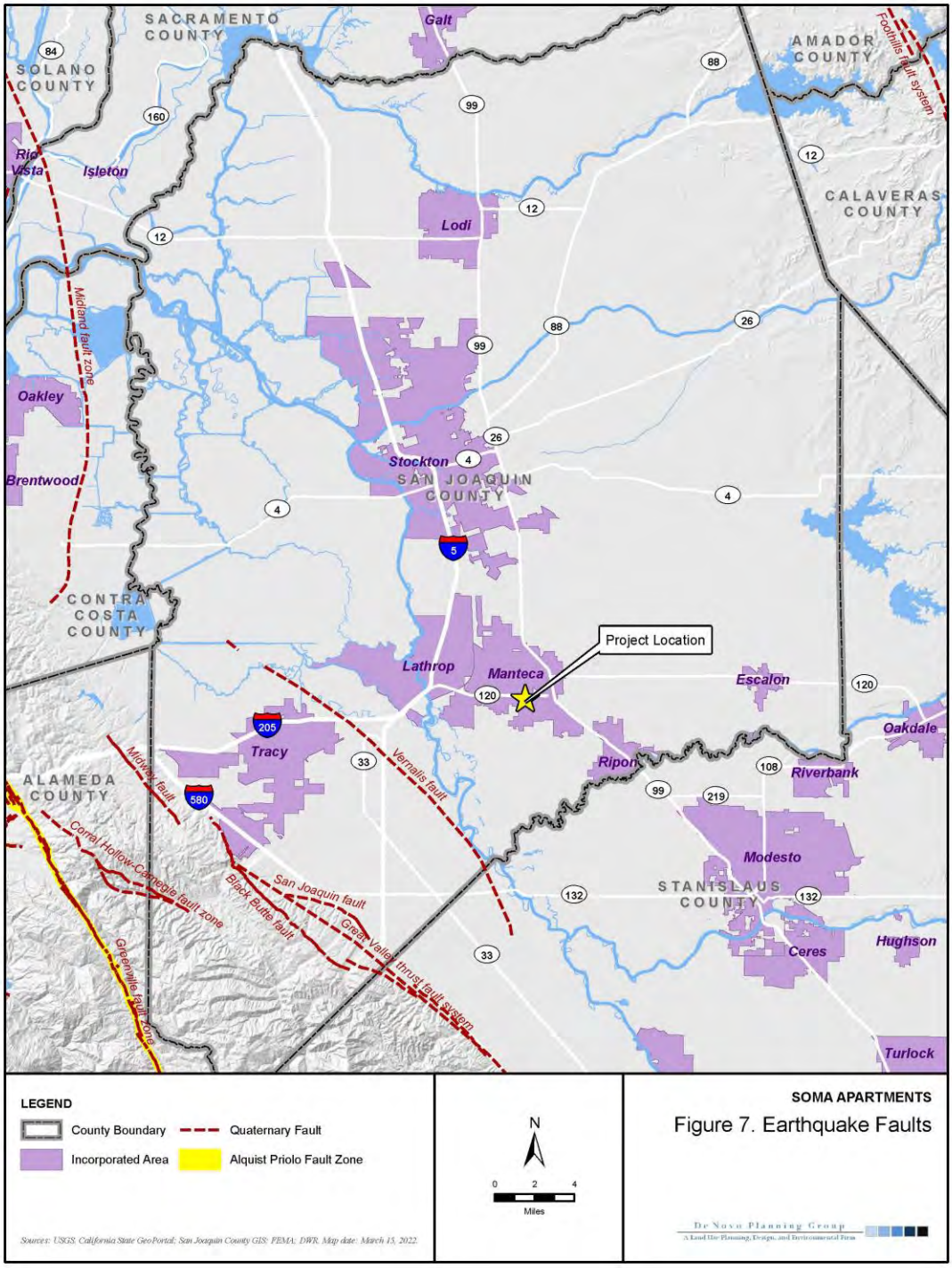
Without implementation of appropriate Best Management Practices (BMPs) related to prevention of soil erosion during construction, development of the proposed Project would result in a potentially significant impact with respect to soil erosion. Mitigation Measure HYD-1 requires the Project applicant to prepare and submit a Stormwater Pollution Prevention Plan (SWPPP) identifying specific actions and BMPs to prevent stormwater pollution during construction activities. The SWPPP shall include, among other things, temporary erosion control measures to be employed for disturbed areas. Implementation of the following mitigation measure, therefore, would ensure the impact is ***less than significant***.

Mitigation Measure(s)
Implement Mitigation Measure HYD-1.

Response e): The proposed Project has been designed to connect to the existing City sewer system and septic systems will not be used. Therefore, ***no impact*** would occur related to soils incapable of adequately supporting the use of septic tanks.

Response f): Known paleontological resources or sites are not located on the Project site. Additionally, unique geologic features are not located on the Project site. As discussed in Section V, Cultural Resources, should artifacts or unusual amounts of stone, bone, or shell be uncovered during construction activities, an archeologist should be consulted for an evaluation. Implementation of Mitigation Measure CUL-2 would require investigations and avoidance methods in the event that a previously undiscovered cultural resource is encountered during construction activities. With implementation of Mitigation Measure CUL-2, impacts to paleontological resources or unique geologic features are not expected. This is a ***less than significant*** impact.

Mitigation Measure(s)
Implement Mitigation Measure CUL-2.


SACRAMENTO COUNTY
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Isleton
Lodi
Oakley
Brentwood
Stockton
Lathrop
Manteca
Escalon
Tracy
Ripon
Riverbank
Oakdale
Modesto
Ceres
Hughson
Turlock
Project Location
Foothills fault system
Midland fault zone
Midway fault
Vernalis fault
Corral Hollow-Carnegie fault zone
Black Butte fault
San Joaquin fault
Great Valley thrust fault system
Greenville fault zone
LEGEND
County Boundary
Quaternary Fault
Incorporated Area
Alquist Priolo Fault Zone
Sources: USGS, California State GeoPortal, San Joaquin County GIS, FEMA, DWR. Map date: March 15, 2022.
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SOMA APARTMENTS
Figure 7. Earthquake Faults
De Novo Planning Group

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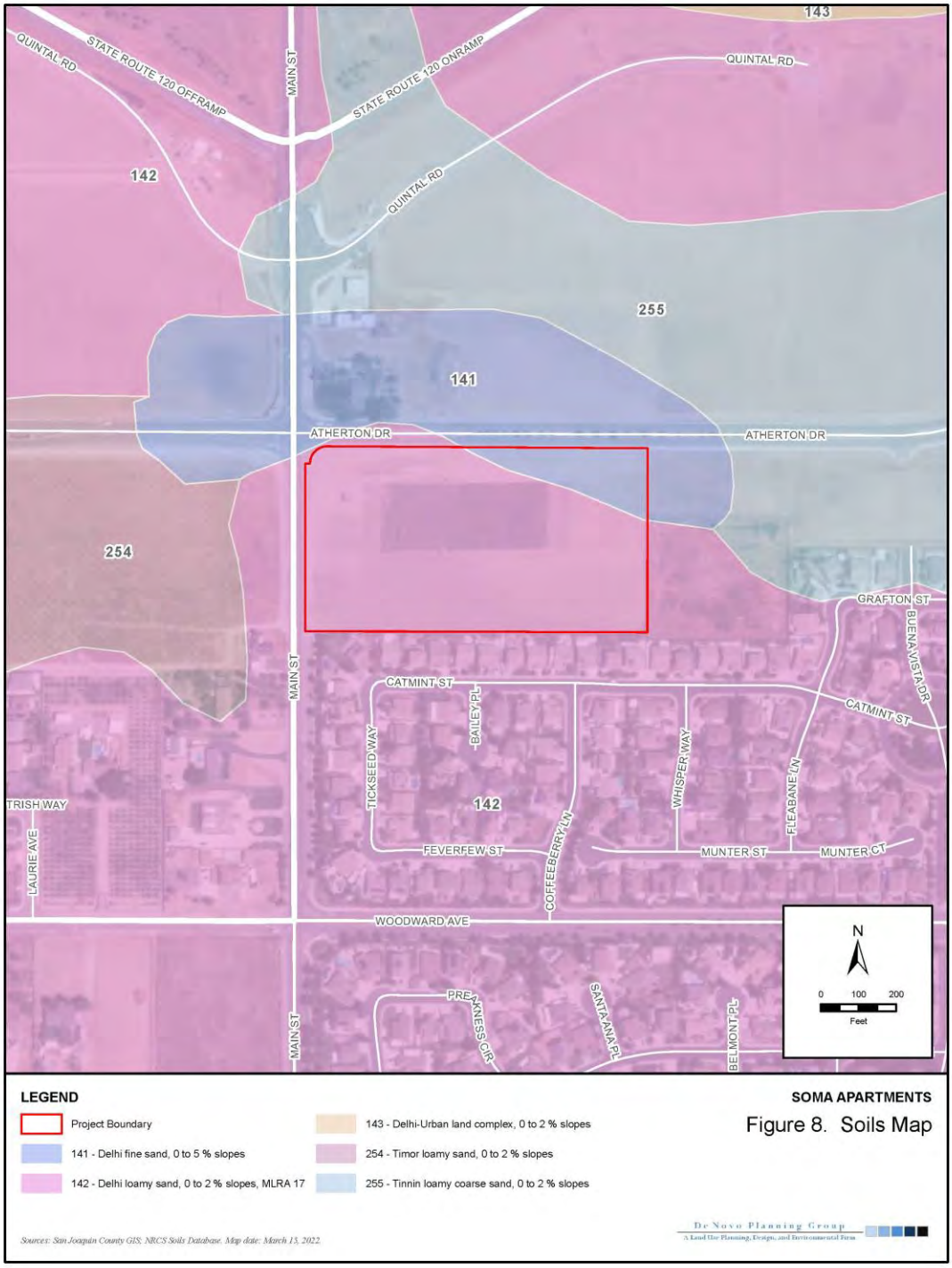
143
QUINTAL RD
STATE ROUTE 120 OFFRAMP
MAIN ST
STATE ROUTE 120 ONRAMP
QUINTAL RD
142
QUINTAL RD
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ATHERTON DR
ATHERTON DR
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GRAFTON ST
BUENA VISTA DR
MAIN ST
CATMINT ST
CATMINT ST
BAILEY PL
TICKSEED WAY
WHISPER WAY
FLEABANE LN
TRISH WAY
142
LAURIE AVE
FEVERFEW ST
COFFEEBERRY LN
MUNTER ST
MUNTER CT
WOODWARD AVE
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0 100 200
Feet
PRE KNESS CIR
SANTA ANA PL
BELMONT PL
MAIN ST
LEGEND
Project Boundary
141 - Delhi fine sand, 0 to 5 % slopes
142 - Delhi loamy sand, 0 to 2 % slopes, MLRA 17
143 - Delhi-Urban land complex, 0 to 2 % slopes
254 - Timor loamy sand, 0 to 2 % slopes
255 - Tinnin loamy coarse sand, 0 to 2 % slopes
SOMA APARTMENTS
Figure 8. Soils Map
Sources: San Joaquin County GIS; NRCS Soils Database. Map date: March 15, 2022.
De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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VIII. GREENHOUSE GAS EMISSIONS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?			X	

Existing Setting

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs, including CO_2, CH_4, and N_2O, occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial sector (CARB, 2021b).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. In 2019, emissions from GHG emitting activities statewide were 418.1 million metric tons of carbon dioxide equivalent (MMTCO2e), 7.1 MMTCO2e lower than 2018 levels and almost 13 MMTCO2e below the 2020 GHG Limit of 431 MMTCO2e (CARB, 2021b).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the

greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

The transportation sector remains the largest source of GHG emissions in the State. Transportation emissions dropped by 1.5 MMTCO2e in 2018, and 3.5 MMTCO2e in 2019, continuing the decreasing trend. Emissions from gasoline used in on-road passenger cars, trucks, and SUVs are 78 percent of the transportation inventory and had been the main driver of the increases between 2013 and 2017. Sales and blending of biodiesel and renewable diesel increased by more than 96 million gallons from 2018 to 2019. Renewable diesel use increased significantly (up 61 percent from 2018), making diesel fuel bio-components (biodiesel and renewable) 27 percent of total on-road diesel sold in California in 2019 (CARB, 2021b).

Responses to Checklist Questions

Responses a), b): The SJVAPCD has evaluated different approaches for estimating impacts, and summarizing potential GHG emission reduction measures. The SJVAPCD staff has concluded that "*existing science is inadequate to support quantification of impacts that project specific GHG emissions have on global climatic change*." This is readily understood when one considers that global climatic change is the result of the sum total of GHG emissions, both man-made and natural that occurred in the past; that is occurring now; and will occur in the future. The effects of project specific GHG emissions are cumulative, and unless reduced or mitigated, their incremental contribution to global climatic change could be considered significant.

The *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD, 2015) provides an approach to assessing a project's impacts on greenhouse gas emissions by evaluating the proposed Project's emissions to the "reduction targets" established in ARB's AB 32 Scoping Plan. For instance, the SJVACD's guidance recommends that projects should demonstrate that "*project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business as Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period, consistent with GHG emission reduction targets established in ARB's AB 32 Scoping Plan. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG*."

Subsequent to the SJVAPCD's approval of the *Final Draft Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD, 2015), the California Supreme Court issued an opinion that affects the conclusions that should/should not be drawn from a GHG emissions analysis that is based on consistency with the AB 32 Scoping Plan. More specifically, in *Center for Biological Diversity v. California Department of Fish and Wildlife*, the Court ruled that showing a "project-level reduction" that meets or exceeds the Scoping Plan's overall statewide GHG reduction goal is not necessarily sufficient to show that the proposed Project's GHG impacts will be adequately mitigated: "*the Scoping Plan nowhere related that statewide level of reduction effort to the percentage of reduction that would or should be required from individual projects*..." According to the Court, the lead agency cannot simply assume that the overall level of effort required to achieve the statewide goal for emissions reductions will suffice for a specific project.

Given this Court decision, reliance on a 29 percent GHG emissions reduction from projected BAU levels compared to the proposed Project's estimated 2020 levels as recommended in the SJVAPCD's guidance documents is not an appropriate basis for an impact conclusion in the MND. Given that the SJVAPCD staff has concluded that "*existing science is inadequate to support quantification of impacts that project specific GHG emissions have on global climatic change,*" this MND instead relies on a qualitative approach for this analysis. The approach still relies on the Appendix G of the CEQA Guidelines thresholds which indicate that climate change-related

impacts are considered significant if implementation of the proposed Project would do any of the following:

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

These two CEQA Appendix G threshold questions are provided within the Initial Study checklist and are the thresholds used for the subsequent analysis. The focus of the analysis is on the proposed Project's consistency with the relevant efficiency (i.e. per service population) threshold.

The proposed Project would generate GHGs during the construction and operational phases of the Project. The primary source of construction-related GHGs from the proposed Project would result from emissions of CO_2 associated with construction activities and worker vehicle trips. The proposed Project would require limited grading, and would also include site preparation, building construction, and architectural coating phases. The operational phase of the proposed Project would generate GHGs primarily from the proposed Project's operational vehicle trips and building energy (electricity and natural gas) usage. Other sources of GHG emissions would be minimal. Proposed Project construction-related GHGs are provided in Table GHG-1. Proposed Project operational-related GHGs are provided in Table GHG-2.

Table GHG-1: Construction GHG Emissions (Unmitigated Metric Tons/Yr)

Year	*Bio-CO_2*	*NBio-CO_2*	*Total CO_2*	*CH_4*	*N_2O*	*CO_2e*
2022	0	192.5	192.5	<0.1	<0.1	194.4
2023	0	475.3	475.3	0.1	<0.1	480.6
2024	0	18.0	18.0	<0.1	<0.1	18.2
Maximum	**0**	**475.3**	**475.3**	**0.1**	**<0.1**	**480.6**

SOURCE: CALEEMOD (V.2020.4.0).

Table GHG-2: Operational GHG Emissions 2021 (Unmitigated Metric Tons/Yr)

Category	*Bio-CO_2*	*NBio-CO_2*	*Total CO_2*	*CH_4*	*N_2O*	*CO_2e*
Area	0	93.5	93.5	<0.1	<0.1	94.1
Energy	0	210.1	210.1	<0.1	<0.1	211.7
Mobile	0	1,323.3	1,323.3	0.1	0.1	1,345.7
Waste	19.6	0	19.6	1.2	0	48.6
Water	3.5	8.1	11.6	0.4	<0.1	23.1
Total	**23.1**	**1,635.1**	**1,658.2**	**1.6**	**0.1**	**1,723.2**

SOURCE: CALEEMOD (V.2020.4.0).

A common threshold for GHGs is 4.6 MT CO2e/SP/year (residents+employees).[1] According to the 2020 U.S. Census, the population in Manteca is 83,498 people, and the average persons per household for multi-family residential units is 2.2. Therefore, the proposed Project would result

[1] For example, the Bay Area Air Quality Management District (BAAQMD) has promulgated a threshold of 4.6 MT CO2e/SP/year (residents+employees). See Bay Area Air Quality Management District CEQA Guidelines, May 2017.

in the construction of multi-family residential housing that would generate up to an estimated 462 people. Therefore, assuming a 30-year amortization of construction emissions, the combined Project construction and operational GHG emissions would generate approximately 2.7 MT CO2e/SP/year, below the BAAQMD threshold of 4.6 MT CO2e/SP/year.

The proposed Project would not generate GHG emissions that would have a significant impact on the environment or conflict with any applicable plans, policies, or regulations. Since the proposed Project would be consistent with the City CAP, and would not exceed any relevant GHG threshold, impacts related to greenhouse gases are ***less than significant***.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				x
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?			X	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

Responses to Checklist Questions

Responses a), b): The proposed Project would create new multi-family residential uses on a site that is adjacent to existing residential uses. The proposed multi-family residential land uses do not routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of common hazardous materials such as household cleaners, paint, engine oil, and similar household substances. The operational phase of the proposed Project does not pose a significant hazard to the public or the environment.

The Project site has historically been used for agricultural purposes, but is now currently vacant. Like most agricultural operations in the Central Valley, agricultural practices in the area have used agricultural chemicals as a standard practice. Although no contaminated soils have been identified in the Project site or in the immediate vicinity above applicable levels, residual concentrations of pesticides may be present in soil as a result of historic agricultural and ranching activities. Additionally, although groundwater wells have not been identified on the Project site, there is a possibility that groundwater wells exist on-site. Should groundwater wells be present on-site, the proper well abandonment permit would need to be obtained.

The approximately 200 square foot storage shed located near the northwest corner of the Project site is anticipated to be demolished. Demolition would require evaluation for asbestos and lead containing materials. If such are demolished at some future time, special demolition and disposal practices are required in accordance with State regulations to ensure their safe handling. For instance, if asbestos or lead is present, there is a special demolition process, as well as special landfills that are permitted to accept such demolition debris. It should be noted that CEQA does not require that these hazardous materials must be tested and analyzed at the current time – only that adequate performance measures would be taken to reduce the potential for a significant hazard to the public or environment is generated during project activities (including demolition). However, if the asbestos or lead is not present, then the demolition process would not require any special handling. Additionally, existing areas containing storage of farm equipment would require soil sampling to assess the soils in these areas.

There are no known underground storage tanks or pipelines located on the Project site that contain hazardous materials. Therefore, the disturbance of such items during construction activities is unlikely. Construction equipment and materials would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of common chemicals including paints, cleaners, and solvents. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, State, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, Mitigation Measure HYD-1 requires the Project applicant to implement a Stormwater Pollution Prevention Plan during construction activities to prevent contaminated runoff from leaving the Project site.

The proposed Project would be required to implement Mitigation Measures HAZ-1 and HAZ-2, which would ensure that the potential for the Project to create a significant hazard to the public or environment due to release of hazardous materials would be less than significant. The proposed Project would also be required to implement Mitigation Measure HYD-1. Overall, with implementation of these mitigation measures, the proposed Project would have a ***less than significant*** impact relative to these issues.

Mitigation Measure(s)

Mitigation Measure HAZ-1: *The Project applicant shall hire a qualified consultant to perform soil and site testing to check whether hazardous conditions are present, prior to any grading activities. The soil sampling shall address the presence/absence of hazardous substances in the soils, including agrichemicals and/or petroleum products. A soil sampling and analysis workplan shall be shall be prepared and meet the requirements of the Department of Toxic Substances Control Interim Guidance for Sampling Agricultural Properties (2008). The soils in the area where farming equipment and/or tanks have been stored should be included in the soil sampling and analysis workplan.*

If the sampling results indicate the presence of agrichemicals that exceed commercial screening levels, a removal action workplan shall be prepared in coordination with San Joaquin County Environmental Health Department. The removal action workplan shall include a detailed engineering plan for conducting the removal action, a description of the on-site contamination, the goals to be achieved by the removal action, and any alternative removal options that were considered and rejected and the basis for that rejection. A no further action letter shall be issued by San Joaquin County Environmental Health Department upon completion of the removal action. The removal action shall be deemed complete when the confirmation samples exhibit concentrations below the commercial screening levels, which will be established by the agencies.

If asbestos-containing materials and/or lead are found in the buildings, a California Occupational Safety and Health Administration (Cal/OSHA) certified asbestos containing building materials (ACBM) and lead based paint contractor shall be retained to remove the asbestos-containing materials and lead in accordance with EPA and Cal/OSHA standards. In addition, all activities (construction or demolition) in the vicinity of these materials shall comply with Cal/OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility.

Mitigation Measure HAZ-2 *Prior to grading activities, any onsite wells or septic systems intended to be removed shall be destroyed under permit and inspection with San Joaquin County Environmental Health Department.*

Response c): The Project site is not located within 0.25-mile from an existing school. The nearest schools include Veritas Elementary located at 1600 Pagola Avenue (1 mile west of Project site) and Walter Woodward Elementary School located at 575 Tannehill Drive (1 mile southeast of Project site). Therefore, implementation of the proposed Project would result in a ***less than significant*** impact relative to this topic.

Response d): According the California Department of Toxic Substances Control (DTSC) there are no Federal Superfund Sites, State Response Sites, or Voluntary Cleanup Sites on, the Project site. The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5. The nearest sites identified within these databases are below:

- Mountain Valley Express (1299 Vanderbilt Circle); House of Redwood (1199 Vanderbilt Circle); and Cal-West Concrete Cutting (1153 Vanderbilt) are all located approximately one mile north of the site.

- Kim Martin, listed at 2112 S. Main Street, is located approximately 0.45 miles south of the Project site. This location is also referred to as 20696 S. Main Street. Tri-Ag Service (formerly Kim Martin and formerly Schmiedt Soil Service) is listed at 2112 S. Main Street (also referred to as 20696 S. Manteca Street). Between 1946 and 1982, Schmiedt Soil Service provided a fumigation service from a 5-acre parcel that was surrounded by farmland. Schmiedt Soil Service also provided fertilizers and pesticides to farmers. Whereas, Tri-Ag Service primarily operated as a fertilizer service, as well as fumigants and pesticides from 1982 to 2001. In 2002, the surrounding agricultural area was subdivided into residential developments. nitrogen, lead, copper, and zinc were elevated in a few samples. Groundwater results indicated elevated concentrations of nitrate, and ammonium. This location remains an open case as of April 25, 2017. This location does not appear to pose a risk to the Site due to distance and cross gradient direction with respect to groundwater.

- AGS Fuel Inc. DBA Circle-K Chevron is located at 1490 S. Main Street, approximately 350 feet north of the Project site. This location is listed on the UST database for having three USTs. All three USTs are constructed with double-wall secondary containment. No documents pertaining to a release were found during the review; therefore, this location does not appear to pose a risk to the Site. This location is listed on the UST database for having one 20,000-gallon gasoline UST, one 8,000-gallon gasoline UST, and one 12,000-gallon diesel UST. This location is also listed on databases involving regulatory oversight programs that pertain to hazardous waste generation and hazardous material storage, including a HAZNET listing that indicated disposal of asbestos containing waste to Forward Landfill Inc. in 2015.

EnviroStor List

A review of the EnviroStor list has revealed that there are nine EnviroStor sites within approximately one mile of the Project site. DTSC's Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites. These nine EnviroStor sites include:

- Olin Interconnect Tech. located at 544 Industrial Park Drive. The site's current status is that no further action is required.
- Silicon Turnkey Solutions sits at 400 Industrial Park Drive. The site's current status is that it is inactive – the site needs evaluation.
- Qualex Incorporated is located at 555 Industrial Park Drive. The site's current status is that it is inactive – the site needs evaluation.
- Schmiedt Soil Service Incorporated is listed at 20696 S. Manteca Road, which is located approximately 0.65 miles south of the Site. Status: Refer: Other Agency
- Advanced Technology is located at 555 Carnegie Street. The site's current status is that no further action is required.
- Woodward Annex Site, which is on the corner of Woodward Avenue and Spreckels Road, Status: The site's current status is that no further action is required.
- United Agriculture Products sits at 301 Wetmore. Status: Refer: Other Agency
- Sand Lane Elementary is located at 6647 E. Woodward Avenue. The site's current status is that no further action is required.
- Proposed S. Mante is located at 21143 S. Tinnin Road. The site's current status is that no further action is required.

The Project site is not directly affected by these sites. Implementation of the proposed Project would result in a ***less than significant*** impact relative to this environmental topic.

Response e): The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safety based on such items as the type of aircraft using the airport. The Project site is not located within the vicinity of a private airstrip or public airport. The closest airport or airstrip is the New Jerusalem Airport, located approximately 12 miles southwest of the Project site. Implementation of the proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

Response f): The Office of Emergency Services (OES) maintains an Emergency Operations Plan (EOP) that serves as the official Emergency Plan for San Joaquin County. It includes planned

operational functions and overall responsibilities of County Departments during an emergency situation. The Emergency Plan also contains a threat and hazard identification and risk assessment for San Joaquin County, which addresses the potential for natural, technological and human-caused disasters (County Code, Title 4-3007).

The County OES also prepared a Hazardous Materials Area Plan (§2720 H&S, 2008) that describes the hazardous materials response system developed to protect public health, prevent environmental damage and ensure proper use and disposal of hazardous materials. The plan establishes effective response capabilities to contain and control releases, establishes oversight of long-term cleanup and mitigation of residual releases, and integrates multi-jurisdiction and agency coordination. This plan is now implemented by the San Joaquin County Environmental Health Department.

The San Joaquin County Environmental Health Department maintains a Hazardous Materials Management Plan/Hazardous Materials Business Plan (HMMP/HMBP). The HMMP/HMBP describes agency roles, strategies and processes for responding to emergencies involving hazardous materials. The Environmental Health Department maintains a Hazardous Materials Database and Risk and Flood Maps available to the public on its website.

In San Joaquin County, all major roads are available for evacuation, depending on the location and type of emergency that arises. The proposed Project does not include any actions that would impair or physically interfere with any of San Joaquin County's emergency plans or evacuation routes. Future uses on the Project site will have access to the County resources that establish protocols for safe use, handling and transport of hazardous materials. Construction activities are not expected to result in any unknown significant road closures, traffic detours, or congestion that could hinder the emergency vehicle access or evacuation in the event of an emergency.

The Project site would provide adequate emergency vehicular access via driveway connections with adjoining roadways and an internal circulation network. All driveways and internal roadways would be designed to accommodate large emergency vehicles such as fire engines. These improvements would contribute to effective emergency response and evacuation, and they would promote efficient circulation in the Project vicinity. Furthermore, the proposed Project does not propose any permanent road closures, lane reductions, or other adverse circulation conditions that may adversely affect emergency response or evacuation in the Project vicinity. Therefore, impacts would be less than significant.

Implementation of the proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

Response g): The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents), and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

The City has areas with an abundance of flashy fuels (i.e., grassland) in the outlying residential parcels and open lands that, when combined with warm and dry summers with temperatures often exceeding 100 degrees Fahrenheit, create a situation that results in higher risk of wildland

fires. Most wildland fires are human caused, so areas with easy human access to land with the appropriate fire parameters generally result in an increased risk of fire.

The City of Manteca contains areas with "moderate" and "non-wildland fuel" ranks. The areas warranting "moderate" fuel ranks possess combustible material in sufficient quantities combined with topographic characteristics that pose a wildfire risk. CalFire data for the areas immediately surrounding the Project site also include "moderate" and "non-wildland fuel" ranks. Areas further southwest of Interstate 5 are designated as "moderate" and "high" fuel ranks.

The Project site is located in an area with a "Local Responsibility Zone (LRA) Unzoned" rank. The Project site is also not located on a steep slope, and the Project site is essentially flat. The Project site is also located in an urban area, with existing or future urban development located on all sides. Therefore, this is a ***less than significant*** impact; no mitigation is required.

X. HYDROLOGY AND WATER QUALITY

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		X		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;			X	
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			X	
(iv) Impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

Responses to Checklist Questions

Response a): Implementation of proposed Project would not violate any water quality or waste discharge requirements. Construction activities including grading could temporarily increase soil erosion rates during and shortly after Project construction. Construction-related erosion could result in the loss of soil and could adversely affect water quality in nearby surface waters. The RWQCB requires a project-specific SWPPP to be prepared for each project that disturbs an area one acre or larger, which includes the Project site. The SWPPP is required to include project specific BMPs that are designed to control drainage and erosion. Mitigation Measure HYD-1 would require the preparation of a SWPPP to ensure that the proposed Project prepares and implements a SWPPP throughout the construction phase of the proposed Project. By implementing and maintaining proper BMPs, the potential for short-term sediment introduction should be minimized. The SWPPP (Mitigation Measure HYD-1) would reduce the potential for the proposed Project to violate water quality standards during construction.

Implementation of the proposed Project would result in a ***less than significant*** impact relative to this topic.

Mitigation Measure(s)

Mitigation Measure HYD-1*: The Project applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the Project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City of Manteca and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

Response b): The proposed Project would connect to the City of Manteca water system. The City's municipal water supply includes deliveries from the South San Joaquin Irrigation District's (SSJID) South County Water Supply Program (SCWSP), and local groundwater pumped from the City's wells.

The proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). The City's 2023 General Plan designates the Project site as CMU, which allows for residential densities of up to 25 dwelling units per acre. Therefore, the City's 2023 General Plan anticipated up to 250 units and an associated population of approximately 778 persons within the Project site.

Project construction would add additional impervious surfaces to the Project site; however, various areas of the Project site would remain largely pervious, which would allow infiltration to underlying groundwater. For example, the Project proposes to include a storm water treatment basin within the southern boundary of the Project site, adjacent to the "Pet Area" (see Figure 3). On-site storm water infrastructure would convey runoff into the storm water treatment basin and ultimately connect via an existing stub to the City's existing storm drain basin located directly east of the Project site. Additionally, the proposed Project includes landscaping areas that would remain pervious. These areas would continue to contribute to groundwater recharge following construction of the proposed Project. Furthermore, the proposed Project is not anticipated to significantly affect groundwater quality because sufficient stormwater infrastructure would be constructed as part of project to filter stormwater runoff and prevent long-term water quality degradation. Therefore, project construction and operation would not substantially deplete or interfere with groundwater supply or quality. This impact would be ***less than significant***.

Responses c.i), c.ii), c.iii), e): When land is in a natural or undeveloped condition, soils, mulch, vegetation, and plant roots absorb rainwater. This absorption process is called infiltration or percolation. Much of the rainwater that falls on natural or undeveloped land slowly infiltrates the soil and is stored either temporarily or permanently in underground layers of soil. When the soil becomes completely soaked or saturated with water or the rate of rainfall exceeds the infiltration capacity of the soil, the rainwater begins to flow on the surface of land to low lying areas, ditches, channels, streams, and rivers. Rainwater that flows off a site is defined as storm

water runoff. When a site is in a natural condition or is undeveloped, a larger percentage of rainwater infiltrates into the soil and a smaller percentage flow off the Project site as storm water runoff.

The infiltration and runoff process is altered when a site is developed. Buildings, sidewalks, roads, and parking lots introduce asphalt, concrete, and roofing materials to the landscape. These materials are relatively impervious, which means that they absorb less rainwater. As impervious surfaces are added to the ground conditions, the natural infiltration process is reduced. As a result, the volume and rate of storm water runoff increases. The increased volumes and rates of storm water runoff can result in flooding if adequate storm drainage facilities are not provided.

There are no rivers, streams, or water courses located on or immediately adjacent to the Project site. As such, there is no potential for the proposed Project to alter a water course, which could lead to on or offsite flooding. Drainage improvements associated with the Project site would be located on the Project site, and the proposed Project would not alter or adversely impact offsite drainage facilities.

The proposed Project would increase impervious surfaces throughout the Project site. The proposed Project would be served by existing City water, sewer, and storm drainage infrastructure. A storm water treatment basin would be provided along the Project site's southern boundary. On-site storm water infrastructure would convey runoff into the storm water treatment basin and ultimately connect via an existing stub to the City's existing storm drain basin located directly east of the Project site. The City Engineer reviews all storm drainage plans as part of the improvement plan submittal to ensure that all facilities are designed to the City's standards and specifications. The City Engineer also reviews all storm drainage plans to ensure that post-project runoff does not exceed pre-project runoff. The City Engineer's review of pre- and post-project runoff is intended to ensure that the capacity of the existing storm drainage system is not exceeded. This determination is ultimately made by the City Engineer during the improvement plan review and approval. The City's existing storm drain basin has been determined to have adequate capacity to serve the proposed Project runoff.

Additionally, the proposed Project is subject to the requirements of Chapter 13.28 of the Manteca Municipal Code – Stormwater Management and Discharge Control. The purpose of these requirements is to "establish minimum storm water management requirements and controls to protect and safeguard the general health, safety and welfare of the public residing in watersheds within the city of Manteca". These requirements are intended to assist in the protection and enhancement of the water quality of watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Water Pollution Control Act (Clean Water Act, 33 USC Section 1251 et seq.), Porter- Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) and National Pollutant Discharge Elimination System ("NPDES") Permit No. CAS000004, as such permit is amended and/or renewed.

The proposed Project storm drainage plan will require the construction of new storm water drainage facilities on the Project site; however, the construction of these facilities would not substantially alter the existing drainage pattern of the area, or alter the course of a stream or river, in a manner that would result in substantial erosion or siltation, substantially increase the rate or amount of surface runoff in a manner that would result in flooding, or create or contribute runoff water which would exceed the capacity or existing or planned drainage systems or provide substantial additional sources of polluted runoff. The proposed Project would also not conflict with any water control quality plan or sustainable groundwater management plan. The proposed Project would have a ***less than significant*** impact relative to this environmental topic.

Response d): The Project site is located outside the 100, 200, and 500-year flood zone. The Project site is categorized as an area with minimal risk of flooding (Figure 9).

The risks of flooding hazards on the Project site and immediate surroundings are primarily related to large, infrequent storm events. These risks of flooding are greatest during the rainy season between November and March. Flooding events can result in damage to structures, injury or loss of human and animal life, exposure to waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

Further, in 2007, the State of California passed a series of laws referred to as Senate Bill (SB) 5 directing the Department of Water Resources (DWR) to prepare flood maps for the Central Valley flood system and the State Plan of Flood Control, which includes a system of levees and flood control facilities located in the Central Valley. This legislation also set specific locations within the area affected by the 200-year flood event as the urban level of flood protection (ULOP) for the Central Valley.

SB5 "requires all cities and counties within the Sacramento-San Joaquin Valley, as defined in California Government Code Sections 65007(h) and (j), to make findings related to an ULOP or national Federal Emergency Management Agency (FEMA) standard of flood protection before: (1) entering into a development agreement for any property that is located within a flood hazard zone; (2) approving a discretionary permit or other discretionary entitlement, or ministerial permit that would result in the construction of a new residence, for a project that is located within a flood hazard zone; or (3) approving a tentative map, or a parcel map for which a tentative map was not required, for any subdivision that is located within a flood hazard zone." In 2016, the City of Manteca approved a Memorandum of Understanding to pursue 200-year urban level of flood protection to satisfy SB 5.

The Project site is located within a dam inundation area for the New Melones Dam (Figure 10). Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Regular inspection by DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The proposed Project would not expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam.

The Project site is not anticipated to be inundated by a tsunami because it is located at an elevation of approximately 34 feet above sea level and is approximately 60 miles away from the Pacific Ocean, which is the closest ocean waterbody.

The Project site is not anticipated to be inundated by a seiche because it is not located in close proximity to a water body capable of creating a seiche.

Implementation of the proposed Project would have a ***less than significant*** impact relative to the risk of release of pollutants due to project inundation by flood hazards, seiches, and tsunamis, or the potential to alter the course of a stream or river in a manner that would impede or redirect flood flows.

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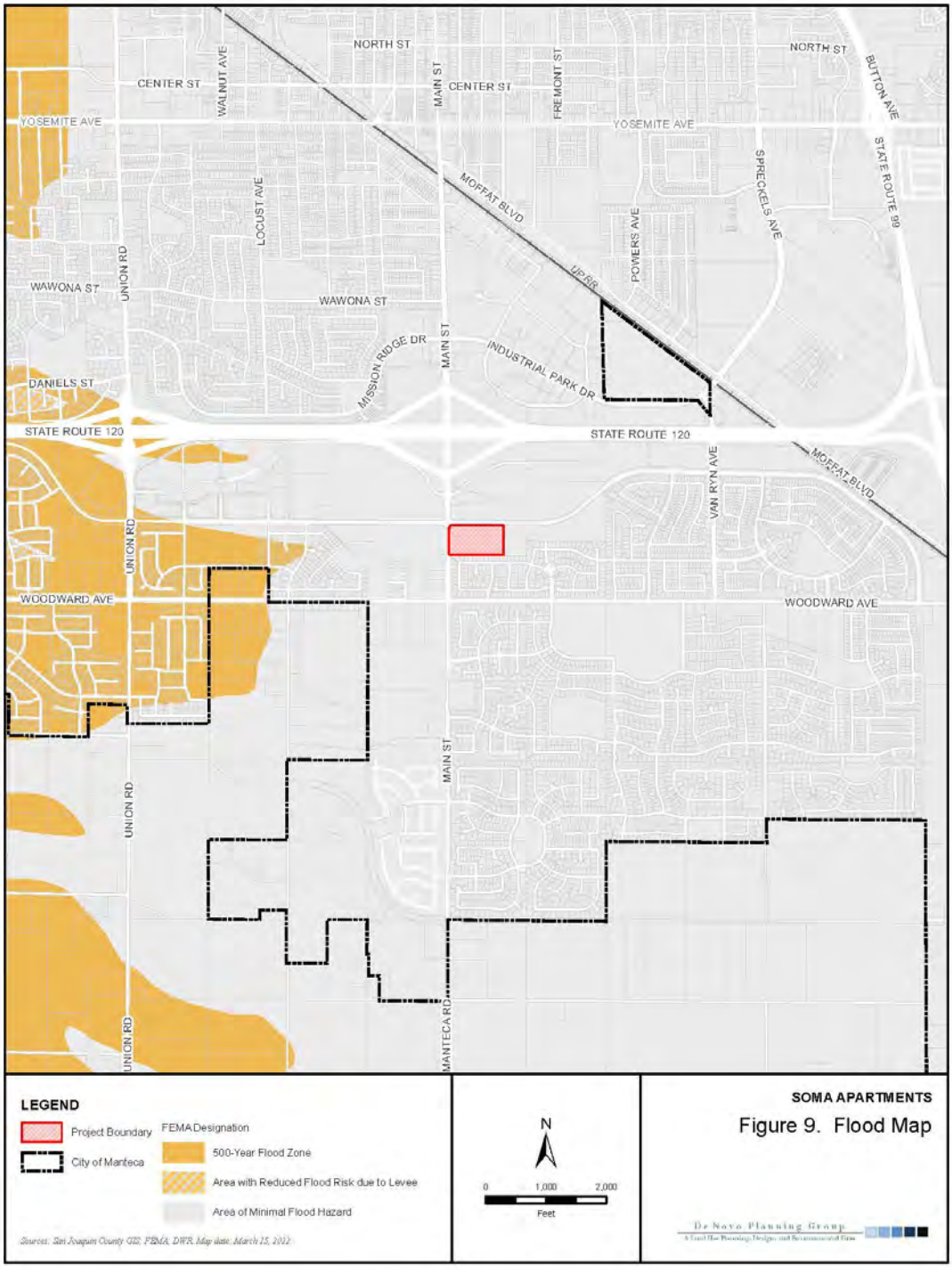
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WAWONA ST
MISSION RIDGE DR
MAIN ST
INDUSTRIAL PARK DR
DANIELS ST
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MOFFAT BLVD
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WOODWARD AVE
WOODWARD AVE
MAIN ST
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UNION RD
MANTECA RD
LEGEND
Project Boundary
City of Manteca
FEMA Designation
500-Year Flood Zone
Area with Reduced Flood Risk due to Levee
Area of Minimal Flood Hazard
Sources: San Joaquin County GIS, FEMA, DWR, Map date: March 15, 2012
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SOMA APARTMENTS
Figure 9. Flood Map
De Novo Planning Group

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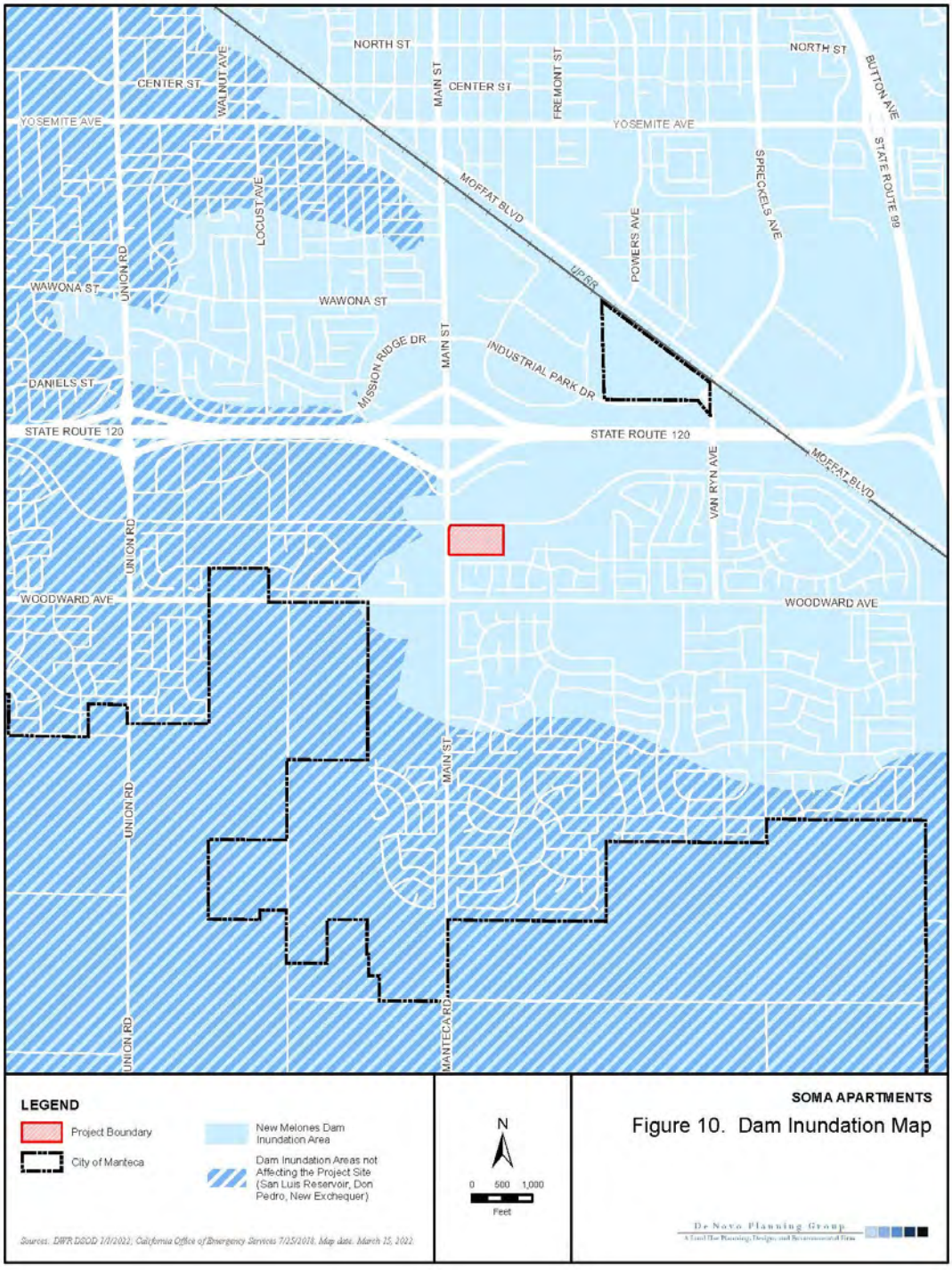
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VAN RYN AVE
MOFFAT BLVD
UNION RD
WOODWARD AVE
WOODWARD AVE
MAIN ST
UNION RD
MANTECA RD
UNION RD
LEGEND
Project Boundary
City of Manteca
New Melones Dam Inundation Area
Dam Inundation Areas not Affecting the Project Site (San Luis Reservoir, Don Pedro, New Exchequer)
Sources: DWR DSOD 1/1/2022; California Office of Emergency Services 7/25/2018. Map date: March 15, 2022.
N
0 500 1,000
Feet
SOMA APARTMENTS
Figure 10. Dam Inundation Map
De Novo Planning Group

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XI. LAND USE AND PLANNING

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?			X	
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

Responses to Checklist Questions

Response a): The Project site is located in the southern-central portion of Manteca city limits. The proposed Project is consistent with the surrounding uses and would not physically divide an established community. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Response b): The key planning documents that are directly related to, or that establish a framework within which the proposed Project must be consistent, include:

- City of Manteca General Plan; and
- City of Manteca Zoning Ordinance.

The Project site is designated CMU (Commercial Mixed Use) by the Manteca General Plan land use map. The City's CMU land use establishes a mix of residential, commercial, and office uses. The density range allows substantial flexibility in selecting dwelling unit types and parcel configurations to suit particular site conditions and housing needs. The type of dwelling units anticipated in this density range include high density residential as well as multi-family residential. The allowed density within the City's CMU designation is 15.1 to 25 dwelling units per acre. With 210 units on approximately 10 acres, the proposed density would be 21 dwelling units per acre, which is within the allowed density range.

The Project site is zoned Commercial Mixed Use (CMU) by the Manteca Zoning Map. The CMU zone accommodates a variety of uses, including high-density residential, employment centers, retail commercial, and professional offices. The proposed Project is consistent with the CMU zone.

A General Plan Amendment or rezone would not be required for the Project. The existing General Plan land uses and the zoning designations are shown on Figure 4. However, a determination of similar use is required as related to allowable building height of 35 feet within the CMU zoning district to match the allowable building height of 45 feet within the Multiple Family Dwelling (R-3) zoning district for a high-density residential project. The CMU and R-3 zoning districts allow for the same residential densities. The proposed apartment buildings would be two and three stories with a maximum height of 45 feet. Manteca Municipal Code Section 17.20.070, Similar Use Determination, allows for the Community Development Director to make a determination as to the similar use of building heights between the CMU and R-3 districts.

The proposed Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Implementation of the proposed Project would have a ***less than significant*** relative to this topic.

XII. MINERAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			X	

Existing Setting

The California Geological Survey identifies areas that contain or that could contain significant mineral resources so as to provide context for local agency land use decisions and to protect availability of known mineral resources. Classifications ranging from MRZ-1 to MRZ-4 are based on knowledge of a resource's presence and the quality of the resource. No mineral extraction operations are known to exist in or adjacent to the Project site. The Project site is not in a designated Mineral Resource Zone as delineated by the Mineral Resources and Mineral Hazards Mapping Program (MRMHMP) (California Department of Conservation, 2012).

Responses to Checklist Questions

Responses a), b): The Project site is not in a designated Mineral Resource Zone as delineated by the Mineral Resources and Mineral Hazards Mapping Program (MRMHMP). Therefore, the proposed Project would not result in the loss of an available known mineral resources nor result in the loss of availability of locally-important mineral resource recovery sites delineated in a local general plan, specific plan, or other land use plan. Additionally, there are no oil and gas extraction wells within or near the property. Therefore, the impact is ***less than significant*** to this environmental topic.

XIII. NOISE

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?		X		
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
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, would the project expose people residing or working in the project area to excessive noise levels?				X

Existing Setting

Existing Ambient Noise Levels

To quantify the existing ambient noise environment in the Project Vicinity, continuous (24-hour) noise level measurements were conducted on the Project site on March 23, 2022. The noise measurement locations are shown on Figure 3.10-1 of the Noise Study in Appendix C. The noise level measurement survey results are provided in Table Noise-1. Appendix B of the Noise Study shows the complete results of the noise monitoring survey.

TABLE NOISE-1: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Site	*Location*	*Date/time*	*Ldn*	*Average Measured Hourly Noise Levels, dB*					
				DAYTIME (7AM-10PM)			*NIGHTTIME (10PM-7AM)*		
				L_{EQ}	L_{50}	L_{MAX}	L_{EQ}	L_{50}	L_{MAX}
Continuous (24-hour) Noise Level Measurements1									
LT-1	Eastern side of project site, 210 feet to Atherton Rd Centerline	3/23/2022	63	57	54	75	57	56	73
LT-2	Eastern side of project site, 350 feet to Atherton Rd Centerline	3/23/2022	64	54	51	70	58	55	73
LT-3	Western Side of project site, 50 feet to Main St centerline	3/23/2022	71	69	65	87	64	56	80

SOURCE: SAXELBY ACOUSTICS, 2022.

The sound level meters were programmed to collect hourly noise level intervals at each site during the survey. The maximum value (L_{max}) represents the highest noise level measured during an interval. The average value (L_{eq}) represents the energy average of all of the noise measured during an interval. The median value (L_{50}) represents the sound level exceeded 50 percent of the time during an interval.

A Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter was used for the ambient noise level measurement survey. The meter was calibrated before and after use

with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Existing and Future Traffic Noise Environment at Sensitive Receptors

Off-Site Traffic Noise Impact Assessment Methodology: To predict existing and cumulative noise levels due to traffic, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions.

Traffic noise analysis was conducted for roadways which would affect sensitive receptors within the Project area as well as receptors which lie outside of the overall Project site. Traffic noise level changes are presented by roadway rather than by planning boundary. Traffic volumes for existing conditions were obtained from the traffic data prepared for the Project (Fehr & Peers, 2022). Truck percentages and vehicle speeds on the local area roadways were estimated from field observations.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each Project-area roadway segment. Where traffic noise barriers are predominately along a roadway segment, a -5 offset was added to the noise prediction model to account for various noise barrier heights. A -5 to dB offset was also applied where outdoor activity areas are shielded by intervening buildings. In some locations, sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the Project-area roadway segments analyzed in the Noise Study.

Table Noise-2 shows the existing traffic noise levels in terms of L_{dn} at closest sensitive receptors along each roadway segment. A complete listing of the FHWA Model input data is contained in Appendix C of the Noise Study.

TABLE NOISE-2: EXISTING TRAFFIC NOISE LEVELS

Roadway	*Segment*	*Exterior Traffic Noise Level, dB Ldn*
SR 120 WB On-Ramp	WB Slip On-Ramp	51.2
SR 120 WB Off-Ramp	WB Off-Ramp	63.2
SR 120 EB On-Ramp	EB Slip On-Ramp	46.7
SR 120 EB Off-Ramp	EB Off-Ramp	64.9
Main Street	North of Mission Ridge Dr	55.6
Main Street	SR 120 EB and SR 120 WB	38.3
Main Street	SR 120 EB and SR 120 WB	41.7
Main Street	Between EB SR 120 and Atherton Dr	66.3
Main Street	Between Atherton Dr and Woodward Ave	60.3
Main Street	South of Woodward Ave	59.1
Main Street	Between Mission Ridge Dr and WB SR 120	43.4
Atherton Dr	East of S Main St	47.0
Atherton Dr	West of S Main St	44.4
Industrial Park Dr	East of S Main St	60.1
Mission Ridge Dr	West of S Main St	59.6
Woodward Ave	East of Main St	51.1
Woodward Ave	West of Main St	59.5

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND SAXELBY ACOUSTICS. 2022.

Predicted Exterior Traffic Noise Levels: Implementation of the proposed Project would result in an increase in ADT volumes on the local roadway network, and consequently, an increase in noise levels from traffic sources along affected segments. Tables Noise-3 and Noise-4 show the predicted traffic noise level increases on the local roadway network for Existing, Existing + Project, Cumulative No Project, and Cumulative + Project conditions. Appendix C of the Noise Study provides the complete inputs and results of the FHWA traffic noise modeling.

TABLE NOISE-3: EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

		NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING	EXISTING + PROJECT	CHANGE	EX. GP CRITERIA[1]	SIGNIFICANT UNDER EX. GP?
ROADWAY	SEGMENT				PROPOSED GP CRITERIA[2]	SIGNIFICANT UNDER GP UPDATE?
SR 120 WB On-Ramp	WB Slip On-Ramp	64.3	64.5	0.2	+5-10 dBA	No
					+3 dBA	No
SR 120 WB Off-Ramp	WB Off-Ramp	45.0	45.1	0.1	>60 dBA	No
					+5 dBA	No
SR 120 EB On-Ramp	EB Slip On-Ramp	41.9	42.2	0.3	>60 dBA	No
					+5 dBA	No
SR 120 EB Off-Ramp	EB Off-Ramp	56.0	56.1	0.1	>60 dBA	No
					+5 dBA	No
Main Street	North of Mission Ridge Dr	67.4	67.4	0.0	+5-10 dBA	No
					+1.5 dBA	No
Main Street	SR 120 EB and SR 120 WB	41.3	41.4	0.1	>60 dBA	No
					+5 dBA	No
Main Street	SR 120 EB and SR 120 WB	43.7	43.8	0.1	>60 dBA	No
					+5 dBA	No
Main Street	Between EB SR 120 and Atherton Dr	45.4	45.6	0.2	>60 dBA	No
					+5 dBA	No
Main Street	Between Atherton Dr and Woodward Ave	61.9	62.1	0.2	+5-10 dBA	No
					+3 dBA	No
Main Street	South of Woodward Ave	61.9	61.9	0.0	+5-10 dBA	No
					+3 dBA	No
Main Street	Between Mission Ridge Dr and WB SR 120	45.3	45.3	0.0	>60 dBA	No
					+5 dBA	No
Atherton Dr	East of S Main St	65.8	66.2	0.4	+5-10 dBA	No
					+1.5 dBA	No
Atherton Dr	West of S Main St	62.1	62.2	0.1	+5-10 dBA	No
					+3 dBA	No
Industrial Park Dr	East of S Main St	65.2	65.2	0.0	+5-10 dBA	No
					+1.5 dBA	No
Mission Ridge Dr	West of S Main St	67.4	67.4	0.0	+5-10 dBA	No
					+1.5 dBA	No
Woodward Ave	East of Main St	63.2	63.2	0.0	+5-10 dBA	No
					+3 dBA	No
Woodward Ave	West of Main St	65.9	65.9	0.0	+5-10 dBA	No
					+1.5 dBA	No

[1] EXISTING GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS ARE INCREASED BY 10 DB OR MORE. AN INCREASE FROM 5-10 DB MAY BE SUBSTANTIAL. FACTORS TO BE CONSIDERED IN DETERMINING THE SIGNIFICANCE OF INCREASES FROM 5-10 DB INCLUDE:

- *THE RESULTING NOISE LEVELS*
- *THE DURATION AND FREQUENCY OF THE NOISE*
- *THE NUMBER OF PEOPLE AFFECTED*
- *THE LAND USE DESIGNATION OF THE AFFECTED RECEPTOR SITES*
- *PUBLIC REACTIONS/CONTROVERSY AS DEMONSTRATED AT WORKSHOPS/HEARINGS, OR BY CORRESPONDENCE*
- *PRIOR CEQA DETERMINATIONS BY OTHER AGENCIES SPECIFIC TO THE PROJECT*

[2] PROPOSED GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS HAVE A SUBSTANTIAL INCREASE. GENERALLY, A 3 DB INCREASE IN NOISE LEVELS IS BARELY PERCEPTIBLE,

AND A 5 DB INCREASE IN NOISE LEVELS IS CLEARLY PERCEPTIBLE. THEREFORE, INCREASES IN NOISE LEVELS SHALL BE CONSIDERED TO BE SUBSTANTIAL WHEN THE FOLLOWING OCCURS:

- *WHEN EXISTING NOISE LEVELS ARE LESS THAN 60 DB, A 5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;*
- *WHEN EXISTING NOISE LEVELS ARE BETWEEN 60 DB AND 65 DB, A 3 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;*
- *WHEN EXISTING NOISE LEVELS EXCEED 65 DB, A 1.5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL.*

SOURCE: FHWA-RD-77-108 (WITH INPUTS FROM FEHR & PEERS AND SAXELBY ACOUSTICS). 2022.

TABLE NOISE-4: CUMULATIVE AND CUMULATIVE + PROJECT TRAFFIC NOISE LEVELS

		NOISE LEVELS (LDN, DB) AT NEAREST SENSITIVE RECEPTORS				
		CUMULATIVE	CUMULATIVE + PROJECT	CHANGE	EX. GP CRITERIA1	SIGNIFICANT UNDER EX. GP?
ROADWAY	SEGMENT				PROPOSED GP CRITERIA2	SIGNIFICANT UNDER GP UPDATE?
SR 120 WB On-Ramp	WB Slip On-Ramp	63.3	63.4	0.1	+5-10 dBA	No
					+3 dBA	No
SR 120 WB Off-Ramp	WB Off-Ramp	46.7	46.8	0.1	>60 dBA	No
					+5 dBA	No
SR 120 EB On-Ramp	EB Slip On-Ramp	41.6	41.9	0.3	>60 dBA	No
					+5 dBA	No
SR 120 EB Off-Ramp	EB Off-Ramp	57.9	58.0	0.1	>60 dBA	No
					+5 dBA	No
Main Street	North of Mission Ridge Dr	68.5	68.5	0.0	+5-10 dBA	No
					+1.5 dBA	No
Main Street	SR 120 EB and SR 120 WB	43.3	43.4	0.1	>60 dBA	No
					+5 dBA	No
Main Street	SR 120 EB and SR 120 WB	45.7	45.7	0.0	>60 dBA	No
					+5 dBA	No
Main Street	Between EB SR 120 and Atherton Dr	47.9	48.0	0.1	>60 dBA	No
					+5 dBA	No
Main Street	Between Atherton Dr and Woodward Ave	64.0	64.1	0.1	+5-10 dBA	No
					+3 dBA	No
Main Street	South of Woodward Ave	63.6	63.6	0.0	+5-10 dBA	No
					+3 dBA	No
Main Street	Between Mission Ridge Dr and WB SR 120	46.3	46.3	0.0	>60 dBA	No
					+5 dBA	No
Atherton Dr	East of S Main St	69.5	69.6	0.1	+5-10 dBA	No
					+1.5 dBA	No
Atherton Dr	West of S Main St	65.0	65.1	0.1	+5-10 dBA	No
					+1.5 dBA	No
Industrial Park Dr	East of S Main St	65.6	65.6	0.0	+5-10 dBA	No
					+1.5 dBA	No
Mission Ridge Dr	West of S Main St	67.8	67.8	0.0	+5-10 dBA	No
					+1.5 dBA	No
Woodward Ave	East of Main St	63.8	63.9	0.1	+5-10 dBA	No
					+3 dBA	No

ROADWAY	SEGMENT	NOISE LEVELS (LDN, DB) AT NEAREST SENSITIVE RECEPTORS				
		CUMULATIVE	CUMULATIVE + PROJECT	CHANGE	EX. GP CRITERIA1	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA2	SIGNIFICANT UNDER GP UPDATE?
Woodward Ave	West of Main St	68.6	68.6	0.0	+5-10 dBA	No
					+1.5 dBA	No

[1] EXISTING GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS ARE INCREASED BY 10 DB OR MORE. AN INCREASE FROM 5-10 DB MAY BE SUBSTANTIAL. FACTORS TO BE CONSIDERED IN DETERMINING THE SIGNIFICANCE OF INCREASES FROM 5-10 DB INCLUDE:

- THE RESULTING NOISE LEVELS
- THE DURATION AND FREQUENCY OF THE NOISE
- THE NUMBER OF PEOPLE AFFECTED
- THE LAND USE DESIGNATION OF THE AFFECTED RECEPTOR SITES
- PUBLIC REACTIONS/CONTROVERSY AS DEMONSTRATED AT WORKSHOPS/HEARINGS, OR BY CORRESPONDENCE
- PRIOR CEQA DETERMINATIONS BY OTHER AGENCIES SPECIFIC TO THE PROJECT

[2] PROPOSED GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS HAVE A SUBSTANTIAL INCREASE. GENERALLY, A 3 DB INCREASE IN NOISE LEVELS IS BARELY PERCEPTIBLE, AND A 5 DB INCREASE IN NOISE LEVELS IS CLEARLY PERCEPTIBLE. THEREFORE, INCREASES IN NOISE LEVELS SHALL BE CONSIDERED TO BE SUBSTANTIAL WHEN THE FOLLOWING OCCURS:

- WHEN EXISTING NOISE LEVELS ARE LESS THAN 60 DB, A 5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;
- WHEN EXISTING NOISE LEVELS ARE BETWEEN 60 DB AND 65 DB, A 3 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;
- WHEN EXISTING NOISE LEVELS EXCEED 65 DB, A 1.5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND SAXELBY ACOUSTICS. 2022.

Based upon data in Tables Noise-3 and Noise-4, the proposed Project is predicted to result in a maximum traffic noise level increase of 0.4 dB.

Evaluation of Transportation Noise on Overall Project Site

Traffic Noise Levels: Cumulative plus project traffic noise levels are predicted to be 75 dB L_{dn} at a distance of approximately 60 feet from the centerline of East Atherton Drive, assuming no shielding from intervening buildings or sound walls. The proposed multi-family residential uses are located approximately 60 feet from the centerline of East Atherton Drive. The proposed second floor residences adjacent to East Atherton Drive would be 2 dB higher than the ground floor. Therefore, maximum exterior noise levels of 77 dB L_{dn} are predicted for these uses.

Cumulative plus project traffic noise levels are predicted to be 74 dB L_{dn} at a distance of 50 feet from the centerline of South Main Street, assuming no shielding from intervening buildings or sound walls. The proposed multi-family residential uses are located approximately 50 feet from the centerline of South Main Street. The proposed second floor residences adjacent to South Main Street would be 2 dB higher than the ground floor. Therefore, maximum exterior noise levels of 76 dB L_{dn} are predicted for these uses.

Construction Noise Environment

During the construction of the proposed Project, including roads, water, and sewer lines and related infrastructure, noise from construction activities would add to the noise environment in the Project vicinity. As indicated in Table Noise-5, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

TABLE NOISE-5: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	*MAXIMUM LEVEL, DB*	
	25 FEET	*50 FEET*
Backhoe	84	78
Compactor	89	83
Compressor (air)	84	78
Concrete Saw	96	90
Dozer	88	82
Dump Truck	82	76
Excavator	87	81
Generator	87	81
Jackhammer	94	89
Pneumatic Tools	91	85

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.

Construction Vibration Environment

The primary vibration-generating activities associated with the proposed Project would happen during construction when activities such as grading, utilities placement, and road construction occur. Table Noise-6 shows the typical vibration levels produced by construction placement.

TABLE NOISE-6: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)	PEAK PARTICLE VELOCITY @ 100 FEET (INCHES/SECOND)
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

Impacts and Mitigation Measures

Response a):

Traffic Noise Increases under Existing (2003) General Plan Standards

As shown in Tables Noise-3 and Noise-4, some noise-sensitive receptors located along the Project-area roadways within and outside of the Project site are currently exposed to exterior traffic noise levels exceeding the City of Manteca 60 dB L_{dn} exterior noise level standard for residential uses. These receptors would continue to experience elevated exterior noise levels with implementation of the proposed Project. For example, sensitive receptors under Existing conditions located adjacent to South Main Street between Atherton Drive and Woodward Avenue experience an exterior noise level of approximately 60.3 dB L_{dn}. Under Existing + Project conditions, exterior traffic noise levels are predicted to be approximately 60.4 dB L_{dn}. Exterior noise levels in both scenarios exceed the City's exterior noise level standard of 60 dB L_{dn}. Under

the City's existing General Plan, the Project's contribution of 0.1 dB would not exceed the City's increase criteria of 5-10 dB. Therefore, this would be a ***less than significant*** impact.

Traffic Noise Increases under Proposed General Plan Standards

The Proposed City of Manteca General Plan Noise Element specifies criteria to determine the significance of traffic noise impacts. An increase in the traffic noise level of 1.5 dB or more would be significant where the pre-Project noise levels are greater than 65 dB L_{dn}, 3.0 dB or more where existing noise levels are between 60-65 dB $L_{dn,}$ and 5 dB or more where existing noise levels are less than 60 dBA L_{dn}.

According to Tables Noise-3 and Noise-4, the maximum noise level increase due to Project traffic is predicted to be 0.4 dBA L_{dn} at Atherton Drive east of South Main Street. The road segment has a noise level of 66.2 dBA. A pre-project noise level that is greater than 65 dBA L_{dn} would need an increase in traffic noise level of 1.5 dB to be considered a significant impact. Therefore, the road segment is not considered a significant impact. All other roadway segments analyzed in the traffic study do not exceed the Proposed General Plan Standards for significant impacts. Therefore, this would be a ***less than significant*** impact.

Operational Noise Increases

As shown in Figure 3.10-2 of the Noise Study, the Project is predicted to expose nearby residences to noise levels up to 34 dBA Leq, during both daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) hours. The predicted Project noise levels would meet the City of Manteca daytime and nighttime noise standards for stationary non-transportation noise sources of 50 dBA, L_{eq} and 45 dBA, L_{eq}, respectively. Therefore, this would be a ***less than significant*** impact.

It should be noted that maximum noise levels generated by the residential HVAC units and on-site vehicle circulation are predicted to be 20 dBA, or less, than the average (L_{eq}) values. The City of Manteca maximum (L_{max}) nighttime noise level standard is 65 dBA Lmax, which is 20 dBA higher than the L_{eq} standard. Therefore, where average noise levels are in compliance with the L_{eq} standards, maximum noise levels would also meet the County's standards. Based upon the predicted noise levels of 34 dBA, L_{eq} at the nearest sensitive receptor, the maximum noise levels would be 55 dBA, L_{max} and comply with the City maximum standards.

Construction Noise

During the construction of the Project, including interior driveways, water, sewer lines, and related infrastructure, noise from construction activities would add to the noise environment in the Project vicinity. Existing receptors adjacent to the proposed construction activities are located north, south, east, and west of the site.

As indicated in Table Noise-5, activities involved in construction would generate maximum noise levels ranging from 82 to 96 dB L_{max} at a distance of 50 feet. Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration and would likely occur primarily during daytime hours.

Construction activities would be temporary in nature and are exempt from noise regulation during the hours of 7:00 AM to 7:00 PM, as outlined in the City's Municipal Code:

17.58.050 D. Exempt Activities

8. Construction activities when conducted as part of an approved Building Permit, except as prohibited in Subsection 17.58.050(E)(1) (Prohibited Activities) below.

17.58.050 E. Prohibited Activities

1. Construction Noise. Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work daily between the hours of 7:00 p.m. and 7:00 a.m., so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities.

Therefore, with implementation of Mitigation Measure Noise-1, temporary construction noise impacts would be reduced to less than significant.

Exterior Traffic Noise at Proposed Uses

The Noise Study determined that the predicted noise level at the residential outdoor activity area is estimated to be 50 dBA, L_{dn} (see Figure 3.10-3 of the Noise Study in Appendix C). This would comply with the City of Manteca noise standard for residential outdoor activity area of 60 dBA. Therefore, no noise control measures would be required to meet this standard.

Interior Noise Impacts at Proposed Residential Uses

Modern construction typically provides a 25-dB exterior-to-interior noise level reduction with windows closed. Therefore, sensitive receptors exposed to exterior noise of 70 dB L_{dn}, or less, will typically comply with the City of Manteca 45 dB L_{dn} interior noise level standard. Additional noise reduction measures, such as acoustically-rated windows, are generally required for exterior noise levels exceeding 70 dB L_{dn}.

It should be noted that noise barriers do not typically reduce exterior noise levels at second floor locations. The proposed multi-family residential uses are predicted to be exposed to unmitigated first-floor exterior transportation noise levels up to 75 dBA L_{dn} at the residential units adjacent to East Atherton Drive and 74 dBA L_{dn} adjacent to South Main Street. The second-floor receivers would be exposed to noise levels 2 dB higher than ground floor receivers. Therefore, noise levels of 77 dB L_{dn} are expected at the second-floor facades.

Based upon a 25-dB exterior-to-interior noise level reduction, interior noise levels are predicted to be up to 52-53 dB L_{dn} at second floors and 49-50 dBA L_{dn} at first floors. Accordingly, predicted interior noise levels along the first row of residential uses along East Atherton Drive and South Main Street are predicted to exceed the City's 45 dB L_{dn} interior noise level standard at second floor locations.

Appendix D of the Noise Study shows an estimate of the interior noise control measures required to meet the City's interior noise level standards. Implementation of the following mitigation measure will ensure that these potential impacts are reduced to a ***less-than-significant*** level.

Mitigation Measure(s)

Mitigation Measure NOISE-1: *Construction activities shall adhere to the requirements of the City of Manteca Municipal Code with respect to hours of operation. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department.*

All equipment shall be fitted with factory equipped mufflers, and in good working order. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department.

Mitigation Measure NOISE-2: *The first rows of residential units adjacent to the East Atherton Drive and South Main Street right of way shall include the following noise control measures:*

- *Windows shall have a sound transmission class (STC) rating of 36;*
- *Interior gypsum at exterior walls shall be 5/8" on resilient channels or staggered stud walls;*
- *Ceiling gypsum shall be 5/8";*
- *Flooring shall be carpet on foam padding in bedrooms and vinyl plank in living rooms;*
- *Exterior finish shall be stucco, fiber cement lap siding, or system with equivalent weight per square foot;*
- *Mechanical ventilation shall be installed in all residential uses to allow residents to keep doors and windows closed, as desired for acoustical isolation.*
- *As an alternative to the above-listed interior noise control measures, the applicant may provide a detailed analysis of interior noise control measures once building plans become available. The analysis should be prepared by a qualified noise control engineer and shall outline the specific measures required to meet the City of Manteca 45 dB L_{dn} interior noise level standard.*

Interior noise control measures are based upon an estimate of the future residence layouts. These assumptions shall be verified once floor plans become available for an accurate assessment of interior noise control measures.

Response b): Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage.

With the exception of vibratory compactors, Table Noise-6 data indicate that construction vibration levels anticipated for the Project are less than the 0.2 in/sec threshold at a distance of 26 feet. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located further than 26 feet from typical construction activities. At distances greater than 26 feet construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours. This is a ***less than significant*** impact and no mitigation is required.

Response c): There are no airports within two miles of the Project vicinity. Therefore, this impact is not applicable to the proposed Project and there would be ***no impact*** in this regard.

XIV. POPULATION AND HOUSING

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Responses to Checklist Questions

Response a): According to the 2020 U.S. Census, the population in Manteca is 83,498 people, and the average persons per multi-family residential household is 2.2. The proposed Project would result in the construction of multi-family residential housing that would generate up to an estimated 462 people. This is an estimated 0.78 percent growth in Manteca. An estimated 0.78 percent growth in Manteca is not considered substantial growth in Manteca or the region and it is consistent with the assumed growth in the General Plan. The approximately 462 people may come from Manteca or surrounding communities. The proposed Project would not include upsizing of offsite infrastructure or roadways. The installation of new infrastructure would be limited to the internal Project site and the sizing of the infrastructure would be specific to the number of units proposed. Implementation of the proposed Project would not induce substantial population growth in an area, either directly or indirectly. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Response b): The Project site currently contains undeveloped agricultural land and a single structure shed. The proposed Project would not displace housing or people. Implementation of the proposed Project would have ***no impact*** relative to this topic.

XV. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?			X	
Parks?		X		
Other public facilities?				X

Responses to Checklist Questions

Response a):

Fire Protection

The proposed Project would add up to 210 multi-family residential units and approximately 462 people to the City of Manteca, which would place additional demands for fire service on the Manteca Fire Department.

The Manteca Fire Department serves approximately 83,498 residents throughout approximately 17.2 square miles within the City limits. The Manteca Fire Department operates out of four (4) facilities that are strategically located in the City of Manteca. The nearest fire station to the Project site is located at 1154 S. Union Road with a travel distance of approximately 1.5 miles south on Union Road then east on E. Atherton Road to the Project site.

The Manteca Fire Department maintains a goal for the initial company of three (3) firefighters to arrive on scene for fire and emergency medical service (EMS) incidents within five (5) minutes. In 2016, the Department averaged a response time for Code 3 emergencies such as fires, medical calls or auto accidents at 4:20 minutes City-wide. The Department is currently meeting the Response Effectiveness goal. The City's current ISO PPC is rated Class 2 on a scale of 1 to 10, with Class 1 being the highest possible protection rating and Class 10 being the lowest, which is better than most of the jurisdictions in San Joaquin and Stanislaus County.

The City of Manteca receives funds for the provision of public services through development fees, property taxes, and connection and usage fees. As land is developed within the City and annexed into the City of Manteca, these fees apply. The City of Manteca reviews these fee structures on an annual basis to ensure that they provide adequate financing to cover the provision of city services. The City's Community Development, Public Works, and Finance Departments are responsible for continual oversight to ensure that the fee structures are adequate. The City reviews the referenced fees and user charges on an annual basis to determine the correct level of adjustment required to reverse any deficits and assure funding for needed infrastructure going forward. The City includes discussion of these fees and charges as part of the annual budget hearings.

The City of Manteca General Plan 2023 includes policies and implementation measures that would allow for the Department to continue providing adequate facilities and staffing levels. Below is a list of relevant policies:

- The City shall endeavor to maintain an overall fire insurance (ISO) rating of 4 or better (Policy PF-P-42).
- The City shall endeavor through adequate staffing and station locations to maintain the minimum feasible response time for fire and emergency calls (PF-P-43).
- The City shall provide fire services to serve the existing and projected population (PF-P-44).
- The City will establish the criteria for determining the circumstances under which fire service will be enhanced (PF-P-45).
- The Fire Department shall continuously monitor response times and report annually on the results of the monitoring (PF-I-24).
- The City shall encourage a pattern of development that promotes the efficient and timely development of public services and facilities (LU-P-3).

Impact fees from new development are collected based upon projected impacts from each development. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund capital and labor costs associated with fire protection services. Payment of such fees is adequate to ensure that the proposed Project would not result in any CEQA impacts related to this topic, including the potential for the proposed Project to cause substantial adverse physical impact associated with the provision of new or physically altered governmental services, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts. Therefore, the impact of the proposed Project on the need for additional fire services facilities is ***less than significant***.

Police Protection

The proposed Project would add up to 210 multi-family residential units and approximately 462 people to the City of Manteca which, would place additional demands for police service on the Manteca Police Department.

The Project site is currently under the jurisdiction of the Manteca Police Department. The Manteca Police Department operates out of its headquarters located at 1001 W. Center Street. The Project site is located approximately 3 miles southeast of the headquarters.

The Manteca Police Department is organized into two divisions: Operations and Services. Additionally, the Police Department operates a Public Affairs Unit. For budgeting purposes, the Police Department is organized into the following programs: administration, patrol, investigations, support services, dispatch, code enforcement, jail services, and animal services.

The City of Manteca receives funds for the provision of public services through development fees, property taxes, and connection and usage fees. As land is developed within the City and annexed into the City of Manteca, these fees apply. The City of Manteca reviews these fee structures on an annual basis to ensure that they provide adequate financing to cover the provision of city services. The City's Community Development, Public Works, and Finance Departments are

responsible for continual oversight to ensure that the fee structures are adequate. The City reviews the referenced fees and user charges on an annual basis to determine the correct level of adjustment required to reverse any deficits and assure funding for needed infrastructure going forward. The City intends to include discussion of these fees and charges as part of the annual budget hearings.

The City's 2023 General Plan includes policies and implementation measures that would allow for the Manteca Police Department to continue providing adequate staffing levels. Below is a list of relevant policies:

- The City shall endeavor through adequate staffing and patrol arrangements to maintain the minimum feasible police response times for police calls. Currently the City has 76 sworn officers. With a population of 83,498, that equates to a staffing level of 0.91 officers per 1000 residents.
- The City shall provide police services to serve the existing and projected population. The Police Department will continuously monitor response times and report annually on the results of the monitoring.

Impact fees from new development are collected based upon projected impacts from each development. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed project, would fund capital and labor costs associated with police services. Payment of such fees is adequate to ensure that the proposed Project would not result in any CEQA impacts related to this topic, including the potential for the proposed Project to cause substantial adverse physical impact associated with the provision of new or physically altered governmental services, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts.

Based on the current adequacy of existing response times and the ability of the Manteca Police Department to serve the City, it is anticipated that the existing police department facilities are sufficient to serve the proposed Project. Consequently, any impacts would be ***less than significant***.

Schools

Most schools within the City of Manteca are part of the Manteca Unified School District (MUSD). The MUSD provides school services for grades kindergarten through 12 (K-12) within the communities of Manteca, Stockton, and French Camp. MUSD is approximately 113 square miles and serves more than 24,000 students. MUSD operates 14 elementary and middle schools (grades K-8), four high schools (grades 9-12), one community day school (grades 7-12), and one vocational academy (grades 11-12).

Within the City of Manteca, there are three elementary schools (Manteca Elementary School, Joseph Widmer School, and Mossdale Elementary School) and one high school (Sierra High School). River Islands has two charter elementary schools, located within the Banta Unified School District (River Islands Technology Academy and the S.T.E.A.M. Academy). The schools in the City had a total enrollment of approximately 14,279 students, of which 9,416 were enrolled in elementary and middle school (grades K – 8) and 4,863 were enrolled in high school (grades 9 – 12).

The proposed Project would include the development of up to 210 dwelling units, which would directly cause population growth and could increase enrollment in the local school districts. Based upon the Manteca Unified School District School Mitigation Fee Justification Study Final Draft Report, July 2020, which identifies grade K-6 student generation rate of 0.217 students per Multi-Family attached unit, grade 7-8 student generation rate of 0.055 students per Multi-Family attached unit and grade 9-12 student generation rate of 0.108 students per Multi-Family attached unit, the proposed Project would be expected to generate up to roughly 80 new students, broken down by grades as follows:

- K–6: 45.57 students
- 7–8: 11.55 students
- 9–12: 22.68 students

The MUSD collects impact fees from new developments under the provisions of the Leroy F. Greene School Facilities Act of 1998, enacted by Senate Bill 50 ("SB 50"). SB 50 restricts the ability of local agencies to deny or condition land use approvals on the basis that school facilities are inadequate and precludes local agencies from requiring anything other than payment of the prevailing developer fee adopted by the local school district. SB 50 sets forth the "exclusive methods of considering and mitigating impacts on school facilities" resulting from any planning and/or development project, regardless of whether its character is legislative, adjudicative, or both. Govt. Code § 65996(a) (emphasis added).

Section 65995(h) provides that "[t]he payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995 … is hereby deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving but not limited to, the planning, use, or development of real property … on the provision of adequate school facilities." (emphasis added).

The reference in Section 65995(h) to fees "imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995" is to per-square-foot school fees that can be imposed by school districts on new residential and commercial and industrial construction. Pursuant to this authority, the District has adopted a Level 1 fee in the amount of $3.79 per square foot of assessable space of new residential construction. Payment of this Level 1 fee by the Project applicant constitutes full and complete mitigation of all impacts of the proposed Project on the District's school facilities as a matter of law. (Gov't Code § 659959h).)

Under SB 50, the City of Manteca is legally precluded from concluding, under CEQA or otherwise, that payment of the prevailing Level 1 fee will not completely mitigate the impacts of the proposed Project. Government Code § 65995(a) provides that SB 50 constitutes sets forth the "exclusive methods of considering and mitigating impacts on school facilities" when evaluating a development project. Because the methods of both "considering and mitigating" impacts on school facilities set forth in Government Code section 65996(a) are exclusive, SB 50 obviates the need for CEQA documents even to contain a description and analysis of a development project's impacts on school facilities. See Chawanakee Unified Sch. Dist. v. Cty. of Madera, 196 Cal. App. 4th 1016, 1027 (2011). Further, these statutes prohibit local agencies from concluding that payment of the authorized fees do not constitute full and complete mitigation of a project's

school facilities impacts. Local agencies have no power to supersede the legislature's express and unambiguous directives on this subject.

Nor does the City possess the authority to deny or condition the proposed Project unless the Project applicant agrees to pay fees or provide other mitigation beyond the duly adopted Level 1 fee. Under Government Code § 65995(a), a "local agency may not deny or refuse to approve a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property on the basis of a person's refusal to provide school facilities mitigation that exceeds the amounts authorized pursuant to [SB 50.]"

In short, payment of the Level 1 fee is "deemed to provide full and complete school facilities mitigation and, notwithstanding [Government Code] Section 65858, or [CEQA], or any other provision of state or local law, a state or local agency may not deny or refuse to approve [the] development of real property ... on the basis that school facilities are inadequate.".

Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service.

The provisions of State law are considered full and complete mitigation for the purposes of analysis under CEQA for school construction needed to serve new development. In fact, State law expressly precludes the City from reaching a conclusion under CEQA that payment of the Leroy F. Greene School Facilities Act school impact fees would not completely mitigate new development impacts on school facilities. Consequently, the City of Manteca is without the legal authority under CEQA to impose any fee, condition, or other exaction on the proposed Project for the funding of new school construction other than the fees allowed by the Leroy F. Greene School Facilities Act. Additionally, local agencies are prohibited from using the inadequacy of school facilities as a basis for denying or conditioning approvals. Although MUSD may collect higher fees than those imposed by the Leroy F. Greene School Facilities Act, no such fees are required to mitigate the impact under CEQA. Because the proposed Project would pay fees as required by the Leroy F. Greene School Facilities Act, this impact would be ***less than significant***.

Parks

CEQA requires that the proposed Project is analyzed to determine whether any substantial adverse impacts would be associated with any new or physically altered governmental facilities that may be required to serve the proposed Project (in this case, for park and recreation facilities). The proposed Project would directly increase the number of persons in the area as a result of new multi-family residential uses. The proposed Project includes up to 210 multi-family residential units, which is projected to increase the population by up to an estimated 462 people (based on 2.2 persons per household). For the purposes of extractive and collecting fees to mitigate for increase park demands (Quimby Act), the California Government Code Section 66477 states: *The amount of land dedicated or fees paid shall be based upon the residential density, which shall be determined on the basis of the approved or conditionally approved tentative map or parcel map and the average number of persons per household. There shall be a rebuttable presumption that the average number of persons per household by units in a structure is the same as that disclosed by the most recent available federal census or a census taken pursuant to Chapter 17 (commencing with Section 40200) of Part 2 of Division 3 of Title 4.*

The City's 2023 General Plan identifies a park standard based on a goal of five acres of developed parkland per 1,000 residents within the City limits. However, Manteca Municipal Code Chapter

3.20.080, Neighborhood parks, requires in all new subdivisions, the developer to build and dedicate a neighborhood park that meets the required three acres per 1,000 people per the adopted park acquisition and improvement fee. Based on an estimate of 462 residents, the Project would require approximately 1.38 acres of parkland. The proposed Project does not include any dedicated park space, which does not meet the park dedication requirement. The Quimby Act allows a development to provide the parkland onsite, or to pay the in-lieu fees to the City for the future development of park elsewhere in the City. In accordance with the Municipal Code Chapter 3.20, Park Acquisition and Improvement Fees, fees are deposited in specific funds that shall be used solely for the acquisition, improvement and expansion of public parks and recreation facilities as outlined in the park acquisition and improvement fee update.

The proposed Project is subject to the City park dedication in-lieu fees. The payment of the City park dedication in-lieu fees would serve as an adequate offset for the park demand. As such, with the implementation of Mitigation Measure PUBLIC-1, the proposed Project will result in a ***less-than-significant*** impact.

Other Public Facilities

The proposed Project would not result in a need for other public facilities that are not addressed above, or in Section XVIII, Utilities and Service Systems. Implementation of the proposed Project would have ***no impact*** relative to this issue.

Mitigation Measure(s)

Mitigation Measure PUBLIC-1*: The Project applicant shall pay applicable park in-lieu fees or dedicate parkland in accordance with the City of Manteca Municipal Code standards outlined in Chapter 3.20. Proof of payment of the in-lieu fees shall be submitted to the City Engineer.*

XVI. RECREATION

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?		X		
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

Responses to Checklist Questions

Responses a): The proposed Project would result in the construction of up to 210 multi-family residential apartments, which would result in up to an estimated 462 individuals. The City of Manteca General Plan Policy PF-P-49 calls for City park acquisition efforts to be based on the goal of five acres of developed neighborhood and community parkland per 1,000 residents within the City parks. Therefore, the estimated new demand for parks generated by the proposed Project is approximately 3.27 acres of new parks. The proposed Project does not include any dedicated park space, which does not satisfy City of Manteca General Plan Policy PF-P-49; therefore, the Project applicant would be required to pay in-lieu fees. The in-lieu fees would ultimately fund the construction of new park land to offset the increased demand for these facilities. With implementation of Mitigation Measure PUBLIC-1, this potential impact would be reduced to a ***less than significant level***.

Mitigation Measure(s)

Implementation of Mitigation Measure PUBLIC-1.

Responses b): The proposed Project includes the construction of on-site recreational facilities including a community center, pet area, and pool. All recreational facilities associated with the proposed Project would be developed on-site and are evaluated as part of the proposed Project. As described above, the Project would result in minor increases in demand on the City's recreational resources and is not expected to result in the need for expanded facilities or new facilities. Accordingly, impacts involving construction or expansion of recreational facilities would be ***less than significant***.

XVII. TRANSPORTATION

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?		X		
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X		
d) Result in inadequate emergency access?		X		

Intersection Operations Analysis

The following describes the significance criteria and methodology used to analyze the study intersections identified below, and methodology used to develop traffic forecasts for study intersections. The following is an analysis intended to facilitate a determination by the City as to conflicts with a plan, ordinance, or policy addressing the circulation system.

Study Area: The study area was selected based on the Project's location, site access, and expected trip distribution and assignment. The analysis considers traffic operations at the following intersections, which are displayed on Figure 1.

Study Intersections

1. S. Main Street/Westbound SR 120 Ramps
2. S. Main Street/Eastbound SR 120 Ramps
3. S. Main Street/E. Atherton Drive
4. S. Main Street/E. Woodward Avenue
5. S. Main Street/Mission Ridge Drive/Industrial Park Drive
6. S. Main Street/Project Driveway
7. E. Atherton Drive/Project Driveway

Study Scenarios: The study intersections were evaluated for the following four scenarios:

- **Existing Conditions** – Analyzes operations as they exist today.
- **Existing Plus Project Conditions** – Analyzes existing operations with the addition of trips generated by the Project. The Base Year TFM developed for the General Plan Update was used to develop project trip distribution during the AM peak hour and PM peak hour.
- **Existing Plus Adjacent Entitled Projects Conditions** – Analyzes existing operations with the addition of trips generated by the Project and four other entitled projects that are most likely to affect operations at study intersections. Minor modifications were made to the existing roadway conditions to reflect necessary changes required to access adjacent

projects. The Base Year TFM developed for the General Plan Update was updated and used to develop traffic forecast for this scenario during the AM and PM peak hour.

- **Cumulative No Project Conditions** - Analyzes Interim year (2040) volumes based on the City of Manteca, Lathrop, and Ripon Travel Forecasting Model, assuming the project site remains in its current undeveloped state.
- **Cumulative Plus Project Conditions** – Analyzes Interim year (2040) volumes with the addition of trips generated by the Project.

Data Collection: Traffic count data at all study intersections was collected in Spring 2022, when school was in session, and weather condition was dry. Intersection turning movement counts were conducted during the AM (7:00 to 9:00) and PM (4:00 to 6:00) peak periods. The existing intersection turning movement counts at the study intersections are shown in Figure 4 of the Transportation Analysis (Appendix D).

Analysis Methodology

Level of Service: Study intersections were analyzed using procedures and methodologies contained in the Highway Capacity Manual – 6th Edition (Transportation Research Board, 2016). These methodologies were applied using Synchro 11 software which considers traffic volumes, lane configurations, signal timings, signal coordination, and other pertinent parameters of intersection operations.

As previously noted, LOS may no longer be used to identify significant transportation impacts in CEQA documents for land use projects. However, this analysis includes a LOS analysis to determine if the proposed project would result in deficient intersection operations per the City of Manteca standards. Policy C-P-2 of the 2023 General Plan strives for LOS D or better while LOS E or worse is considered deficient.

LOS is a qualitative measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions. For signalized intersections, roundabouts and all way stop control intersections, LOS is based on the average delay experienced by all vehicles passing through the intersection. For side-street stop-controlled intersections, the delay and LOS for the overall intersection is reported along with the delay for the worst-case movement.

Traffic Volume Forecast

Baseline Year (2019) TFM: The Base Year TFM developed for the General Plan Update, as described in Chapter 2, was used to develop trip distribution under Existing Plus Project conditions. The Base Year model represents 2019/2020 pre-COVID 19 AM peak hour, PM peak hour, and Average Daily Traffic (ADT) conditions.

Based on City of Manteca staff input, the Baseline Year TFM was updated to create an Existing Plus Adjacent Entitled Projects scenario. This scenario includes the proposed Project and four adjacent entitled projects located near the S. Main Street/E. Atherton Drive intersection.

The traffic forecasting adjustment procedure known as the "difference method" was used to develop Existing Plus Adjacent Entitled conditions AM and PM peak hour traffic forecast. For a given intersection, this forecasting procedure is calculated as follows for every movement at the study intersections:

Interim Year Forecast =
Existing Volume + (Interim Year TFM Volume – Base Year TFM Volume)

Interim General Plan Year (2040) Scenario TFM: The Interim Year 2040 TFM was developed based on expected future land use and transportation network for the City of Manteca and adjacent areas in 2040. Similar to other cities in the Central Valley region, the City of Manteca is projecting large amount of growth for both housing and employment in the General Plan Buildout scenarios. The Interim Year 2040 model scenario was developed in coordination with both Manteca and Lathrop to ensure that the TFM represents market-based demand for future growth in both housing (population) and employment, and therefore does not underestimate or overestimate traffic demand volumes. The City of Manteca 2040 land use inputs were developed based on the City of Manteca's approved and anticipated projects that will be constructed and occupied by year 2040. The City of Lathrop 2040 land use inputs were developed based on the City's historic rate of growth in households and employment for the past 5 years (2016 to 2020). The location of the growth was allocated across the city where future growth is anticipated, including the area west of I-5 and south of the SR 120 corridor.

The Interim Year 2040 TFM scenarios was updated to reflect the proposed Project and four adjacent entitled projects located near the S. Main Street/E. Atherton Drive intersection. The traffic forecasting adjustment procedure known as the "difference method" was used to develop Interim Year (2040) AM and PM peak hour traffic forecasts.

Existing Conditions

This section presents the existing bicycle, pedestrian, and transit facilities and intersection operations under Existing Conditions.

Existing Bicycle and Pedestrian Facilities

The City of Manteca Active Transportation Plan (adopted September 1, 2020) defines the following bicycle facility types:

> ***Class I Bikeway: Bike Path:*** Bike paths, often referred to as shared-use paths or trails, are off-street facilities that provide exclusive use for non-motorized travel, including bicyclists and pedestrians. Bike paths have minimal cross flow with motorists and are typically located along landscaped corridors.
>
> ***Class II Bikeway: Bike Lane:*** Class II bike lanes are on-street facilities that use striping, stencils, and signage to denote preferential or exclusive use by bicyclists. On-street bike lanes are located adjacent to motor vehicle traffic.
>
> ***Class III Bikeway: Bike Route:*** Class III bike routes are streets with signage and optional pavement markings where bicyclists travel on the shoulder or share a lane with motor vehicles. Class III bike routes are utilized on low-speed and low-volume streets to connect bike lanes or paths along corridors that do not provide enough space for dedicated lanes.

Class III Bikeway: Bicycle Boulevard: Class III bicycle boulevards are similar to Class III bike routes, in that they are primarily utilized on low-speed and low-volume streets, and can close important gaps in the bicycle network where there may be insufficient space for dedicated lanes. Bicycle boulevards provide further enhancements to bike routes to encourage slow speeds and discourage non-local vehicle traffic via traffic diverters, chicanes, traffic circles, and/or speed tables.

Class IV Bikeway: Separated Bikeway: Class IV separated bikeways, commonly known as cycle tracks, are physically separated bicycle facilities that are distinct from the sidewalk and designed for exclusive use by bicyclists. They are located within the street right-of-way, but provide comfort similar to Class I bike paths.

The existing bicycle and pedestrian network in the study area is shown on Figure 4 of the Transportation Report (Appendix D). As displayed, paved sidewalks are present on the south side of E. Atherton Drive. A Class I multi-use path is present on the north side of E. Atherton Drive, along the frontage of developed parcels. The Class I path currently terminates approximately 2,100 feet west and 2,800 feet east of the S. Main Street/Atherton intersection, with a gap in between that is anticipated to be filled as future development occurs. There is currently no sidewalk or bike facilities along S. Main Street.

Existing Transit Facilities

The existing transit network in the study area is shown on Figure 5 of the Transportation Report (Appendix D). Manteca Transit operates a fixed-route and Dial-a-Ride bus service with stops throughout the City. The nearest bus stop is the Route 2 stop located at the intersection of E. Atherton Drive and Tinnin Road, approximately 2,000 feet west of the project site. Route 2 provides weekday and Saturday fixed route service. In addition, the Manteca Transit Route 2, Route 4, and the San Joaquin Regional Transportation District (RTD) route 91 bus stop at the S. Main Street/Industrial Park Drive/Mission Ridge Drive intersection is located approximately ½ mile north of the project site. Route 4 provides weekday fixed route service in Manteca. RTD Route 91 provides weekday AM and PM peak period service between Stockton and Ripon.

Existing Intersection Operations

Table Trans-1 displays the existing AM and PM peak hour operations at the study intersections. Technical calculations are displayed in Appendix A of the Transportation Report (Appendix D).

TABLE TRANS-1: INTERSECTION OPERATIONS – EXISTING CONDITIONS

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		DELAY	LOS	DELAY	LOS
1. S. Main St/WB SR 120 Ramps	Signal	19.4	B	12.7	B
2. S. Main St/EB SR 120 Ramps	Signal	**71.7**	**E**	28.1	C
3. S. Main St/E. Atherton Dr	Signal	21.0	C	23.6	C
4. S. Main St/ E. Woodward Ave	AWSC	**55.1**	**F**	**64.2**	**F**
5. S. Main St/Mission Ridge Dr/Industrial Park Dr	Signal	24.2	C	34.9	C

Notes: AWSC = All-Way Stop Control.
Bold indicates deficient operations.
Source: Fehr & Peers, 2022

As displayed, the S. Main Street/Eastbound SR 120 Ramps intersection currently operates deficiently at LOS E during the AM peak hour. The S. Main Street/E. Woodward Avenue intersection, currently an all-way stop controlled intersection, operates deficiently at LOS F during the AM and PM peak hour.

Existing Plus Project Conditions

Project Trip Generation: The Project's trip generation was estimated using trip rates published in the Trip Generation Manual 11th Edition (Institute of Transportation Engineers, 2021). Table Trans-2 displays the estimated number of daily, AM peak hour, and PM peak hour vehicle trips for the proposed Project.

TABLE TRANS-2: PROJECT TRIP GENERATION

LAND USE	QUANTITY	DAILY	AM PEAK			PM PEAK		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Multi-Family Housing (ITE 220)	210 Dwelling Units	1,416	20	64	84	67	40	107

Notes: Trip generation is based on trip rates published in *Trip Generation Manuel 11th Edition* (Institute of Transportation Engineers, 2021).
Source: Fehr & Peers, 2022

Project Trip Distribution: Project trips were distributed throughout the study area based the location of access roads, existing directional patterns, and output from the Base Year TFM. **The** project trip distribution and traffic volumes under Existing Plus Project conditions are presented in Figures 6 and 7 in the Transportation Report (Appendix D).

Existing Plus Project Intersection Operations: Primary access to the Project would be provided by the main driveway on E. Atherton Drive. As shown on the proposed site plan, left-in, right-in, and right-out movements are permitted at the main driveway; left-out movements onto E. Atherton Drive are prohibited. A secondary exit-only driveway would be provided on S. Main Street. Both driveways are analyzed under Existing Plus Project conditions.

Table Trans-3 displays the AM and PM peak hour intersection operations under Existing Plus Project conditions. Technical calculations are displayed in Appendix A of the Transportation Report (Appendix D).

TABLE TRANS-3: INTERSECTION OPERATIONS – EXISTING PLUS PROJECT CONDITIONS

INTERSECTION	CONTROL TYPE	EXISTING CONDITIONS				EXISTING PLUS PROJECT CONDITIONS			
		AM PEAK HOUR		PM PEAK HOUR		AM PEAK HOUR		AM PEAK HOUR	
		DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. S. Main St/WB SR 120 Ramps	Signal	19.4	B	12.7	B	24.1	C	13.5	B
2. S. Main St/EB SR 120 Ramps	Signal	**71.7**	**E**	28.1	C	**91.3**	**F**	30.6	C
3. S. Main St/E. Atherton Dr	Signal	21.0	C	23.6	C	23.0	C	29.3	C
4. S. Main St/E. Woodward Ave	AWSC	**55.1**	**F**	**64.2**	**F**	**55.6**	**F**	**66.2**	**F**
5. S. Main St/Mission Ridge Dr/Industrial Park Dr	Signal	24.2	C	34.9	C	24.3	C	35.0	C
6. E. Atherton Dr/Project Driveway	SSSC	Intersection does not exist in this scenario				0.1 (8.9)	A (A)	0.2 (9.3)	0.1 (8.9)
7. S. Main St /Project Driveway	SSSC	Intersection does not exist in this scenario				0.9 (15.1)	A (C)	0.4 (13.1)	0.9 (15.1)

Notes:
Bold indicates deficient operations.
SSSC = Side-Street Stop Control; AWSC = All-Way Stop Control.
Source: Fehr & Peers, 2022

As displayed in Table Trans-3, the following intersections would continue to operate deficiently with the addition of Project traffic:

- The S. Main Street/Eastbound SR 120 Ramps intersection currently operates at LOS E during the AM peak hour. With the additional project traffic, this intersection would continue to operate deficiently and degrade to LOS F during the AM peak hour. Traffic analysis shows that signal timing modification would improve operations at this intersection.
- The S. Main Street/E. Woodward Avenue intersection currently operates at LOS F during the AM and PM peak hour. With the additional project traffic, this intersection would continue to operate deficiently at LOS F. Delay at this intersection would worsen by 0.5 second during the AM peak hour and 2 seconds during the PM peak hour. Signalization improvements identified in the PFIP would improve operations at this intersection.

Table Trans-4 displays the intersection AM and PM peak hour intersection operations with recommended intersection improvements. Under Existing Plus Project conditions, signal timing modification at the S. Main Street/Eastbound SR 120 Ramps intersection would improve operations to LOS D during the AM peak hour. Signalization only (i.e., without S. Main Street widening or adding lanes or turn pockets to this intersection) at the S. Main Street/E. Woodward Avenue would improve operations to LOS B during the AM peak hour and LOS C during the PM peak hour.

TABLE TRANS-4: INTERSECTION OPERATIONS – EXISTING PLUS PROJECT CONDITIONS WITH IMPROVEMENTS

INTERSECTION	CONTROL TYPE	EXISTING PLUS PROJECT CONDITIONS WITH IMPROVEMENTS			
		AM PEAK HOUR		AM PEAK HOUR	
		DELAY	LOS	DELAY	LOS
2. S. Main St/EB SR 120 Ramps	Signal	42.4	D	30.6	C
4. S. Main St/E. Woodward Ave	Signal	18.7	B	28.9	C

Source: Fehr & Peers, 2022

Based on results of the intersection operations analysis, it is recommended that the following be included in the Conditions of Approval (COA) for the proposed Project.

Traffic COA #1 *– If the traffic signal at the S. Main Street/E. Woodward Avenue intersection has not already been constructed with the Griffin Park S. Main Street improvements, the SOMA project shall install the traffic signal at the S. Main Street/E. Woodward Avenue intersection. The Estimate of Probable Cost for the traffic signal improvements is $575,000. The developer shall pay for the total cost for design and construction of the traffic signal improvements but will receive PFIP Transportation Credits in accordance with the PFIP procedures. Should the cost of the S. Main Street/E. Woodward Avenue traffic signal, when added to the reimbursable costs for the PFIP improvements identified in Traffic COAs #2 & #3 below (based on three competitive bids), exceed the total amount of PFIP credits available to the SOMA Project (based on the PFIP Transportation Fee in place at the time of building permit issuance x the number or multi-family residential units), the developer will be reimbursed by the PFIP Transportation fund for the amount the S. Main Street/E. Woodward Avenue traffic signal causes the PFIP Transportation Fee credits to be exceeded. If the Fee credits are exceeded, the SOMA developer is to be reimbursed soon after City Council acceptance of the S. Main Street/E. Woodward Avenue intersection traffic signal improvements. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.*

Under Existing Conditions, the S. Main Street/E. Atherton Drive intersection operates acceptably at LOS C; however, city planning documents show that near-term developments, including the proposed project, would cause the intersection operation to worsen to unacceptably levels in the near future. Therefore, it is recommended that the following improvements identified in the PFIP to be constructed as part of the proposed project:

- *Widening of S. Main Street to six lanes between SR 129 and E. Woodward Avenue*
- *S. Main Street/E. Atherton Drive intersection expansion and signal modification*

Traffic COA #2 *– If the PFIP Improvements on the east side of S. Main Street, from Atherton Drive north to the SR 120 eastbound access ramp have not been constructed by others, the developer shall construct the PFIP Improvements on the east side of S. Main Street, including the median/left turn pocket(s), as shown on the PFIP Modified 6 Lane Street Section, Plate E-2.10 H2 (south end) transitioning to Plate E2.10 H1 (north end), from Atherton Drive north to the SR 120 eastbound access ramp, including signal timing modifications at the S. Main Street/eastbound SR 120 ramp intersection. The Estimate of Probable Cost for the PFIP improvements, from Atherton Drive to the SR120 eastbound access ramp, is $733,000.*

The developer shall pay for the total cost for design and construction of the PFIP improvements but will receive PFIP Transportation Credits or be reimbursed by the City in accordance with PFIP procedures. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.

***Traffic COA #3** – The developer shall construct the PFIP Improvements on the east side of S. Main Street, including the median/left turn pocket(s), as shown on the PFIP 6 Lane Street Section, Plate E-2.10 H1, from Atherton Drive south along the SOMA project frontage. The Estimate of Probable Cost for the PFIP improvements, on the east side of S. Main Street along the SOMA project frontage, is $265,000. The developer shall pay for the total cost for design and construction of the PFIP improvements but will receive PFIP Transportation Credits or be reimbursed by the City in accordance with PFIP procedures. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.*

Existing Plus Adjacent Entitled Projects Intersection Operations: Several parcels near the proposed SOMA Apartments Project are entitled for development. This chapter presents the results of intersection operations analysis under Existing Plus Adjacent Entitled Projects conditions.

The following adjacent entitled projects were identified for inclusion in the Existing Plus Adjacent Entitled Projects scenario. While this list does not include all approved projects in the City of Manteca, it does represent those projects whose trips may have an effect on traffic volumes at the study intersections.

1. Mixed-use project located in the northwest quadrant of the S. Main Street/E. Atherton Drive intersection; approximately 13.2 thousand square feet (KSF) of retail commercial and 430 multi-family residential dwelling units.
2. Residential project located in the northeast quadrant of the S. Main Street/E. Atherton Drive intersection; approximately 96 single-family residential dwelling units and 700 multi-family residential dwelling units.
3. Shopping Center located in the southwest quadrant of the S. Main Street/E. Atherton Drive intersection; approximately100 KSF of retail commercial.
4. Griffin Park Project located southwest of the S. Main Street/E. Woodward Avenue intersection; approximately 65 KSF of commercial and 1,301 single-family residential dwelling units.

As described in Chapter 3.4, AM and PM peak hour traffic volume forecast under Existing Plus Adjacent Entitled Projects conditions was developed by adding the proposed SOMA Apartments Project and the four entitled projects identified above to the Baseline Year TMF. The SOMA Apartments project trips are assigned based on permitted driveway movements at the two project driveways. Figure 8 displays AM and PM peak hour turning movements and lane configurations at the study intersections under Existing Plus Adjacent Entitled Projects conditions.

Entitled Projects #1 and #2 both propose driveway access near the existing Quintal Road, located approximately 280 feet south of the eastbound SR 120 ramp intersection. Given the close

proximity between a driveway and a freeway ramp intersection, the following modification is recommended to improve safety and maintain access to these two properties:

- Permit only right-turn in and right-turn out movements at Entitled Projects #1 and #2's driveways along S. Main Street.
- Construct a median along S. Main Street between eastbound SR 120 ramps and E. Atherton Drive to prevent unsafe left-turn in and left-turn out movements from Entitled Projects #1 and #2.
- Widen S. Main Street to 6 lanes between eastbound SR 120 ramps and E. Atherton Drive to enable southbound U-turn movements at the S. Main Street/E. Atherton Drive intersection and improve access to the right-in/right-out only driveways.

In addition, COA #1 identifies recommendation to signalize the S. Main Street/E. Woodward Avenue intersection. The recommended improvements are assumed in the intersection operations analysis.

Table Trans-5 displays the AM and PM peak hour intersection operations under Existing Plus Adjacent Entitled Projects conditions. Technical calculations are displayed in Appendix A.

TABLE TRANS-5: INTERSECTION OPERATIONS – EXISTING PLUS ADJACENT ENTITLED PROJECTS CONDITIONS

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		DELAY	LOS	DELAY	LOS
1. S. Main St/WB SR 120 Ramps	Signal	40.0	D	22.6	C
2. S. Main St/EB SR 120 Ramps[1]	Signal	46.0	D	29.7	C
3. S. Main St/E. Atherton Dr[1]	Signal	31.0	C	27.4	C
4. S. Main St/E. Woodward Ave	Signal	30.3	C	42.3	D
5. S. Main St/Mission Ridge Dr/Industrial Park Dr	Signal	29.1	C	36.2	D
6. E. Atherton Dr/Project Driveway	SSSC	0.1 (9.0)	A (A)	0.1(10.1)	A (B)
7. S. Main St /Project Driveway	SSSC	0.9 (19.6)	A (C)	0.4 (16.1)	A (C)

Notes:
Bold indicates deficient operations.
[1] Intersection lane configuration and/or traffic control are different from Existing Conditions due to planned intersection and roadway improvements associated with Proposed and Entitled Projects.
SSSC = Side-Street Stop Control; AWSC = All-Way Stop Control.
Source: Fehr & Peers, 2022

As shown, with recommended improvements to S. Main Street and the S. Main Street/E. Woodward Avenue intersection, all study intersections would operate acceptably at LOS D or better.

Cumulative Conditions Analysis

This section presents the results of intersection operations analysis under cumulative conditions. The analysis reflects long-term development in the City of Manteca and other nearby jurisdictions using the Interim General Plan Year 2040 TFM previously described.

The Cumulative Year analysis assumes the following improvements:

- **PFIP Improvements**: Intersection lane configurations, traffic controls, and roadway improvements identified in the City of Manteca PFIP were assumed to be constructed. This results in modifications at the following locations:
    - Construction of the future Anton Raymus Parkway
    - Widening of S. Main Street to 6 lanes between SR 120 and E. Woodward Avenue
    - Widening of S. Main Street to 4 lanes between E. Woodward Avenue and Anton Raymus Parkway
    - S. Main Street/E. Atherton Drive expansion and signal modification
    - S. Main Street/E. Woodward Avenue expansion and signalization
    - S. Main Street/Mission Ridge Drive/Industrial Park Drive expansion (adding one westbound left-turn pocket) and signal modification
- **SJCOG RTP/SCS Improvements**: Intersection lane configurations, traffic controls, and roadway improvements identified in the SJCOG RTP were assumed to be constructed. This results in modifications at the following locations:
    - Reconstruction of the SR 120/S. Main Street interchange. The design has not been formalized; A reconstructed partial cloverleaf interchange was assumed for the purpose of this analysis.
    - Widening of SR 120 to three lanes in both directions
    - SR 99/SR 120 interchange improvements

Cumulative No Project Intersection Operations: Cumulative no project forecasts for this study were developed by subtracting project trips from the "plus project" scenario. The AM and PM peak hour turning movements and lane configurations at the study intersections under Cumulative No Project conditions are shown in Figure 9 of the Transportation Report (Appendix D). Technical calculations are displayed in Appendix A of the Transportation Report (Appendix D). Table Trans-6 displays the AM and PM peak hour intersection operations. As displayed, with improvements identified in the PFIP and the SJCOG RTP/SCS, all study intersections would operate acceptably at LOS A through D during the AM and PM peak hour.

It should be noted that the design of the SR 120/S. Main Street interchange improvement has not been formalized; however, traffic operation of the future interchange will be studied in detail as part of the upcoming SR 120/S. Main Street Interchange Improvement Project led by the City of Manteca, in coordination with Caltrans. The Interim General Plan Year (2040) Scenario TFM will be modified to include the proposed SOMA Project and used to develop traffic volume forecast.

TABLE TRANS-6: INTERSECTION OPERATIONS – CUMULATIVE NO PROJECT CONDITIONS

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		DELAY	LOS	DELAY	LOS
1. S. Main St/WB SR 120 Ramps[1]	Signal	5.7	A	7	A
2. S. Main St/EB SR 120 Ramps[1]	Signal	7.2	A	10	A
3. S. Main St/E. Atherton Dr[2]	Signal	30.4	C	36.4	D
4. S. Main St/E. Woodward Ave[2]	Signal	21.9	C	23.2	C
5. S. Main St/Mission Ridge Dr/Industrial Park Dr[2]	Signal	19.4	B	36.4	D

Notes:
[1] The future interchange design has not been formalized. Delay and LOS are estimated using a partial-cloverleaf interchange configuration and are subject to change.
[2] Intersection lane configuration and/or traffic control are different from Existing Conditions due to planned intersection and roadway improvements.
Source: Fehr & Peers, 2022

Cumulative Plus Project Intersection Operations: The Interim General Plan Year 2040 TFM was used to develop Cumulative Plus Project trip distribution and forecasts. Both project driveways, with the same permitted movements as under Existing Plus Project conditions, are analyzed under the Cumulative Plus Project conditions. The intersection turning movements and lane configurations under Cumulative Plus Project conditions are shown in Figure 10 of the Transportation Report (Appendix D).

Table Trans-7 presents the results of the Cumulative Plus Project intersection operations analysis. As displayed, with improvements identified in the PFIP and the SJCOG RTP/SCS, all seven study intersections would operate acceptably at LOS A through D during the AM and PM peak hour. It is noted that the intersection overall delay at the S. Main St/Westbound SR 120 Ramps intersection improves slightly under Cumulative Plus Project conditions. This is because the Project adds traffic to turning movements with less delay, and therefore the average intersection delay is improved.

TABLE TRANS-7: INTERSECTION OPERATIONS –CUMULATIVE PLUS PROJECT CONDITIONS

INTERSECTION	CONTROL TYPE	CUMULATIVE CONDITIONS				CUMULATIVE PLUS PROJECT CONDITIONS			
		AM PEAK HOUR		PM PEAK HOUR		AM PEAK HOUR		AM PEAK HOUR	
		DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS
1. S. Main St/WB SR 120 Ramps[2]	Signal	5.7	A	7.0	A	5.5	A	6.9	A
2. S. Main St/EB SR 120 Ramps[2]	Signal	7.2	A	10.0	A	7.3	A	10.0	B
3. S. Main St/E. Atherton Dr[3]	Signal	30.4	C	36.4	D	34.8	C	40.7	D
4. S. Main St/E. Woodward Ave[3]	Signal	21.9	C	23.2	C	22	C	24.1	C
5. S. Main St/Mission Ridge Dr/Industrial Park Dr[3]	Signal	19.4	B	36.4	D	20.5	C	36.7	D
6. E. Atherton Dr/Project Driveway	SSSC	Intersection does not exist in this scenario				0.1 (9.5)	A (A)	0.8 (11.2)	0.1 (9.5)
7. S. Main St/Project Driveway	SSSC	Intersection does not exist in this scenario				0.5 (14.9)	A (B)	0.3 (12.7)	0.5 (14.9)

Notes:
SSSC = Side-Street Stop Control.
[1] The future interchange design has not been formalized. Delay and LOS are estimated using a partial-cloverleaf interchange configuration and are subject to change.
[2] Intersection lane configuration and/or traffic control are different from Existing Conditions due to planned intersection and roadway improvements.
Source: Fehr & Peers, 2022

Safety Assessment Analysis

This section describes the potential safety impacts associated with transportation and circulation that could result from implementation of the proposed Project. It describes the safety-related reviews, investigations, and analysis that was completed for Existing Plus Project and Cumulative Plus Project conditions.

Planned Traffic Safety Improvements in the Project Area: The following documents and projects in the City of Manteca, SJCOG, and Caltrans jurisdictions are reviewed for traffic safety improvements:

- **City of Manteca Active Transportation Plan (ATP) (2020)**
- **City of Manteca PFIP**
- **SJCOG RTP/SCS**
- **SR 120/S. Main Street Interchange Project** – This interchange would be improved to provide additional travel lanes for motor vehicles, a Class I multi-use path, and ADA compliant ramps and crosswalks for pedestrians.

The proposed Project would construct 210 multi-family dwelling units. Traffic generated by the proposed Project would increase traffic volumes on local roadways, freeway mainline segments, and interchange ramp intersections around the project area. Existing and future land use in the vicinity of the project area consist of residential, food, retail, and service uses. Traffic generated

by the Project would not change the traffic mix in the area and would be compatible with existing and planned facility design. The Project will also support the implementation of City of Manteca PFIP and ATP, which would improve multi-modal safety in the City of Manteca.

The proposed Project does not consist of any improvements or physical changes to freeway mainline, freeway interchange, or other State Highway System (SHS) facilities. A detailed review of the facility design of the safety improvement projects listed above confirmed that the proposed Project would not physically disrupt any existing multi-modal facility.

The City of Manteca PFIP identifies a Class II bike lane on S. Main Street between E. Atherton Drive and Anton Raymus Parkway. In addition, the City of Manteca ATP identifies a future Class I multi-use path on the north side of E. Atherton Drive. Based on the location of the future active transportation facilities, the following COA is recommended:

> ***Traffic COA #4*** *– The developer shall coordinate with the City to construct a Class II bike lane and sidewalk along the SOMA project frontage or preserve right-of-way along the SOMA project frontage for future installation of the bike lane. The exit-only driveway on S. Main Street shall be designed to minimize impact to the bike lane. The design of the driveway shall be reviewed and approved by the Director of Engineering/City Engineer.*

Freeway Off-Ramp Queueing Analysis

Intersection operations analyses were completed for the following freeway ramp intersections:

1. S. Main St/WB SR 120 Ramps
2. S. Main St/EB SR 120 Ramps

Results of the intersection operations analysis show that, with recommended signal timing improvements, both ramp intersections operate at LOS D or better during the AM and PM peak hour under Existing Plus Project. With the reconstruction of the SR 120/S. Main Street interchange with a partial cloverleaf design, both ramp intersections operate at LOS A during the AM and PM peak hour under Cumulative No Project and Cumulative Plus Project conditions.

A freeway off-ramp queueing analysis was completed for both ramp intersections during the AM and PM peak hour. The off-ramp queueing analysis was completed using the Synchro 11 software package as described in Chapter 3, and the 95th percentile queue is reported for all freeway off-ramp movements.

Table Trans-8 presents the results of the freeway off-ramp queueing analysis for the AM and PM peak hour under Existing Plus Project conditions. As shown, with the addition of the project traffic, all freeway off-ramp queues can be accommodated within the off-ramp storage. Technical Calculations are included in Appendix A in the Transportation Report (Appendix D).

TABLE TRANS-8: FREEWAY OFF-RAMP QUEUEING ANALYSIS – EXISTING PLUS PROJECT AND EXISTING PLUS ADJACENT ENTITLED PROJECTS CONDITIONS 95TH PERCENTILE QUEUE

			Existing Plus Project				Existing Plus Adjacent Entitled Projects			
Intersection	Move-ment	Storage (ft)	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Volume	(ft)	Volume	(ft)	Volume	Queue (ft)	Volume	Queue (ft)
1. S. Main St/WB SR 120 Ramps	WBL/T	1,656	84	57	144	57	130	81	150	89
	WBR	175	183	50	183	50	183	55	237	88
2. S. Main St/EB SR 120 Ramps	EBL/T	1,499	282	317	282	317	282	167[1]	466	329[1]
	EBR	200	164	47	164	47	220	39[1]	365	136[1]

[1] Intersection lane configuration and/or traffic control are different from Existing Conditions due to planned intersection and roadway improvements associated with Proposed and Entitled Projects.
Source: Fehr & Peers, 2022

Table Trans-9 presents the results of the freeway off-ramp queueing analysis for the AM and PM peak hour under Cumulative Plus Project conditions. As shown, with the addition of the project traffic, all freeway off-ramp queues can be accommodated within the off-ramp storage. Technical Calculations are included in Appendix A of the Transportation Report (Appendix D).

TABLE TRANS-9: FREEWAY OFF-RAMP QUEUEING ANALYSIS – CUMULATIVE PLUS PROJECT CONDITIONS 95TH PERCENTILE QUEUE

Intersection	Movement	Storage (ft)	AM Peak Hour		PM Peak Hour	
			Volume	Queue (ft)	Volume	Queue (ft)
1. S. Main St/WB SR 120 Ramps[1]	WBL	200	210	64	300	83
	WBL/T/R	1,656	0	51	0	78
	WBR	200	200	47	240	71
2. S. Main St/EB SR 120 Ramps[1]	EBL	350	390	86	570	122
	EBT	1499	0	38	0	144
	EBR	350	410	38	580	144

Notes:
[1] The future interchange design has not been formalized. Off-Ramp storage is assumed to be equal to the existing off-ramp storage.
Source: Fehr & Peers, 2022

Based on the freeway off-ramp queueing analysis, the proposed Project would not result in freeway off-ramp queuing spilling back from interchanges and would not affect traffic operations on the freeway mainline. Traffic generated by the proposed Project would remain compatible with the planned traffic safety improvements in the vicinity of the Project.

It should be noted that the design of the SR 120/S. Main Street interchange improvement has not been formalized; however, off-ramp queuing of the future interchange will be studied in detail as part of the upcoming SR 120/S. Main Street Interchange Improvement Project led by the City of Manteca, in coordination with Caltrans. The Interim General Plan Year (2040) Scenario TFM will be modified to include the proposed SOMA Project and used to develop traffic volume forecast.

Responses to Checklist Questions

Response a): General Plan: It is noted that the currently adopted General Plan is the 2023 General Plan; however, the City is currently undergoing an update to the General Plan. The proposed General Plan Update (Alternative D) designates the project site as commercial mixed use, which permits multi-family housing developments. Therefore, the proposed Project is consistent with the proposed General Plan Update land use designation.

Although LOS cannot be used as a CEQA metric to identify significant transportation impacts, presentation of LOS information helps the City evaluate the Project's consistency with Policy C-P-2, as identified in the Circulation Element of the City of Manteca General Plan 2023:

- C-P-2: To the extent feasible, the City shall strive for a vehicular LOS of D or better at all streets and intersections, except in the Downtown area where right-of-way is limited, pedestrian, bicycle, and transit mobility are most important and vehicular LOS is not a consideration.

Results of the intersection operations analysis indicate that the S. Main Street/Eastbound SR 120 Ramps and the S. Main Street/E. Woodward Avenue intersections currently operates deficiently during the AM and/or PM peak hour. With the additional project traffic, these intersections would continue to operate deficiently. With intersection signal timing improvements at the S. Main Street/Eastbound SR 120 Ramps intersection and signalization at the S. Main Street/E. Woodward Avenue intersection, all study intersections would operate acceptably under Existing Plus Project conditions during the AM and PM peak hour. These improvements will be conditioned on the Project.

Under Existing Plus Adjacent Entitled Projects conditions, minor modifications to the existing roadways are recommended to improve safety and access to two adjacent projects. With the recommended roadway improvements and signalization at the S. Main Street/E. Woodward Avenue intersection, all study intersections would operate acceptably during the AM and PM peak hour.

Under Cumulative No Project and Cumulative Plus Project conditions, with improvements identified in the PFIP and the SJCOG RTP/SCS, all study intersections would operate acceptably at LOS A through D during the AM and PM peak hour.

The proposed Project does not consist of any improvements or physical changes to freeway mainline, freeway interchange, or other State Highway System (SHS) facilities. A detailed review of the facility design of the safety improvement projects in the TIA Analysis confirmed that the proposed Project would not physically disrupt any existing multi-modal facility.

The City of Manteca PFIP (2013), City of Manteca General Plan (2003), and City of Manteca ATP (2020) were reviewed to determine if the proposed Project results in any inconsistencies with adopted transportation related policies.

City of Manteca PFIP: The PFIP identifies the following planned improvements near the project site:

- Class II bike lane on S. Main Street between E. Atherton Drive and Anton Raymus Parkway.

City of Manteca ATP: The ATP identifies the following planned improvements near the project site:

- Class I multi-use path on the north side of E. Atherton Drive
- Sidewalk on S. Main Street along project frontage

Based on the location of the future active transportation facilities, the several Conditions of Approval are recommended as follows:

Recommended Conditions of Approval and Design Considerations

The following conditions should be incorporated into the Conditions of Approval for the proposed Project:

- *Traffic COA #1 – If the traffic signal at the S. Main Street/E. Woodward Avenue intersection has not already been constructed with the Griffin Park S. Main Street improvements, the SOMA project shall install the traffic signal at the S. Main Street/E. Woodward Avenue intersection. The Estimate of Probable Cost for the traffic signal improvements is $575,000. The developer shall pay for the total cost for design and construction of the traffic signal improvements but will receive PFIP Transportation Credits in accordance with the PFIP procedures. Should the cost of the S. Main Street/E. Woodward Avenue traffic signal, when added to the reimbursable costs for the PFIP improvements identified in Traffic COAs #2 & #3 below (based on three competitive bids), exceed the total amount of PFIP credits available to the SOMA Project (based on the PFIP Transportation Fee in place at the time of building permit issuance x the number or multi-family residential units), the developer will be reimbursed by the PFIP Transportation fund for the amount the S. Main Street/E. Woodward Avenue traffic signal causes the PFIP Transportation Fee credits to be exceeded. If the Fee credits are exceeded, the SOMA developer is to be reimbursed soon after City Council acceptance of the S. Main Street/E. Woodward Avenue intersection traffic signal improvements. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.*
- *Traffic COA #2 – If the PFIP Improvements on the east side of S. Main Street, from Atherton Drive north to the State Route (SR) 120 eastbound access ramp have not been constructed by others, the developer shall construct the PFIP Improvements on the east side of S. Main Street, including the median/left turn pocket(s), as shown on the PFIP Modified 6 Lane Street Section, Plate E-2.10 H2 (south end) transitioning to Plate E2.10 H1 (north end), from Atherton Drive north to the SR 120 eastbound access ramp, including signal timing modifications at the S. Main Street/eastbound SR 120 ramp intersection. The Estimate of Probable Cost for the PFIP improvements, from Atherton Drive to the SR120 eastbound access ramp, is $733,000. The developer shall pay for the total cost for design and construction of the PFIP improvements but will receive PFIP Transportation Credits or be reimbursed by the City in accordance with PFIP procedures. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.*
- *Traffic COA #3 – The developer shall construct the PFIP Improvements on the east side of S. Main Street, including the median/left turn pocket(s), as shown on the PFIP 6 Lane Street Section, Plate E-2.10 H1, from Atherton Drive south along the SOMA project frontage. The Estimate of Probable Cost for the PFIP improvements, on the east side of S. Main Street along the SOMA project frontage, is $265,000. The developer shall pay for the total cost for design and construction of the PFIP improvements but will receive PFIP Transportation Credits or be reimbursed by the City in accordance with PFIP procedures. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.*
- *Traffic COA #4 – The developer shall coordinate with the City to construct a Class II bike lane and sidewalk along the SOMA project frontage or preserve right-of-way along the SOMA project frontage for future installation of the bike lane. The exit-only driveway on S. Main Street shall be designed to*

minimize impact to the bike lane. The design of the driveway shall be reviewed and approved by the Director of Engineering/City Engineer.

In addition, the following modification is recommended for the Project's site plan:

- *To improve multi-modal access, it is recommended that a pedestrian gate be added near the exit-only vehicle gate on S. Main Street, and the internal sidewalk be extended to connect with the planned sidewalk along S. Main Street.*

Response b): Senate Bill (SB) 743 was signed into law in 2013 and is leading to substantial changes in the way transportation impact analyses are being prepared. Notably, it precludes the use of level of service (LOS) to identify significant transportation impacts in CEQA documents for land use projects, recommending instead that VMT be used as the preferred metric. On December 28, 2018, the CEQA Guidelines were amended to add Section 15064.3, Determining the Significance of Transportation Impacts, which states that generally, VMT is the most appropriate measure of transportation impacts. According to 15064.3(a), "Except as provided in subdivision (b)(2) (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact." Beginning on July 1, 2020, the provisions of 15064.3 applied statewide.

The City of Manteca is in the process of developing guidelines for transportation impact analysis. By City's direction, for the purpose of this study, methodology and thresholds identified in the Draft *Transportation Impact Analysis Guidelines* (TIA Guidelines) will be applied.

The TIA Guidelines identify VMT per dwelling unit as the VMT metric for residential land uses. VMT per dwelling unit includes VMT associated with trips produced by a dwelling unit's residents, such as to work, school, or shop, and with one end of the trip at the home, on a typical weekday. The TIA Guidelines also identify a threshold of 15 percent below baseline city-wide average VMT of the project's land use category. For multi-family residential projects, the baseline city-wide VMT is 78.6 VMT per dwelling unit. Therefore, multi-family projects that exceeds 85 percent of the baseline, or 66.8 VMT per dwelling unit, may be considered to have a significant VMT impact.

By the City's direction, the City of Manteca General Plan Update travel forecasting model was used to develop baseline and cumulative (General Plan Buildout) VMT per dwelling unit.

VMT Analysis Methodology

As part of the City of Manteca General Plan Update project, Fehr & Peers developed the Cities of Manteca, Lathrop, and Ripon Travel Forecasting Model (TFM). The TFM is a modified version of the Three-County RTP/SCS Air Quality Conformity Mode, with improvements to all major components focused on this three-city area. Each scenario of the TFM used for VMT forecasting is described below.

Baseline Year (2019) TFM. The Base Year TFM developed for the General Plan Update was used to develop Baseline city-wide average weekday daily VMT per multi-family dwelling unit. The Baseline Year TFM incorporates Base Year land use data for dwelling units (single-family and multi-family) and employment (food, retail, office, industrial, medical, government, and school), as well as the roadway network (lanes, speed, capacity class), based on Base Year (i.e., 2019) data. The TFM Trip generation rates were derived from the Institute of Transportation Engineer's (ITE) Trip Generation Manual and include appropriate inbound/outbound trip generation rates for residential and employment land uses for AM and PM peak hour conditions. The TFM was

calibrated to reflect more accurate trip distribution for Internal-to-Internal Trips (II), Internal-to-External Trips (IX), External-to-Internal Trips (XI) and External-to-External (XX or Through) Trips based on a combination of the Caltrans Household Travel Survey (CHTS), the American Community Survey (ACS), and California Statewide Model to replicate the majority of vehicle trips to and from the west (San Francisco Bay Area) and a smaller percentage to and from the north (including Stockton and Sacramento) and to and from the south.

Cumulative Current General Plan Buildout Scenario TFM. The Current General Plan Buildout Scenario TFM was used to estimate the Project's weekday daily home-based VMT per multi-family dwelling unit under cumulative Current General Plan Buildout conditions. This scenario of the TFM incorporates land use data (dwelling units and employment) and reflects the City's jobs-housing balance, II, IX, XI, and XX trips under cumulative conditions where the current City of Manteca General Plan is built out. This scenario also incorporates roadway network (lanes, speed, capacity class) based on the current City of Manteca General Plan, the City of Manteca Public Facilities Implementation Plan (PFIP), and the San Joaquin Council of Government (SJCOG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Project List.

Cumulative Proposed General Plan (Alternative D) Buildout Scenario TFM. The City of Manteca is in the process of updating its General Plan, and the City has selected Alternative D to be the preferred General Plan alternative. The Proposed General Plan (Alternative D) Buildout Scenario TFM was used to estimate the Project's weekday daily home-based VMT per multi-family dwelling unit under cumulative Proposed General Plan (Alternative D) Buildout conditions.

This scenario of the TFM incorporates land use data (dwelling units and employment) and reflects the City's jobs-housing balance, II, IX, XI, and XX trips under cumulative conditions where the proposed City of Manteca General Plan (Alternative D) is built out. This scenario also incorporates roadway network (lanes, speed, capacity class) based on the Proposed General Plan (Alternative D), the City of Manteca PFIP, and the SJCOG RTP/SCS Project List.

Project VMT Analysis

The proposed Project would result in a significant transportation impact if it would generate VMT that exceeds 85 percent of the established baseline, or 66.8 VMT per multi-family dwelling unit.

Table Trans-10 presents the established baseline city-wide VMT and the Project generated VMT under baseline and cumulative conditions. VMT generated by the Project is compared to the baseline city-wide average VMT per multi-family dwelling units.

TABLE TRANS-10: PROJECT VEHICLE MILES TRAVELED ANALYSIS – PROJECT-GENERATED VMT

SCENARIO	HOME-BASED VMT PER MULTI-FAMILY DWELLING UNIT	COMPARED TO BASELINE CITY-WIDE AVERAGE WITHOUT SOMA PROJECT
Baseline City-wide Average	78.6	-
SOMA Project – Existing Conditions	83.3	+6.0%
SOMA Project – Cumulative Current General Plan Buildout Scenario	57.1	-27.3%
SOMA Project - Cumulative Proposed General Plan (Alternative D) Buildout Scenario	62.7	-20.3 %

SOURCE: CITY OF MANTECA TRAVEL DEMAND MODEL - FEHR & PEERS, 2022.

As displayed, under Existing Conditions, the proposed Project would generate an estimated average of 83.3 VMT per multi-family dwelling unit (6.0% above the baseline city-wide average).

Under Cumulative Current General Plan Buildout conditions, the Project would generate an estimated average of 57.1 VMT per multi-family dwelling unit (27.3% below the baseline city-wide average). Under Cumulative Proposed General Plan (Alternative D) Buildout conditions, the Project would generate an estimated average of 62.7 VMT per multi-family dwelling unit (20.3% below the baseline City-wide average).

The TIA Guidelines states that, "due to the timing issues involved with development, it is foreseeable that under a project only scenario, a project may exceed threshold levels. As development occurs around the project, the project may assist the City in achieving cumulative VMT reduction goals. In these cases, the project is considered consistent with the City's VMT reduction goals."

Both the Current General Plan and Proposed General Plan (Alternative D) identify substantial increase in employment and commercial land uses, which would allow residents to travel shorter distances to access jobs and services. Conversely, the proposed multi-family residential project would complement the employment and commercial land uses by supplying workers and patrons to businesses. The improved jobs-housing balance under either cumulative scenario is consistent with the City's vision for future development.

Because the development would generate VMT per dwelling unit that is less than 85 percent of the established baseline city-wide average VMT under cumulative conditions, the impact would be **less-than-significant.**

Response c), d): Primary access to the Project site would be provided by the main driveway on E. Atherton Drive. As shown in Figure 3, left-in, right-in, and right-out movements are permitted at the main driveway, and left-out movements onto E. Atherton Drive is prohibited. A secondary exit-only driveway would be provided on S. Main Street.

Both project driveways were analyzed under the Existing Plus Project and the Cumulative Plus Project conditions and would operate acceptably as side-street stop controlled intersections, and project traffic would be able to enter and exit project driveways without excessive delay.

The number of inbound vehicles arriving on westbound E. Atherton Drive is approximately 1 vehicle in the AM peak hour and 6 vehicles in the PM peak hour. A maximum queue analysis was performed for the westbound left-turn movement at E. Atherton Drive/Project Driveway. Based on the inbound volume and the opposing volume on eastbound E. Atherton Drive, the maximum queue is estimated to be 1 vehicle. The recommended westbound left-turn pocket length is 50 feet plus taper.

It is important that the design of the site provide adequate throat depth for vehicular traffic. Without this, queueing may extend onto public streets, thereby adversely affecting traffic operations and creating potential safety hazards. The roundabout design feature at the main driveway on E. Atherton Drive would provide sufficient storage for both inbound and outbound vehicles. The vehicle gate should be designed with vehicle detection such that it remains continuously open if multiple vehicles are in queue to enter or exit the gate.

The City of Manteca ATP and PFIP identify the following planned improvements along the Project frontage:

- Class II bike lane on S. Main Street between E. Atherton Drive and Anton Raymus Parkway.
- Sidewalk on S. Main Street along project frontage.

The proposed site plan shows the sidewalk within the Project site terminates at the exit-only vehicle gate on S. Main Street (Figure 3).

To improve multi-modal access, Mitigation Measure TR-2 requires that a pedestrian gate be added near the exit-only vehicle gate on S. Main Street, and the internal sidewalk be extended to connect with the planned sidewalk along S. Main Street.

With consideration to multi-modal safety, the exit-only driveway on S. Main Street would be required to be designed to minimize impact to the bike lane. The design of the driveway would be reviewed and approved by the Director of Engineering. All intersections and street sections would be reviewed by the City of Manteca and designed to comply with typical City standards, to ensure that all Project access intersections, internal intersections, and internal roadways are designed to accommodate emergency vehicles. Implementation of the proposed Project would have a ***less than significant*** impact related to geometric design features and emergency access.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?		X		
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.		X		

Responses to Checklist Questions

Responses a), b): AB 52 Tribal Consultation is a requirement by which public agencies are required to consult with California Native American tribes that are traditionally and culturally affiliated with the geographic area of a proposed project that is subject to CEQA, if the tribes request formal notification and subsequently consultation.

In order to participate in AB 52 tribal consultation, a tribe must specifically request, in writing, to be notified by lead agencies through formal notification of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated. However, there are no tribes that have requested such formal notification of proposed projects in the City of Manteca. Therefore, according to AB 52, there is no requirement that a lead agency (i.e. City of Manteca) engage in AB 52 tribal consultation.

A record search was conducted through the Central California Information Center (CCaIC) in March 17, 2022 to identify previously recorded sites and previous cultural resources studies in and near the Project site. The record search indicates that the Project site does not contain any recorded prehistoric or historic archaeological resources or historic buildings. Although no TCRs have been documented in the Project site, the Project site is located in a region where significant cultural resources have been recorded and there remains a potential that undocumented archaeological resources that may meet the TCR definition could be unearthed or otherwise discovered during ground-disturbing and construction activities. Examples of significant archaeological discoveries that may meet the TCR definition would include villages and cemeteries. Due to the possible presence of undocumented TCRs within the Project site, construction-related impacts on tribal cultural resources would be potentially significant. With implementation of the mitigation measures (as provided under Section V. Cultural Resources), the proposed Project would have a ***less than significant*** impact related to tribal cultural resources.

Mitigation Measures

Implement Mitigation Measures CUL-1 through CUL-4.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Require or result in the relocation or construction of new or expanded water, wastewater or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?			X	
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

Responses to Checklist Questions

Responses a)-c):

Water

It is anticipated that water supply for the proposed Project would be local groundwater and treated surface water from SSJID's South County Water Supply Program (SCWSP). Water distribution will be by an underground distribution system to be installed as per the City of Manteca standards and specifications. The applicant for the proposed Project would provide their proportionate share of required funding to the City for the acquisition and delivery of treated potable water supplies to the proposed Project site through connection fees.

The City's General Plan designates the Project site as CMU, which allows for the uses proposed for the proposed Project. Therefore, the City's 2023 General Plan anticipated the proposed Project and the City's UWMP assumed that the site would be developed with CMU uses. There are no changes to the land use assumptions in the City's General Plan Update, and UWMP Update. The following analysis reflects the City's most current water demand and supply projections based on the General Plan Update.

A comparison of the City's projected water supplies and demands is shown in Table UTIL-1 for Normal, Single Dry, and Multiple Dry Years. Demand within the City's service area is not expected to exceed the City's supplies in any Normal year between 2020 and 2040. No demand reductions are assumed during dry years. With this assumption, the City's water demands are not expected to exceed water supplies in Single Dry Years or Multiple Dry Years.

TABLE UTIL-1: SUMMARY OF WATER DEMAND VERSUS SUPPLY DURING HYDROLOGIC NORMAL, SINGLE DRY, AND MULTIPLE DRY YEARS

HYDROLOGIC CONDITION		SUPPLY AND DEMAND COMPARISON, AFY			
		2025	2030	2035	2040
NORMAL YEAR					
Available Potable and Raw Water Supply(a)		23,260	25,247	27,569	37,284
Total Water Demand(b)		18,480	21,012	23,891	27,164
Potential Surplus (Deficit)		4,780	4,235	3,678	10,120
Supply Shortfall, Percent of Demand		-	-	-	-
SINGLE DRY YEAR					
Available Potable and Raw Water Supply(a)		23,260	25,247	27,569	37,284
Total Water Demand(b)		18,480	21,012	23,891	27,164
Potential Surplus (Deficit)		4,780	4,235	3,678	10,120
Supply Shortfall, Percent of Demand		-	-	-	-
MULTIPLE DRY YEAR					
Multiple Dry Year 1	Available Potable and Raw Water Supply(a)	23,260	25,247	27,569	37,284
	Total Water Demand(b)	18,480	21,012	23,891	27,164
	Potential Surplus (Deficit)	4,780	4,235	3,678	10,120
	Supply Shortfall, Percent of Demand	-	-	-	-
Multiple Dry Year 2	Available Potable and Raw Water Supply(a)	23,260	25,247	27,569	37,284
	Total Water Demand(b)	18,480	21,012	23,891	27,164
	Potential Surplus (Deficit)	4,780	4,235	3,678	10,120
	Supply Shortfall, Percent of Demand	-	-	-	-
Multiple Dry Year 3	Available Potable and Raw Water Supply(a)	21,409	24,313	27,552	33,376
	Total Water Demand(b)	18,480	21,012	23,891	27,164
	Potential Surplus (Deficit)	2,929	3,301	3,661	6,212
	Supply Shortfall, Percent of Demand	-	-	-	-
Multiple Dry Year 4	Available Potable and Raw Water Supply(a)	21,409	24,313	27,552	33,376
	Total Water Demand(b)	18,480	21,012	23,891	27,164
	Potential Surplus (Deficit)	2,929	3,301	3,661	6,212
	Supply Shortfall, Percent of Demand	-	-	-	-
Multiple Dry Year 5	Available Potable and Raw Water Supply(a)	23,260	25,247	27,569	37,284
	Total Water Demand(b)	18,480	21,012	23,891	27,164
	Potential Surplus (Deficit)	4,780	4,235	3,678	10,120
	Supply Shortfall, Percent of Demand	-	-	-	-

(A) SURFACE WATER SUPPLY FROM TABLE 6-2 PLUS ASSUMED GROUNDWATER SUPPLY FROM TABLE 6-3.

(B) EQUALS THE CITY'S TOTAL PROJECTED POTABLE AND RAW WATER DEMAND (FROM TABLE 5-1 AND TABLE 5-4).

The analysis included in the City's UWMP assumed that the Project site would be developed with CMU uses. The unit water use factor for multi-family residential is 5,200 gallons per day per acre (gpd/ac), which equates to 53,664 gallons per day for the proposed Project. The proposed Project is well below the total allowed units (250 units allowed) and would result in less water consumption compared to the maximum development allowed for the Project site. The proposed Project would not increase demand beyond the levels assumed for the Project site in the City's UWMP.

The technical analyses shows that the total projected water supplies determined to be available for the proposed Project during Normal, Single Dry, and Multiple Dry years during a 20-year projection would meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, if conservation measures are implemented. The proposed Project would not result in insufficient water supplies available to serve the Project from existing entitlements and resources. Therefore, the proposed Project would result in a ***less than significant*** impact to water supplies.

Wastewater

The City of Manteca owns and operates a wastewater collection, treatment, and disposal system, and provides sanitary sewerage service to the City of Manteca and a portion of the City of Lathrop. On February 18, 2021, the RWQCB adopted Waste Discharge Requirements Order No. R5-2021-0003 NPDES NO. CA0081558, prescribing waste discharge requirements for the City of Manteca WQCF and allowing expansion of the plant up to 17.5 mgd.

The Manteca WQCF is an activated sludge plant with denitrification. The WQCF consists of an influent pump station, aerated grit tanks, primary sedimentation basins, fine-bubble activated sludge aeration basins, secondary clarifiers, secondary effluent equalization pond, tertiary filters, UV disinfection and effluent pumping station. Secondary effluent is land applied during the spring and summer. Tertiary filtered and UV disinfected water is discharged to the San Joaquin River during the winter.

The 2006 Wastewater Master Plan Update projected a capacity requirement of 27 mgd ADWF at buildout for the WQCF at buildout. Expansion of the WQCF to buildout would occur in multiple phases, which would increase the ADWF capacity to 17.5 mgd, then to 27 mgd. The Wastewater Master Plan projected a potential reclaimed water use of 3.28 mgd. The 2005 UWMP projected a reclaimed water usage of 2 mgd by 2030. The 2015 UWMP echoes this projected reclaimed water usage. All of these flows may be adjusted based on historical reductions in water usage as part of a new Wastewater Master Plan which will finish in 2023.

According to the City's 2012 Wastewater Collection System Master Plan Update, CMU uses are estimated to generated 2,473 gallons per acre per day. The Project site includes 10.32 acres of CMU, which would generate approximately 25,521 gallons per day (gpd) of wastewater. The proposed Project would increase the amount of wastewater requiring treatment. The wastewater would be treated at the WQCF. Occupancy of the proposed Project would be prohibited without sewer allocation.

The City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the WQCF (such as a planned expansion to a total capacity of 27 mgd) with a subsequent allocation of capacity to the proposed Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments.

As noted above, the City's 2023 General Plan designates the Project site as CMU, which allows for residential densities of up to 25 dwelling units per acre. Therefore, the City's 2023 General Plan anticipated up to 250 units and an associated population of 778 persons within the Project site.

Because the Project applicant would pay City Public Facilities Implementation Plan (PFIP) fees to develop the Project site (paid at the issuance of a building permit for development), and adequate long-term wastewater treatment capacity is available to serve full build-out of the proposed Project, a ***less than significant*** impact would occur related to requiring or resulting in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Storm Drainage
The Project would provide on-site storm drain infrastructure to adequately convey and treat storm water runoff associated with site development. A storm water treatment basin would be provided along the Project site's southern boundary, adjacent to the "Pet Area" in Figure 3. On-site storm water infrastructure would convey runoff into the storm water treatment basin and ultimately connect via an existing stub to the City's existing storm drain basin located directly east of the Project site. The City's existing storm drain basin has been determined to have adequate capacity to serve the proposed Project runoff. The potential environmental effects associated with construction and operation of the Project, including proposed storm drain improvements to serve the development, are analyzed within this Initial Study and impacts have been determined to be less than significant with compliance with regulatory requirements and implementation of mitigation measures. Thus, the proposed Project would not require or result in relocation or construction of stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects and impacts associated with storm drain facilities would be ***less than significant***.

Responses d), e): The City of Manteca Solid Waste Division (SWD) provides solid waste hauling service for the City of Manteca and would serve the proposed Project. Solid waste from Manteca is primarily landfilled at the Forward Sanitary Landfill, located northeast of Manteca. Other landfills used include Foothill Sanitary and North County.

The multi-family residential uses of the proposed Project are estimated to generate roughly 10 pounds per day per household. It is estimated that the proposed 210 multi-family residential units would generate 2,100 pounds per day (0.953 tons per day) of solid waste.

Forward Sanitary Landfill has a remaining capacity of 23,700,000 cubic yards, and has a current maximum permitted throughput of 8,668 tons per day. This landfill originally had a cease operation date in the year 2020. A 17.3-acre expansion was approved in January of 2020 inside the landfill's existing boundaries along Austin Road east of Stockton Metropolitan Airport. The lifespan of the landfill will extend from 2030 to 2036 and an additional 8.2 million cubic yards of waste will be processed on two sites, an 8.7-acre parcel in the northeast corner and an 8.6-acre parcel on the south end of the property. The City will need to secure a new location or expand existing facilities when the Forward Landfill is ultimately closed. There are several options that the City will have to consider for solid waste disposal at that time which is estimated to be 2036, including the construction of new facilities or expansion of existing facilities.

At the closure of the Forward Landfill, the City can potentially utilize the Foothill Landfill and the North County Landfill as locations for solid waste disposal. The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day and the North County Landfill is 825 tons per day. The remaining capacity of these landfills include 125 million cubic yards of solid waste at the Foothill Landfill, with an estimated cease operation date of 2054, and 35.4 million cubic yards of solid waste at the North County Landfill, which has an estimated cease operation date of 2035. The addition of solid waste associated with the proposed Project to the Foothill Landfill and North County Landfill would not exceed the combined landfills' remaining capacity of 160.4 cubic yards.

The addition of solid waste associated with the proposed Project, approximately 0.953 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity. The City will need to secure a new location of disposal of all solid waste generated in the City when the Forward landfill is ultimately closed. There are several options that the City will have to consider for solid waste disposal at that time.

Development of the site for multi-family residential uses was assumed in the City's General Plan EIR. The proposed Project would not interfere with regulations related to solid waste (i.e. the State-mandated waste target of not less than 75 percent of solid waste generated be source reduced, recycled, or composted), or generate waste in excess of the capacity of local infrastructure. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

XX. WILDFIRE

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

Existing Setting

There are no State Responsibility Areas (SRAs) within the vicinity of the Manteca Planning Area. The City of Manteca is not categorized as a "Very High" Fire Hazard Severity Zone (FHSZ) by CalFire. No cities or communities within San Joaquin County are categorized as a "Very High" FHSZ by CalFire. Although this CEQA topic only applies to areas within an SRA or Very High FHSZ, out of an abundance of caution, these checklist questions are analyzed below.

Responses to Checklist Questions

Response a): The Project site will connect to an existing network of City streets. The Project's interior circulation system would be required to comply with all City standards, including providing for emergency access. The proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts from project implementation would be considered ***less than significant*** relative to this topic.

Response b): The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. The County has areas with an abundance of flashy fuels (i.e. grassland) in the foothill areas of the eastern and western portion of the County. The Project site is located in an area that is predominately agricultural and urban, which is not considered at a significant risk of wildfire. Therefore, impacts from project implementation would be considered ***less than significant*** relative to this topic.

Response c): The proposed Project includes development of on-site infrastructure (water, sewer, and storm drainage) to serve the proposed multi-family residential uses. Existing roadways and infrastructure occur adjacent to the Project site. The Project would not introduce or install infrastructure that would exacerbate fire risk or result in temporary or ongoing impacts to the environment. Therefore, impacts from project implementation would be considered ***less than significant*** relative to this topic.

Response d): The Project site is not located within an area identified as being at risk of landslides or flooding. The Project site and surrounding area are relatively flat. Thus, the proposed Project would not expose people or structures to significant risks as a result of runoff, post-fire slope instability or drainage changes. Impacts from proposed Project implementation would be considered ***less than significant*** relative to this topic.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	X			
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

Responses to Checklist Questions

Response a): This Initial Study includes an analysis of the impacts associated with aesthetics, agricultural and forest resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, tribal cultural resources, utilities and service systems, and wildfires. The analysis covers a broad spectrum of topics relative to the potential for the proposed Project to have environmental impacts. This includes the potential for the proposed Project to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. It was found that the proposed Project would have either no impact, a less than significant impact, or a less than significant impact with the implementation of mitigation measures. For the reasons presented throughout this Initial Study, the proposed Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. With the implementation of mitigation measures presented in this Initial Study, the proposed Project would have a ***less than significant*** impact relative to this topic.

Response b): This Initial Study includes an analysis of the impacts associated with aesthetics, agricultural and forest resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality,

land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, tribal cultural resources, utilities and service systems, and wildfires. The analysis covers a broad spectrum of topics relative to the potential for the proposed Project to have environmental impacts. It was found that the proposed Project would have either no impact, a less than significant impact, or a less than significant impact with the implementation of mitigation measures. These mitigation measures would also function to reduce the proposed Project's contribution to cumulative impacts.

The proposed Project would increase the population and use of public services and systems; however, it was found that there is adequate capacity to accommodate the proposed Project.

There are no significant cumulative or cumulatively considerable effects that are identified associated with the proposed Project after the implementation of all mitigation measures presented in this Initial Study. With the implementation of all mitigation measures presented in this Initial Study, the proposed Project would have a ***less than significant*** impact relative to this topic.

Responses c): The construction phase could affect surrounding neighbors through increased air emissions, noise, and traffic; however, the construction effects are temporary and are not substantial. The operational phase could also affect surrounding neighbors through increased air emissions, noise, and traffic; however, mitigation measures have been incorporated into the proposed Project that would reduce the impacts to a less than significant level. The proposed Project would not cause substantial adverse effects on human beings. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

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APPENDIX A: AIR QUALITY/GREENHOUSE GAS/ENERGY MODELING OUTPUTS

Soma Apartments Project - San Joaquin County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Soma Apartments Project

San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	210.00	Dwelling Unit	10.32	210,000.00	654

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	51
Climate Zone	2			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual acreage; Population adjusted according to the 2020 U.S. Census.

Construction Phase - 200 sf storage shed to be demolished (northwest corner of the Project site). Site is flat.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Grading - Actual acreage, site will not require import/export, balanced on site.

Architectural Coating - Per rule 4601.

Vehicle Trips - Trip rates as provided by the Fehr & Peers Traffic Study. 1,416 daily trips/210 units = 6.742857 trips/dwelling unit/day

Area Coating - 100 b/L for interior coating limitations provided per rule 4601.

Land Use Change - Assumes site is 25% existing cropland and 75% existing grassland.

Sequestration -

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Off-road Equipment Mitigation - Construction mitigation per SJVACPD requirements/rules for dust prohibition.

Mobile Land Use Mitigation - Increase density to 20.34 dwelling units/acre; Improve pedestrian network within project site and connecting of-site.

Area Mitigation - Architectural Coatings per SJVAPCD rules.

Water Mitigation - Indoor water use and water-efficient irrigation systems modeled consistent with existing Title 24 requirements.

Operational Off-Road Equipment -

Stationary Sources - Emergency Generators and Fire Pumps -

Demolition - The approximately 200 square foot storage shed located near the northwest corner of the Project site is anticipated to be demolished.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	150	50
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	5
tblConstructionPhase	NumDays	20.00	2.00
tblLandUse	LotAcreage	13.13	10.32
tblLandUse	Population	666.00	654.00
tblVehicleTrips	ST_TR	8.14	6.74
tblVehicleTrips	SU_TR	6.28	6.74
tblVehicleTrips	WD_TR	7.32	6.74
tblWoodstoves	NumberCatalytic	10.32	0.00
tblWoodstoves	NumberNoncatalytic	10.32	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2022	0.1266	1.1781	1.0456	2.1800e-003	0.2714	0.0533	0.3247	0.1147	0.0495	0.1642	0.0000	192.4913	192.4913	0.0468	2.3500e-003	194.3603
2023	0.2612	2.0153	2.5790	5.3500e-003	0.1710	0.0918	0.2628	0.0459	0.0864	0.1323	0.0000	475.2522	475.2522	0.0759	0.0116	480.5919
2024	0.6663	0.0748	0.1216	2.0000e-004	3.1700e-003	3.6700e-003	6.8400e-003	8.4000e-004	3.4200e-003	4.2700e-003	0.0000	18.0217	18.0217	4.4200e-003	7.0000e-005	18.1519
Maximum	**0.6663**	**2.0153**	**2.5790**	**5.3500e-003**	**0.2714**	**0.0918**	**0.3247**	**0.1147**	**0.0864**	**0.1642**	**0.0000**	**475.2522**	**475.2522**	**0.0759**	**0.0116**	**480.5919**

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					
2022	0.1266	1.1781	1.0456	2.1800e-003	0.1386	0.0533	0.1920	0.0561	0.0495	0.1056	0.0000	192.4911	192.4911	0.0468	2.3500e-003	194.3601
2023	0.2612	2.0153	2.5790	5.3500e-003	0.1579	0.0918	0.2498	0.0427	0.0864	0.1291	0.0000	475.2518	475.2518	0.0759	0.0116	480.5915
2024	0.6663	0.0748	0.1216	2.0000e-004	2.9200e-003	3.6700e-003	6.5900e-003	7.8000e-004	3.4200e-003	4.2100e-003	0.0000	18.0217	18.0217	4.4200e-003	7.0000e-005	18.1519
Maximum	**0.6663**	**2.0153**	**2.5790**	**5.3500e-003**	**0.1579**	**0.0918**	**0.2498**	**0.0561**	**0.0864**	**0.1291**	**0.0000**	**475.2518**	**475.2518**	**0.0759**	**0.0116**	**480.5915**

Soma Apartments Project - San Joaquin County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**32.77**	**0.00**	**24.57**	**38.32**	**0.00**	**20.57**	**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	**9-1-2022**	**11-30-2022**	1.0843	1.0843
2	**12-1-2022**	**2-28-2023**	0.5898	0.5898
3	**3-1-2023**	**5-31-2023**	0.5815	0.5815
4	**6-1-2023**	**8-31-2023**	0.5806	0.5806
5	**9-1-2023**	**11-30-2023**	0.5762	0.5762
6	**12-1-2023**	**2-29-2024**	0.9079	0.9079
		Highest	1.0843	1.0843

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.0733	0.0965	1.5921	5.8000e-004		0.0150	0.0150		0.0150	0.0150	0.0000	93.5206	93.5206	4.1900e-003	1.6700e-003	94.1223
Energy	0.0132	0.1128	0.0480	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	210.1333	210.1333	0.0154	3.9500e-003	211.6957
Mobile	0.6674	1.0675	6.4155	0.0151	1.5298	0.0124	1.5421	0.4090	0.0116	0.4206	0.0000	1,418.3932	1,418.3932	0.0756	0.0731	1,442.0651
Waste						0.0000	0.0000		0.0000	0.0000	19.6089	0.0000	19.6089	1.1589	0.0000	48.5803
Water						0.0000	0.0000		0.0000	0.0000	4.3408	9.6433	13.9841	0.4474	0.0107	28.3626
Total	**1.7539**	**1.2768**	**8.0555**	**0.0164**	**1.5298**	**0.0365**	**1.5662**	**0.4090**	**0.0357**	**0.4447**	**23.9497**	**1,731.6904**	**1,755.6401**	**1.7014**	**0.0894**	**1,824.8260**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

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	0.9419	0.0965	1.5921	5.8000e-004		0.0150	0.0150		0.0150	0.0150	0.0000	93.5206	93.5206	4.1900e-003	1.6700e-003	94.1223
Energy	0.0132	0.1128	0.0480	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	210.1333	210.1333	0.0154	3.9500e-003	211.6957
Mobile	0.6472	1.0095	6.0744	0.0141	1.4242	0.0116	1.4358	0.3808	0.0109	0.3917	0.0000	1,323.3418	1,323.3418	0.0725	0.0691	1,345.7454
Waste						0.0000	0.0000		0.0000	0.0000	19.6089	0.0000	19.6089	1.1589	0.0000	48.5803
Water						0.0000	0.0000		0.0000	0.0000	3.4726	8.1030	11.5756	0.3580	8.5800e-003	23.0822
Total	**1.6023**	**1.2188**	**7.7144**	**0.0154**	**1.4242**	**0.0357**	**1.4599**	**0.3808**	**0.0350**	**0.4158**	**23.0816**	**1,635.0986**	**1,658.1801**	**1.6089**	**0.0833**	**1,723.2259**

	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	N20	CO2e
Percent Reduction	**8.65**	**4.55**	**4.23**	**6.22**	**6.90**	**2.14**	**6.79**	**6.90**	**2.04**	**6.51**	**3.62**	**5.58**	**5.55**	**5.44**	**6.86**	**5.57**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-49.3554
Total	**-49.3554**

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	9/1/2022	9/14/2022	5	10	
2	Grading	Grading	9/15/2022	10/26/2022	5	30	
3	Building Construction	Building Construction	10/27/2022	12/20/2023	5	300	
4	Paving	Paving	12/21/2023	1/17/2024	5	20	
5	Architectural Coating	Architectural Coating	1/18/2024	2/14/2024	5	20	
6	Demolition	Demolition	9/7/2022	9/8/2022	5	2	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 0

Residential Indoor: 425,250; Residential Outdoor: 141,750; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40

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	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	9	151.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	1.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2022

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					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0983**	**8.0600e-003**	**0.1064**	**0.0505**	**7.4200e-003**	**0.0579**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

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	2.8000e-004	2.0000e-004	2.2400e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5859	0.5859	2.0000e-005	2.0000e-005	0.5916
Total	**2.8000e-004**	**2.0000e-004**	**2.2400e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5859**	**0.5859**	**2.0000e-005**	**2.0000e-005**	**0.5916**

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					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0442**	**8.0600e-003**	**0.0523**	**0.0227**	**7.4200e-003**	**0.0302**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

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	2.8000e-004	2.0000e-004	2.2400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5859	0.5859	2.0000e-005	2.0000e-005	0.5916
Total	**2.8000e-004**	**2.0000e-004**	**2.2400e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5859**	**0.5859**	**2.0000e-005**	**2.0000e-005**	**0.5916**

3.3 Grading - 2022

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					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8019	81.8019	0.0265	0.0000	82.4633
Total	**0.0544**	**0.5827**	**0.4356**	**9.3000e-004**	**0.1381**	**0.0245**	**0.1626**	**0.0548**	**0.0226**	**0.0774**	**0.0000**	**81.8019**	**81.8019**	**0.0265**	**0.0000**	**82.4633**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

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	9.5000e-004	6.6000e-004	7.4700e-003	2.0000e-005	2.3900e-003	1.0000e-005	2.4000e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9529	1.9529	6.0000e-005	6.0000e-005	1.9720
Total	**9.5000e-004**	**6.6000e-004**	**7.4700e-003**	**2.0000e-005**	**2.3900e-003**	**1.0000e-005**	**2.4000e-003**	**6.4000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.9529**	**1.9529**	**6.0000e-005**	**6.0000e-005**	**1.9720**

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					0.0621	0.0000	0.0621	0.0247	0.0000	0.0247	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8018	81.8018	0.0265	0.0000	82.4632
Total	**0.0544**	**0.5827**	**0.4356**	**9.3000e-004**	**0.0621**	**0.0245**	**0.0866**	**0.0247**	**0.0226**	**0.0472**	**0.0000**	**81.8018**	**81.8018**	**0.0265**	**0.0000**	**82.4632**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

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	9.5000e-004	6.6000e-004	7.4700e-003	2.0000e-005	2.2000e-003	1.0000e-005	2.2200e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.9529	1.9529	6.0000e-005	6.0000e-005	1.9720
Total	**9.5000e-004**	**6.6000e-004**	**7.4700e-003**	**2.0000e-005**	**2.2000e-003**	**1.0000e-005**	**2.2200e-003**	**5.9000e-004**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**1.9529**	**1.9529**	**6.0000e-005**	**6.0000e-005**	**1.9720**

3.4 Building Construction - 2022

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	0.0401	0.3670	0.3845	6.3000e-004		0.0190	0.0190		0.0179	0.0179	0.0000	54.4554	54.4554	0.0131	0.0000	54.7816
Total	**0.0401**	**0.3670**	**0.3845**	**6.3000e-004**		**0.0190**	**0.0190**		**0.0179**	**0.0179**	**0.0000**	**54.4554**	**54.4554**	**0.0131**	**0.0000**	**54.7816**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

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	1.0900e-003	0.0285	7.8600e-003	1.1000e-004	3.4200e-003	3.1000e-004	3.7300e-003	9.9000e-004	3.0000e-004	1.2900e-003	0.0000	10.3500	10.3500	7.0000e-005	1.5700e-003	10.8193
Worker	0.0112	7.8200e-003	0.0884	2.5000e-004	0.0283	1.5000e-004	0.0284	7.5100e-003	1.4000e-004	7.6500e-003	0.0000	23.0993	23.0993	7.6000e-004	6.9000e-004	23.3252
Total	**0.0123**	**0.0363**	**0.0963**	**3.6000e-004**	**0.0317**	**4.6000e-004**	**0.0321**	**8.5000e-003**	**4.4000e-004**	**8.9400e-003**	**0.0000**	**33.4493**	**33.4493**	**8.3000e-004**	**2.2600e-003**	**34.1445**

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	0.0401	0.3670	0.3845	6.3000e-004		0.0190	0.0190		0.0179	0.0179	0.0000	54.4554	54.4554	0.0131	0.0000	54.7815
Total	**0.0401**	**0.3670**	**0.3845**	**6.3000e-004**		**0.0190**	**0.0190**		**0.0179**	**0.0179**	**0.0000**	**54.4554**	**54.4554**	**0.0131**	**0.0000**	**54.7815**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2022

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	1.0900e-003	0.0285	7.8600e-003	1.1000e-004	3.2000e-003	3.1000e-004	3.5100e-003	9.3000e-004	3.0000e-004	1.2300e-003	0.0000	10.3500	10.3500	7.0000e-005	1.5700e-003	10.8193
Worker	0.0112	7.8200e-003	0.0884	2.5000e-004	0.0261	1.5000e-004	0.0262	6.9700e-003	1.4000e-004	7.1100e-003	0.0000	23.0993	23.0993	7.6000e-004	6.9000e-004	23.3252
Total	**0.0123**	**0.0363**	**0.0963**	**3.6000e-004**	**0.0293**	**4.6000e-004**	**0.0297**	**7.9000e-003**	**4.4000e-004**	**8.3400e-003**	**0.0000**	**33.4493**	**33.4493**	**8.3000e-004**	**2.2600e-003**	**34.1445**

3.4 Building Construction - 2023

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	0.1990	1.8197	2.0549	3.4100e-003		0.0885	0.0885		0.0833	0.0833	0.0000	293.2330	293.2330	0.0698	0.0000	294.9769
Total	**0.1990**	**1.8197**	**2.0549**	**3.4100e-003**		**0.0885**	**0.0885**		**0.0833**	**0.0833**	**0.0000**	**293.2330**	**293.2330**	**0.0698**	**0.0000**	**294.9769**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

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	2.9400e-003	0.1231	0.0362	5.6000e-004	0.0184	7.9000e-004	0.0192	5.3200e-003	7.5000e-004	6.0700e-003	0.0000	53.6199	53.6199	2.6000e-004	8.1100e-003	56.0422
Worker	0.0555	0.0367	0.4357	1.3000e-003	0.1522	7.5000e-004	0.1529	0.0405	6.9000e-004	0.0411	0.0000	121.0571	121.0571	3.6400e-003	3.4300e-003	122.1709
Total	**0.0585**	**0.1599**	**0.4719**	**1.8600e-003**	**0.1705**	**1.5400e-003**	**0.1721**	**0.0458**	**1.4400e-003**	**0.0472**	**0.0000**	**174.6771**	**174.6771**	**3.9000e-003**	**0.0115**	**178.2132**

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	0.1990	1.8197	2.0549	3.4100e-003		0.0885	0.0885		0.0833	0.0833	0.0000	293.2327	293.2327	0.0698	0.0000	294.9765
Total	**0.1990**	**1.8197**	**2.0549**	**3.4100e-003**		**0.0885**	**0.0885**		**0.0833**	**0.0833**	**0.0000**	**293.2327**	**293.2327**	**0.0698**	**0.0000**	**294.9765**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

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	2.9400e-003	0.1231	0.0362	5.6000e-004	0.0172	7.9000e-004	0.0180	5.0300e-003	7.5000e-004	5.7800e-003	0.0000	53.6199	53.6199	2.6000e-004	8.1100e-003	56.0422
Worker	0.0555	0.0367	0.4357	1.3000e-003	0.1403	7.5000e-004	0.1411	0.0375	6.9000e-004	0.0382	0.0000	121.0571	121.0571	3.6400e-003	3.4300e-003	122.1709
Total	**0.0585**	**0.1599**	**0.4719**	**1.8600e-003**	**0.1575**	**1.5400e-003**	**0.1591**	**0.0426**	**1.4400e-003**	**0.0440**	**0.0000**	**174.6771**	**174.6771**	**3.9000e-003**	**0.0115**	**178.2132**

3.5 Paving - 2023

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	3.6100e-003	0.0357	0.0510	8.0000e-005		1.7900e-003	1.7900e-003		1.6400e-003	1.6400e-003	0.0000	7.0094	7.0094	2.2700e-003	0.0000	7.0661
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6100e-003**	**0.0357**	**0.0510**	**8.0000e-005**		**1.7900e-003**	**1.7900e-003**		**1.6400e-003**	**1.6400e-003**	**0.0000**	**7.0094**	**7.0094**	**2.2700e-003**	**0.0000**	**7.0661**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

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	1.5000e-004	1.0000e-004	1.2000e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3327	0.3327	1.0000e-005	1.0000e-005	0.3358
Total	**1.5000e-004**	**1.0000e-004**	**1.2000e-003**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3327**	**0.3327**	**1.0000e-005**	**1.0000e-005**	**0.3358**

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	3.6100e-003	0.0357	0.0510	8.0000e-005		1.7900e-003	1.7900e-003		1.6400e-003	1.6400e-003	0.0000	7.0094	7.0094	2.2700e-003	0.0000	7.0661
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6100e-003**	**0.0357**	**0.0510**	**8.0000e-005**		**1.7900e-003**	**1.7900e-003**		**1.6400e-003**	**1.6400e-003**	**0.0000**	**7.0094**	**7.0094**	**2.2700e-003**	**0.0000**	**7.0661**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2023

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	1.5000e-004	1.0000e-004	1.2000e-003	0.0000	3.9000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3327	0.3327	1.0000e-005	1.0000e-005	0.3358
Total	**1.5000e-004**	**1.0000e-004**	**1.2000e-003**	**0.0000**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**1.0000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3327**	**0.3327**	**1.0000e-005**	**1.0000e-005**	**0.3358**

3.5 Paving - 2024

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	6.4200e-003	0.0619	0.0951	1.5000e-004		3.0500e-003	3.0500e-003		2.8000e-003	2.8000e-003	0.0000	13.0173	13.0173	4.2100e-003	0.0000	13.1225
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.4200e-003**	**0.0619**	**0.0951**	**1.5000e-004**		**3.0500e-003**	**3.0500e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**13.0173**	**13.0173**	**4.2100e-003**	**0.0000**	**13.1225**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

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	2.6000e-004	1.6000e-004	2.0600e-003	1.0000e-005	7.8000e-004	0.0000	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6012	0.6012	2.0000e-005	2.0000e-005	0.6065
Total	**2.6000e-004**	**1.6000e-004**	**2.0600e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.8000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6012**	**0.6012**	**2.0000e-005**	**2.0000e-005**	**0.6065**

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	6.4200e-003	0.0619	0.0951	1.5000e-004		3.0500e-003	3.0500e-003		2.8000e-003	2.8000e-003	0.0000	13.0172	13.0172	4.2100e-003	0.0000	13.1225
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.4200e-003**	**0.0619**	**0.0951**	**1.5000e-004**		**3.0500e-003**	**3.0500e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**13.0172**	**13.0172**	**4.2100e-003**	**0.0000**	**13.1225**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

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	2.6000e-004	1.6000e-004	2.0600e-003	1.0000e-005	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	2.0000e-005	2.0000e-005	0.6065
Total	**2.6000e-004**	**1.6000e-004**	**2.0600e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**2.0000e-005**	**2.0000e-005**	**0.6065**

3.6 Architectural Coating - 2024

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	0.6570					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.6588**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

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	8.0000e-004	5.1000e-004	6.3400e-003	2.0000e-005	2.3900e-003	1.0000e-005	2.4000e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.8500	1.8500	5.0000e-005	5.0000e-005	1.8661
Total	**8.0000e-004**	**5.1000e-004**	**6.3400e-003**	**2.0000e-005**	**2.3900e-003**	**1.0000e-005**	**2.4000e-003**	**6.4000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.8500**	**1.8500**	**5.0000e-005**	**5.0000e-005**	**1.8661**

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	0.6570					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.6588**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

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	8.0000e-004	5.1000e-004	6.3400e-003	2.0000e-005	2.2000e-003	1.0000e-005	2.2100e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.8500	1.8500	5.0000e-005	5.0000e-005	1.8661
Total	**8.0000e-004**	**5.1000e-004**	**6.3400e-003**	**2.0000e-005**	**2.2000e-003**	**1.0000e-005**	**2.2100e-003**	**5.9000e-004**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**1.8500**	**1.8500**	**5.0000e-005**	**5.0000e-005**	**1.8661**

3.7 Demolition - 2022

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					1.0000e-004	0.0000	1.0000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6400e-003	0.0257	0.0206	4.0000e-005		1.2400e-003	1.2400e-003		1.1600e-003	1.1600e-003	0.0000	3.3990	3.3990	9.5000e-004	0.0000	3.4229
Total	**2.6400e-003**	**0.0257**	**0.0206**	**4.0000e-005**	**1.0000e-004**	**1.2400e-003**	**1.3400e-003**	**2.0000e-005**	**1.1600e-003**	**1.1800e-003**	**0.0000**	**3.3990**	**3.3990**	**9.5000e-004**	**0.0000**	**3.4229**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Demolition - 2022

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	8.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0296	0.0296	0.0000	0.0000	0.0310
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	5.0000e-005	3.0000e-005	3.7000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0976	0.0976	0.0000	0.0000	0.0986
Total	**5.0000e-005**	**1.1000e-004**	**3.8000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1272**	**0.1272**	**0.0000**	**0.0000**	**0.1296**

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					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6400e-003	0.0257	0.0206	4.0000e-005		1.2400e-003	1.2400e-003		1.1600e-003	1.1600e-003	0.0000	3.3990	3.3990	9.5000e-004	0.0000	3.4229
Total	**2.6400e-003**	**0.0257**	**0.0206**	**4.0000e-005**	**4.0000e-005**	**1.2400e-003**	**1.2800e-003**	**1.0000e-005**	**1.1600e-003**	**1.1700e-003**	**0.0000**	**3.3990**	**3.3990**	**9.5000e-004**	**0.0000**	**3.4229**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Demolition - 2022

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	8.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0296	0.0296	0.0000	0.0000	0.0310
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	5.0000e-005	3.0000e-005	3.7000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0976	0.0976	0.0000	0.0000	0.0986
Total	**5.0000e-005**	**1.1000e-004**	**3.8000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1272**	**0.1272**	**0.0000**	**0.0000**	**0.1296**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Improve Pedestrian Network

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	0.6472	1.0095	6.0744	0.0141	1.4242	0.0116	1.4358	0.3808	0.0109	0.3917	0.0000	1,323.3418	1,323.3418	0.0725	0.0691	1,345.7454
Unmitigated	0.6674	1.0675	6.4155	0.0151	1.5298	0.0124	1.5421	0.4090	0.0116	0.4206	0.0000	1,418.3932	1,418.3932	0.0756	0.0731	1,442.0651

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,416.00	1,416.00	1416.00	4,103,309	3,820,180
Total	1,416.00	1,416.00	1,416.00	4,103,309	3,820,180

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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 Low Rise	10.80	7.30	7.50	45.60	19.00	35.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.536987	0.052416	0.169237	0.150872	0.026159	0.006241	0.012518	0.016886	0.000471	0.000325	0.023246	0.001119	0.003522

5.0 Energy Detail

Historical Energy Use: N

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	79.5073	79.5073	0.0129	1.5600e-003	80.2935
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	79.5073	79.5073	0.0129	1.5600e-003	80.2935
NaturalGas Mitigated	0.0132	0.1128	0.0480	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	130.6259	130.6259	2.5000e-003	2.3900e-003	131.4022
NaturalGas Unmitigated	0.0132	0.1128	0.0480	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	130.6259	130.6259	2.5000e-003	2.3900e-003	131.4022

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas 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 Low Rise	2.44784e+006	0.0132	0.1128	0.0480	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	130.6259	130.6259	2.5000e-003	2.3900e-003	131.4022
Total		**0.0132**	**0.1128**	**0.0480**	**7.2000e-004**		**9.1200e-003**	**9.1200e-003**		**9.1200e-003**	**9.1200e-003**	**0.0000**	**130.6259**	**130.6259**	**2.5000e-003**	**2.3900e-003**	**131.4022**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas 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 Low Rise	2.44784e+006	0.0132	0.1128	0.0480	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	130.6259	130.6259	2.5000e-003	2.3900e-003	131.4022
Total		**0.0132**	**0.1128**	**0.0480**	**7.2000e-004**		**9.1200e-003**	**9.1200e-003**		**9.1200e-003**	**9.1200e-003**	**0.0000**	**130.6259**	**130.6259**	**2.5000e-003**	**2.3900e-003**	**131.4022**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	859318	79.5073	0.0129	1.5600e-003	80.2935
Total		**79.5073**	**0.0129**	**1.5600e-003**	**80.2935**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	859318	79.5073	0.0129	1.5600e-003	80.2935
Total		**79.5073**	**0.0129**	**1.5600e-003**	**80.2935**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	0.9419	0.0965	1.5921	5.8000e-004		0.0150	0.0150		0.0150	0.0150	0.0000	93.5206	93.5206	4.1900e-003	1.6700e-003	94.1223
Unmitigated	1.0733	0.0965	1.5921	5.8000e-004		0.0150	0.0150		0.0150	0.0150	0.0000	93.5206	93.5206	4.1900e-003	1.6700e-003	94.1223

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	0.1971					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8202					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.1900e-003	0.0786	0.0334	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	90.9736	90.9736	1.7400e-003	1.6700e-003	91.5142
Landscaping	0.0469	0.0180	1.5586	8.0000e-005		8.6400e-003	8.6400e-003		8.6400e-003	8.6400e-003	0.0000	2.5471	2.5471	2.4400e-003	0.0000	2.6081
Total	**1.0733**	**0.0965**	**1.5921**	**5.8000e-004**		**0.0150**	**0.0150**		**0.0150**	**0.0150**	**0.0000**	**93.5206**	**93.5206**	**4.1800e-003**	**1.6700e-003**	**94.1223**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

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	0.0657					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8202					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.1900e-003	0.0786	0.0334	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003	0.0000	90.9736	90.9736	1.7400e-003	1.6700e-003	91.5142
Landscaping	0.0469	0.0180	1.5586	8.0000e-005		8.6400e-003	8.6400e-003		8.6400e-003	8.6400e-003	0.0000	2.5471	2.5471	2.4400e-003	0.0000	2.6081
Total	**0.9419**	**0.0965**	**1.5921**	**5.8000e-004**		**0.0150**	**0.0150**		**0.0150**	**0.0150**	**0.0000**	**93.5206**	**93.5206**	**4.1800e-003**	**1.6700e-003**	**94.1223**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.5756	0.3580	8.5800e-003	23.0822
Unmitigated	13.9841	0.4474	0.0107	28.3626

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	13.6823 / 8.62583	13.9841	0.4474	0.0107	28.3626
Total		**13.9841**	**0.4474**	**0.0107**	**28.3626**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.9459 / 8.09965	11.5756	0.3580	8.5800e-003	23.0822
Total		**11.5756**	**0.3580**	**8.5800e-003**	**23.0822**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.6089	1.1589	0.0000	48.5803
Unmitigated	19.6089	1.1589	0.0000	48.5803

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	96.6	19.6089	1.1589	0.0000	48.5803
Total		**19.6089**	**1.1589**	**0.0000**	**48.5803**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	96.6	19.6089	1.1589	0.0000	48.5803
Total		**19.6089**	**1.1589**	**0.0000**	**48.5803**

9.0 Operational Offroad

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-49.3554	0.0000	0.0000	-49.3554

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	2.58 / 0	-15.9960	0.0000	0.0000	-15.9960
Grassland	7.74 / 0	-33.3594	0.0000	0.0000	-33.3594
Total		**-49.3554**	**0.0000**	**0.0000**	**-49.3554**

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: San Joaquin
Calendar Year: 2022, 2024
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Fuel Consumption	**MPG (Derived)**		
San Joaquin	2022	All Other Buses	Aggregate	Aggregate	Diesel	64.18276106	3366.829671	0.389691959	**8.64**		
San Joaquin	2022	LDA	Aggregate	Aggregate	Gasoline	245832.5119	9843786.33	349.6795866	**28.15**		
San Joaquin	2022	LDA	Aggregate	Aggregate	Diesel	747.597033	24646.14058	0.583579991	**42.23**		
San Joaquin	2022	LDT1	Aggregate	Aggregate	Gasoline	22627.08052	734599.6603	31.2872851	**23.48**		
San Joaquin	2022	LDT1	Aggregate	Aggregate	Diesel	7.047782881	82.54563139	0.003372746	**24.47**		
San Joaquin	2022	LDT2	Aggregate	Aggregate	Gasoline	97154.07981	3824225.477	169.4426511	**22.57**		
San Joaquin	2022	LDT2	Aggregate	Aggregate	Diesel	248.8605386	10706.81848	0.33992558	**31.50**		
San Joaquin	2022	LHD1	Aggregate	Aggregate	Gasoline	10032.88768	343680.3481	37.7668391	**9.10**		
San Joaquin	2022	LHD1	Aggregate	Aggregate	Diesel	9047.421916	317992.0884	20.14770499	**15.78**		
San Joaquin	2022	LHD2	Aggregate	Aggregate	Gasoline	1192.956774	41208.16578	5.018015304	**8.21**		
San Joaquin	2022	LHD2	Aggregate	Aggregate	Diesel	3132.378704	115997.9174	8.943835947	**12.97**		
San Joaquin	2022	MCY	Aggregate	Aggregate	Gasoline	12156.83121	65858.40609	1.654828161	**39.80**		
San Joaquin	2022	MDV	Aggregate	Aggregate	Gasoline	95564.44336	3308853.745	181.0637294	**18.27**		
San Joaquin	2022	MDV	Aggregate	Aggregate	Diesel	1375.554752	54411.91619	2.295398235	**23.70**		
San Joaquin	2022	MH	Aggregate	Aggregate	Gasoline	1600.88645	13846.61175	3.139811955	**4.41**		
San Joaquin	2022	MH	Aggregate	Aggregate	Diesel	647.0575838	5702.86501	0.606220894	**9.41**		
San Joaquin	2022	Motor Coach	Aggregate	Aggregate	Diesel	17.36532658	2483.716889	0.452484161	**5.49**		
San Joaquin	2022	OBUS	Aggregate	Aggregate	Gasoline	190.8863856	8510.791984	1.830675135	**4.65**		
San Joaquin	2022	PTO	Aggregate	Aggregate	Diesel	0	19519.60984	4.029793127	**4.84**		
San Joaquin	2022	SBUS	Aggregate	Aggregate	Gasoline	125.3894152	6800.304136	0.672127455	**10.12**		
San Joaquin	2022	SBUS	Aggregate	Aggregate	Diesel	485.9784004	11054.11176	1.356913622	**8.15**	**MHD**	
San Joaquin	2022	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	10.0890437	674.016739	0.076433926	**8.82**		**8.50**
San Joaquin	2022	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	13.58227373	924.6297618	0.104569007	**8.84**		
San Joaquin	2022	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	41.03348839	2416.084021	0.270634413	**8.93**		
San Joaquin	2022	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	72.78191568	15154.9002	1.588811418	**9.54**		
San Joaquin	2022	T6 Instate Delivery	Aggregate	Aggregate	Diesel	239.0980349	8144.704224	1.000320522	**8.14**		
San Joaquin	2022	T6 Instate Delivery	Aggregate	Aggregate	Diesel	153.4261699	5297.730681	0.656352805	**8.07**		
San Joaquin	2022	T6 Instate Delivery	Aggregate	Aggregate	Diesel	669.7781872	22991.08224	2.828216057	**8.13**		
San Joaquin	2022	T6 Instate Delivery	Aggregate	Aggregate	Diesel	121.8173307	6617.297423	0.812288721	**8.15**		
San Joaquin	2022	T6 Instate Other Cl	Aggregate	Aggregate	Diesel	458.6664735	18101.37983	2.149210013	**8.42**		
San Joaquin	2022	T6 Instate Other Cl	Aggregate	Aggregate	Diesel	1145.440922	51106.28168	6.02735177	**8.48**		
San Joaquin	2022	T6 Instate Other Cl	Aggregate	Aggregate	Diesel	900.2348993	37958.55985	4.460516181	**8.51**		
San Joaquin	2022	T6 Instate Other Cl	Aggregate	Aggregate	Diesel	546.2729605	25280.42306	2.912405845	**8.68**		
San Joaquin	2022	T6 Instate Tractor (	Aggregate	Aggregate	Diesel	10.69873229	502.5537125	0.059266826	**8.48**		
San Joaquin	2022	T6 Instate Tractor (	Aggregate	Aggregate	Diesel	714.4980333	42511.37106	4.757598802	**8.94**		
San Joaquin	2022	T6 OOS Class 4	Aggregate	Aggregate	Diesel	5.824249623	385.9057822	0.043744785	**8.82**		
San Joaquin	2022	T6 OOS Class 5	Aggregate	Aggregate	Diesel	7.810009498	529.3933382	0.059864386	**8.84**		
San Joaquin	2022	T6 OOS Class 6	Aggregate	Aggregate	Diesel	23.64662077	1383.319939	0.154937614	**8.93**		
San Joaquin	2022	T6 OOS Class 7	Aggregate	Aggregate	Diesel	39.99335241	10058.4561	1.052763317	**9.55**		
San Joaquin	2022	T6 Public Class 4	Aggregate	Aggregate	Diesel	32.46897249	1053.944591	0.142137471	**7.41**		
San Joaquin	2022	T6 Public Class 5	Aggregate	Aggregate	Diesel	75.18627001	2757.372447	0.361045439	**7.64**		
San Joaquin	2022	T6 Public Class 6	Aggregate	Aggregate	Diesel	127.0726581	4427.407716	0.578988462	**7.65**		
San Joaquin	2022	T6 Public Class 7	Aggregate	Aggregate	Diesel	155.0745132	6737.725962	0.892631207	**7.55**		
San Joaquin	2022	T6 Utility Class 5	Aggregate	Aggregate	Diesel	33.0723596	1348.866841	0.155261469	**8.69**		
San Joaquin	2022	T6 Utility Class 6	Aggregate	Aggregate	Diesel	6.301149589	254.387594	0.029400527	**8.65**		
San Joaquin	2022	T6 Utility Class 7	Aggregate	Aggregate	Diesel	7.184731387	354.5989242	0.040513377	**8.75**		
San Joaquin	2022	T6TS	Aggregate	Aggregate	Gasoline	579.4901376	27135.21064	5.908823236	**4.59**	**HHD**	
San Joaquin	2022	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1465.651998	302315.9619	50.54575704	**5.98**		**5.53**
San Joaquin	2022	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	1314.51908	357430.6707	59.7702667	**5.98**		
San Joaquin	2022	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	547.746265	129848.2136	21.84471347	**5.94**		
San Joaquin	2022	T7 Other Port Class	Aggregate	Aggregate	Diesel	29.96782331	5172.478866	0.884067902	**5.85**		
San Joaquin	2022	T7 POAK Class 8	Aggregate	Aggregate	Diesel	130.9212733	12859.98461	2.247722968	**5.72**		
San Joaquin	2022	T7 POLA Class 8	Aggregate	Aggregate	Diesel	133.7447014	17464.08518	3.05394227	**5.72**		
San Joaquin	2022	T7 Public Class 8	Aggregate	Aggregate	Diesel	387.8868943	16412.94802	3.221247427	**5.10**		
San Joaquin	2022	T7 Single Concrete,	Aggregate	Aggregate	Diesel	116.7544211	8582.751358	1.476599326	**5.81**		
San Joaquin	2022	T7 Single Dump Cla	Aggregate	Aggregate	Diesel	478.1812367	30565.06913	5.302067473	**5.76**		
San Joaquin	2022	T7 Single Other Cla	Aggregate	Aggregate	Diesel	984.7457086	55881.25942	9.612278311	**5.81**		
San Joaquin	2022	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	177.8487212	11527.61697	4.624282207	**2.49**		
San Joaquin	2022	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	2518.433603	207897.807	34.44610116	**6.04**		
San Joaquin	2022	T7 Utility Class 8	Aggregate	Aggregate	Diesel	22.55419755	1067.730312	0.187532496	**5.69**		
San Joaquin	2022	T7IS	Aggregate	Aggregate	Gasoline	2.652755373	57.24617818	0.018571387	**3.08**		
San Joaquin	2022	UBUS	Aggregate	Aggregate	Gasoline	48.76869755	3674.265574	0.782054973	**4.70**		
San Joaquin	2022	UBUS	Aggregate	Aggregate	Diesel	81.19085432	5625.255691	0.641005885	**8.78**		
San Joaquin	2024	All Other Buses	Aggregate	Aggregate	Diesel	65.05222502	3428.444696	0.394675604	**8.69**		
San Joaquin	2024	LDA	Aggregate	Aggregate	Gasoline	247012.0846	10048544.61	343.6270786	**29.24**		
San Joaquin	2024	LDA	Aggregate	Aggregate	Diesel	662.6899919	21573.25495	0.501839499	**42.99**		
San Joaquin	2024	LDT1	Aggregate	Aggregate	Gasoline	21456.49018	717056.3787	29.4159226	**24.38**		
San Joaquin	2024	LDT1	Aggregate	Aggregate	Diesel	5.633733188	62.92292074	0.002565124	**24.53**		
San Joaquin	2024	LDT2	Aggregate	Aggregate	Gasoline	102901.1101	4166165.024	174.9447245	**23.81**		
San Joaquin	2024	LDT2	Aggregate	Aggregate	Diesel	286.987515	12717.11324	0.385547294	**32.98**		
San Joaquin	2024	LHD1	Aggregate	Aggregate	Gasoline	9641.660065	340622.7164	36.05181334	**9.45**		
San Joaquin	2024	LHD1	Aggregate	Aggregate	Diesel	8656.00688	302559.269	19.07627031	**15.86**		
San Joaquin	2024	LHD2	Aggregate	Aggregate	Gasoline	1150.998132	40352.62191	4.767420056	**8.46**		
San Joaquin	2024	LHD2	Aggregate	Aggregate	Diesel	3118.358677	114286.0331	8.708041628	**13.12**		
San Joaquin	2024	MCY	Aggregate	Aggregate	Gasoline	12062.21076	65353.43213	1.623503572	**40.25**		
San Joaquin	2024	MDV	Aggregate	Aggregate	Gasoline	93457.86813	3290392.694	172.5699306	**19.07**		
San Joaquin	2024	MDV	Aggregate	Aggregate	Diesel	1392.771352	53244.94495	2.200486663	**24.20**		
San Joaquin	2024	MH	Aggregate	Aggregate	Gasoline	1422.457887	12431.65886	2.817578923	**4.41**		
San Joaquin	2024	MH	Aggregate	Aggregate	Diesel	637.8145601	5565.076859	0.591984802	**9.40**		
San Joaquin	2024	Motor Coach	Aggregate	Aggregate	Diesel	17.9321887	2501.984796	0.454968807	**5.50**		
San Joaquin	2024	OBUS	Aggregate	Aggregate	Gasoline	177.3165445	7727.16438	1.627277957	**4.75**		
San Joaquin	2024	PTO	Aggregate	Aggregate	Diesel	0	19970.46672	4.00727503	**4.98**		
San Joaquin	2024	SBUS	Aggregate	Aggregate	Gasoline	129.6913882	7167.249263	0.704616753	**10.17**		
San Joaquin	2024	SBUS	Aggregate	Aggregate	Diesel	489.5027098	10928.5849	1.334007114	**8.19**	**MHD**	
San Joaquin	2024	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	10.4258013	692.5730592	0.077624843	**8.92**		**8.64**
San Joaquin	2024	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	13.90870419	950.7974883	0.106548597	**8.92**		
San Joaquin	2024	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	45.47581648	2476.537004	0.273307239	**9.06**		
San Joaquin	2024	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	76.65849176	15605.60454	1.610472397	**9.69**		
San Joaquin	2024	T6 Instate Delivery	Aggregate	Aggregate	Diesel	248.0416093	8390.384435	1.014382441	**8.27**		
San Joaquin	2024	T6 Instate Delivery	Aggregate	Aggregate	Diesel	159.232235	5459.954804	0.663149843	**8.23**		
San Joaquin	2024	T6 Instate Delivery	Aggregate	Aggregate	Diesel	695.0120144	23687.85018	2.864213626	**8.27**		
San Joaquin	2024	T6 Instate Delivery	Aggregate	Aggregate	Diesel	123.4336087	6821.359167	0.81523187	**8.37**		
San Joaquin	2024	T6 Instate Other Cl	Aggregate	Aggregate	Diesel	451.1129727	18663.28795	2.191013074	**8.52**		
San Joaquin	2024	T6 Instate Other Cl	Aggregate	Aggregate	Diesel	1201.861539	52691.78205	6.167338558	**8.54**		
San Joaquin	2024	T6 Instate Other Cl	Aggregate	Aggregate	Diesel	923.0227284	39128.69519	4.555077658	**8.59**		
San Joaquin	2024	T6 Instate Other Cl	Aggregate	Aggregate	Diesel	576.3302588	26029.21041	2.982693496	**8.73**		
San Joaquin	2024	T6 Instate Tractor (	Aggregate	Aggregate	Diesel	10.8446098	517.545082	0.060838227	**8.51**		
San Joaquin	2024	T6 Instate Tractor (	Aggregate	Aggregate	Diesel	714.3465289	43555.15195	4.826227026	**9.02**		
San Joaquin	2024	T6 OOS Class 4	Aggregate	Aggregate	Diesel	6.054636746	398.8706276	0.04448499	**8.97**		
San Joaquin	2024	T6 OOS Class 5	Aggregate	Aggregate	Diesel	8.039716641	547.1787746	0.061063112	**8.96**		
San Joaquin	2024	T6 OOS Class 6	Aggregate	Aggregate	Diesel	26.41414681	1429.793793	0.156729016	**9.12**		
San Joaquin	2024	T6 OOS Class 7	Aggregate	Aggregate	Diesel	41.42374128	10396.37881	1.065076157	**9.76**		
San Joaquin	2024	T6 Public Class 4	Aggregate	Aggregate	Diesel	31.56333135	1053.78498	0.138898444	**7.59**		
San Joaquin	2024	T6 Public Class 5	Aggregate	Aggregate	Diesel	76.95816953	2782.913848	0.359655019	**7.74**		
San Joaquin	2024	T6 Public Class 6	Aggregate	Aggregate	Diesel	125.5221254	4449.870691	0.571506625	**7.79**		
San Joaquin	2024	T6 Public Class 7	Aggregate	Aggregate	Diesel	150.3174424	6760.620338	0.870575173	**7.77**		
San Joaquin	2024	T6 Utility Class 5	Aggregate	Aggregate	Diesel	33.65509289	1370.025298	0.154664523	**8.86**		
San Joaquin	2024	T6 Utility Class 6	Aggregate	Aggregate	Diesel	6.378562647	258.4995427	0.029097101	**8.88**		
San Joaquin	2024	T6 Utility Class 7	Aggregate	Aggregate	Diesel	7.241994207	359.7153567	0.040236892	**8.94**		
San Joaquin	2024	T6TS	Aggregate	Aggregate	Gasoline	543.942625	27420.2383	5.79393515	**4.73**	**HHD**	
San Joaquin	2024	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1534.527717	313079.2303	51.17544603	**6.12**		**5.64**
San Joaquin	2024	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	1373.302248	372186.6297	59.77834597	**6.23**		
San Joaquin	2024	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	578.3811292	135208.7914	22.07143154	**6.13**		
San Joaquin	2024	T7 Other Port Class	Aggregate	Aggregate	Diesel	30.34238714	5584.705745	0.939576872	**5.94**		
San Joaquin	2024	T7 POAK Class 8	Aggregate	Aggregate	Diesel	136.1535747	13506.37259	2.314776832	**5.83**		
San Joaquin	2024	T7 POLA Class 8	Aggregate	Aggregate	Diesel	150.6817261	19103.13151	3.291418093	**5.80**		
San Joaquin	2024	T7 Public Class 8	Aggregate	Aggregate	Diesel	386.4292842	16583.79222	3.181568443	**5.21**		
San Joaquin	2024	T7 Single Concrete,	Aggregate	Aggregate	Diesel	120.132319	8584.481023	1.451453452	**5.91**		
San Joaquin	2024	T7 Single Dump Cla	Aggregate	Aggregate	Diesel	503.0679595	30859.86722	5.349370415	**5.77**		
San Joaquin	2024	T7 Single Other Cla	Aggregate	Aggregate	Diesel	1102.799233	57868.37225	9.828957612	**5.89**		
San Joaquin	2024	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	171.344301	11107.44979	4.365787424	**2.54**		
San Joaquin	2024	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	2796.388438	215878.9148	35.37410597	**6.10**		
San Joaquin	2024	T7 Utility Class 8	Aggregate	Aggregate	Diesel	23.92280564	1090.321233	0.187456981	**5.82**		
San Joaquin	2024	T7IS	Aggregate	Aggregate	Gasoline	1.5755645	52.13121289	0.014943025	**3.49**		
San Joaquin	2024	UBUS	Aggregate	Aggregate	Gasoline	50.03970637	3769.973563	0.80245172	**4.70**		
San Joaquin	2024	UBUS	Aggregate	Aggregate	Diesel	78.70033808	5451.344083	0.604716218	**9.01**		

On-road Mobile (Operational) Energy Usage

Note: Assumes that all vehicles that are generated as part of proposed project use gasoline as a fuel source (for simplicity), since the vast majority of vehicles generated by the project would use gasoline.

Unmitigated:

Step 1:

Therefore:

Average Daily VMT:

13,167	Source: Fehr & Peers, 2022 (The SOMA Apartments Project Transportation Analysis Report)

Step 2: Given:

Fleet Mix (CalEEMod Output)

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
53.70%	5.24%	16.92%	15.09%	2.62%	0.62%	1.25%	1.69%	0.05%	0.03%	2.32%	0.11%	0.35%

And:

Gasoline MPG Factors for each Vehicle Class - Year 2025 (EMFAC2021 Output)

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
29.24	24.38	23.81	19.07	9.45	8.46	N/A	N/A	4.75	4.70	40.25	10.17	4.41

Therefore:

Weighted Average MPG Factors

Gasoline: **25.2**

Step 3: **Therefore:**

523	**daily gallons of gasoline**

or

191,062	**annual gallons of gasoline**

Off-road (i.e. On-site) Mobile (Construction) Energy Usage

Note: For the sake of simplicity, and as a conservative estimation, it was assumed that all off-road vehicles use diesel fuel as an energy source.

Given Factor:	**475.2**	**metric tons**	**CO2**	**(provided in CalEEMod Output File)**
Conversion Factor:	2204.6262	pounds	per metric ton	
Intermediate Result:	**1,047,736**	**pounds**	**CO2**	
Conversion Factor:	22.38	pounds	CO2 per 1 gallon of diesel fuel	Source: U.S. EIA, 2016
Final Result:	**46,816**	**gallons**	**diesel fuel**	http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11

Mitigated Onsite Scenario	Total CO2 (MT/yr)
Demolition	3.4229
Site Preparation	16.8549
Grading	82.4632
Building Construction - 2022	54.7815
Building Construction - 2023	294.9765
Paving - 2023	7.0661
Paving - 2024	13.1225
Architectural Coating - 2024	2.5568

(provided in CalEEMod Output File)

On-road Mobile (Construction) Energy Usage - Demolition

Note: Year 2022 MPG factors were derived for construction-rele=ated energy consumption (for the sake of a conservative estimate).

Step 1:

Total Daily Worker Trips (CalEEMod Output)

15

Total Daily Hauler Trips (provided by CalEEMod)

1

Worker Trip Length (miles) (CalEEMod Output)

10.8

Hauling Trip Length (miles) (provided by CalEEMod)

20

Therefore:

Average Worker Daily VMT:

162

Average Hauling Daily VMT:

20

Step 2:

Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

Fleet Mix for Haulers (CalEEMod Output)

MHD	HHD
0%	100%

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2021) - Year 2022

LDA	LDT1	LDT2
28.15	23.48	22.57

Diesel:

MHD	HHD
8.50	5.53

Therefore:

Weighted Average Worker MPG Factor

25.59

Weighted Average Hauling MPG Factor

5.53

Step 3:

Therefore:

6 Worker daily gallons of gasoline

Therefore:

4 Vendor daily gallons of diesel

Step 4:

2 **# of Days (CalEEMod Output)**

Therefore:

Result:

13 Total gallons of gasoline

Therefore:

7 Total gallons of diesel

On-road Mobile (Construction) Energy Usage - Site Preparation

Note: Year 2022 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

18

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

194

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2021) - Year 2022

LDA	LDT1	LDT2
28.15	23.48	22.57

Therefore:

Weighted Average Worker MPG Factor

25.59

Step 3: **Therefore:**

8 **Worker daily gallons of gasoline**

Step 4: 10 **# of Days (CalEEMod Output)**

Therefore:

Result: **76** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Grading

Note: Year 2022 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

20

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

216

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2021) - Year 2022

LDA	LDT1	LDT2
28.15	23.48	22.57

Therefore:

Weighted Average Worker MPG Factor

25.59

Step 3: **Therefore:**

8 **Worker daily gallons of gasoline**

Step 4: 30 **# of Days (CalEEMod Output)**

Therefore:

Result: **253** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Building Construction

Note: Year 2022 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1:

Total Daily Worker Trips (CalEEMod Output)

151

Total Daily Vendor Trips (CalEEMod Output)

22

Worker Trip Length (miles) (CalEEMod Output)

10.8

Vendor Trip Length (miles) (CalEEMod Output)

7.3

Therefore:

Average Worker Daily VMT:

1,631

Average Vendor Daily VMT:

161

Step 2:

Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

Assumed Fleet Mix for Vendors

Fleet Mix for Workers (CalEEMod Output)

MHD	HHD
43%	57%

And:

MPG Factors for each Vehicle Class (from EMFAC2021) - Year 2022

Gasoline:

LDA	LDT1	LDT2
28.15	23.48	22.57

Diesel:

MHD	HHD
8.50	5.53

Therefore:

Weighted Average Worker (Gasoline) MPG Factor

25.59

Weighted Average Vendor (Diesel) MPG Factor

6.80

Step 3:

Therefore:

64 **Worker daily gallons of gasoline**

Therefore:

24 **Vendor daily gallons of diesel**

Step 4:

300 **# of Days (CalEEMod Output)**

Therefore:

19,120 **Total gallons of gasoline**

Therefore:

7,085 **Total gallons of diesel**

On-road Mobile (Construction) Energy Usage - Paving

Note: Year 2022 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

15

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

162

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2021) - Year 2022

LDA	LDT1	LDT2
28.15	23.48	22.57

Therefore:

Weighted Average Worker MPG Factor

25.6

Step 3: **Therefore:**

6 **Worker daily gallons of gasoline**

Step 4: 20 **# of Days (CalEEMod Output)**

Therefore:

Result: **127** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Architectural Coating

Note: Year 2022 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

30

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

324

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2021 Output) - Year 2022

LDA	LDT1	LDT2
28.15	23.48	22.57

Therefore:

Weighted Average Worker MPG Factor

25.6

Step 3: **Therefore:**

13 **Worker daily gallons of gasoline**

Step 4: 20 **# of Days (CalEEMod Output)**

Therefore:

Result: **253** **Total gallons of gasoline**

APPENDIX B: CULTURAL RESOURCES REPORT

CULTURAL RESOURCE ASSESSMENT FOR THE SOMA APARTMENTS, CITY OF MANTECA, SAN JOAQUIN COUNTY, CALIFORNIA

Prepared by

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May 11, 2022
(Job #22-007)

PROJECT DESCRIPTION

The 10-acre Project site is located in the City of Manteca, and the project proponent has proposed the development of a 210-apartment complex with other amenities including a clubhouse, parking, pool for resident use and a dog park. The Project site is located on the south side of Atherton Drive and the eastern side of main Street (formerly Manteca Road) (Figures 1 and 2). The Project site is located within the northwest quarter Section 9 of Township 2 South, Range 7 East, Mount Diablo Base and Meridian (MDBM). Figure 3 illustrates the Project site location on the USGS Manteca, California, 7.5-minute series quadrangle map.

Melinda Peak served as principal investigator for the project, with Michael Lawson completing the field survey. Resumes for Peak and Lawson are included in Appendix 1.

STATE REGULATIONS

State historic preservation regulations affecting this project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA; Public Resources Code sections 21083.2 and 21084.1 and sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA Section 15064.5 requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. Public Resources Code Section 21098.1 further cites: A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

An "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript that is historically or archaeologically significant (Public Resources Code section 5020.1).

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR), *CEQA and Archaeological Resources,* 1994. The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code Section 7050.5, California Public Resources Codes Sections 5097.94 et al).

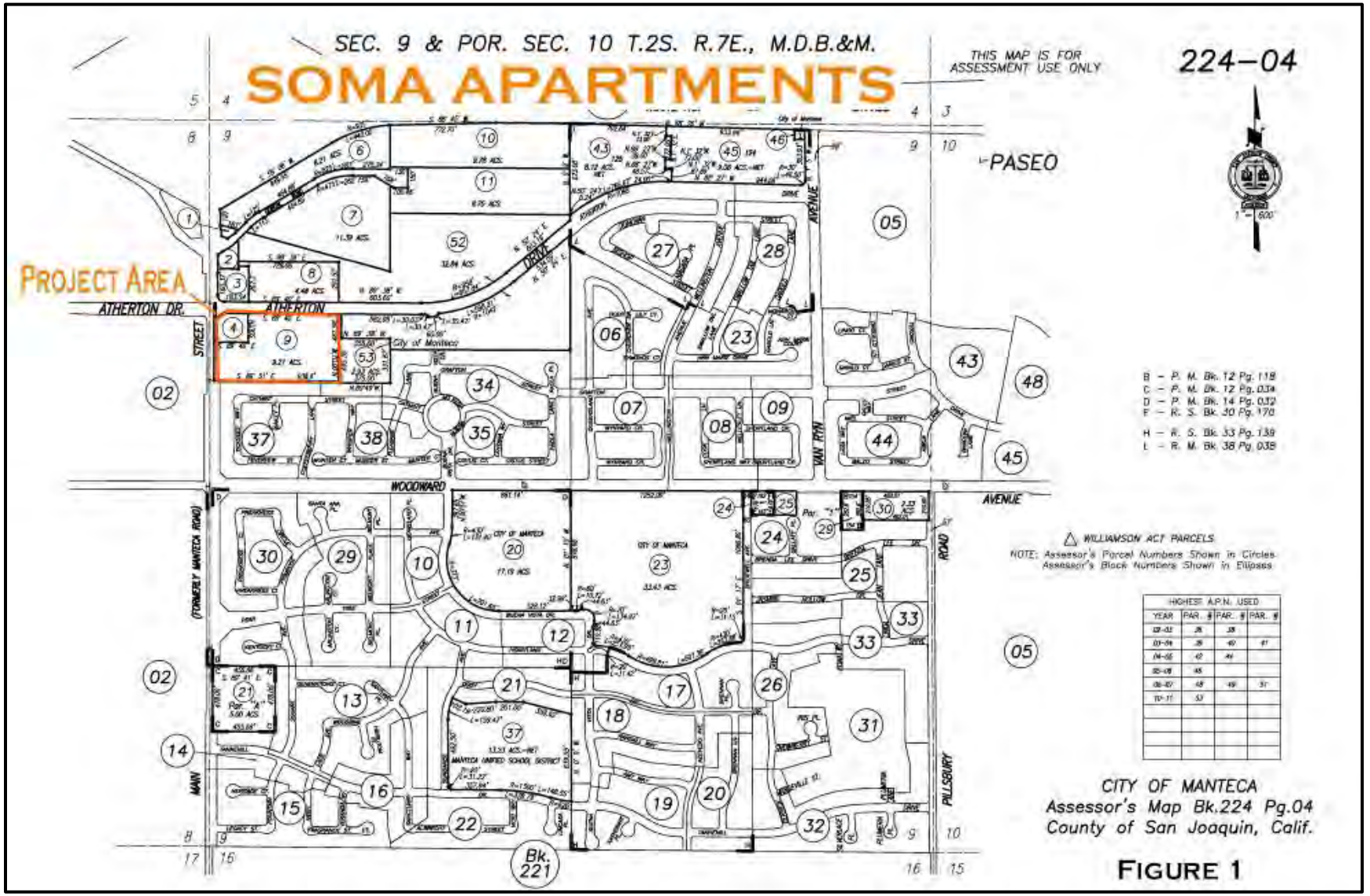
SEC. 9 & POR. SEC. 10 T.2S. R.7E., M.D.B.&M.
SOMA APARTMENTS
THIS MAP IS FOR ASSESSMENT USE ONLY
224-04
PROJECT AREA
ATHERTON DR.
ATHERTON
STREET
PASEO
AVENUE
VAN RYN
WOODWARD
AVENUE
(FORMERLY MANTECA ROAD)
MAIN
PILLSBURY
ROAD
CITY OF MANTECA
MANTECA UNIFIED SCHOOL DISTRICT
Bk. 221
1" = 600'
B – P. M. Bk. 12 Pg. 118
C – P. M. Bk. 12 Pg. 034
D – P. M. Bk. 14 Pg. 032
F – R. S. Bk. 30 Pg. 170
H – R. S. Bk. 33 Pg. 139
L – R. M. Bk. 38 Pg. 038
△ WILLIAMSON ACT PARCELS
NOTE: Assessor's Parcel Numbers Shown in Circles
Assessor's Block Numbers Shown in Ellipses
HIGHEST A.P.N. USED
YEAR
PAR. #
CITY OF MANTECA
Assessor's Map Bk.224 Pg.04
County of San Joaquin, Calif.

FIGURE 1


Soma Apartments
Write a description for your map.
120
120
120
S Main St
S Main St
PROJECT AREA
W Atherton Dr
E Atherton Dr
Google Earth
1000 ft
N

FIGURE 2

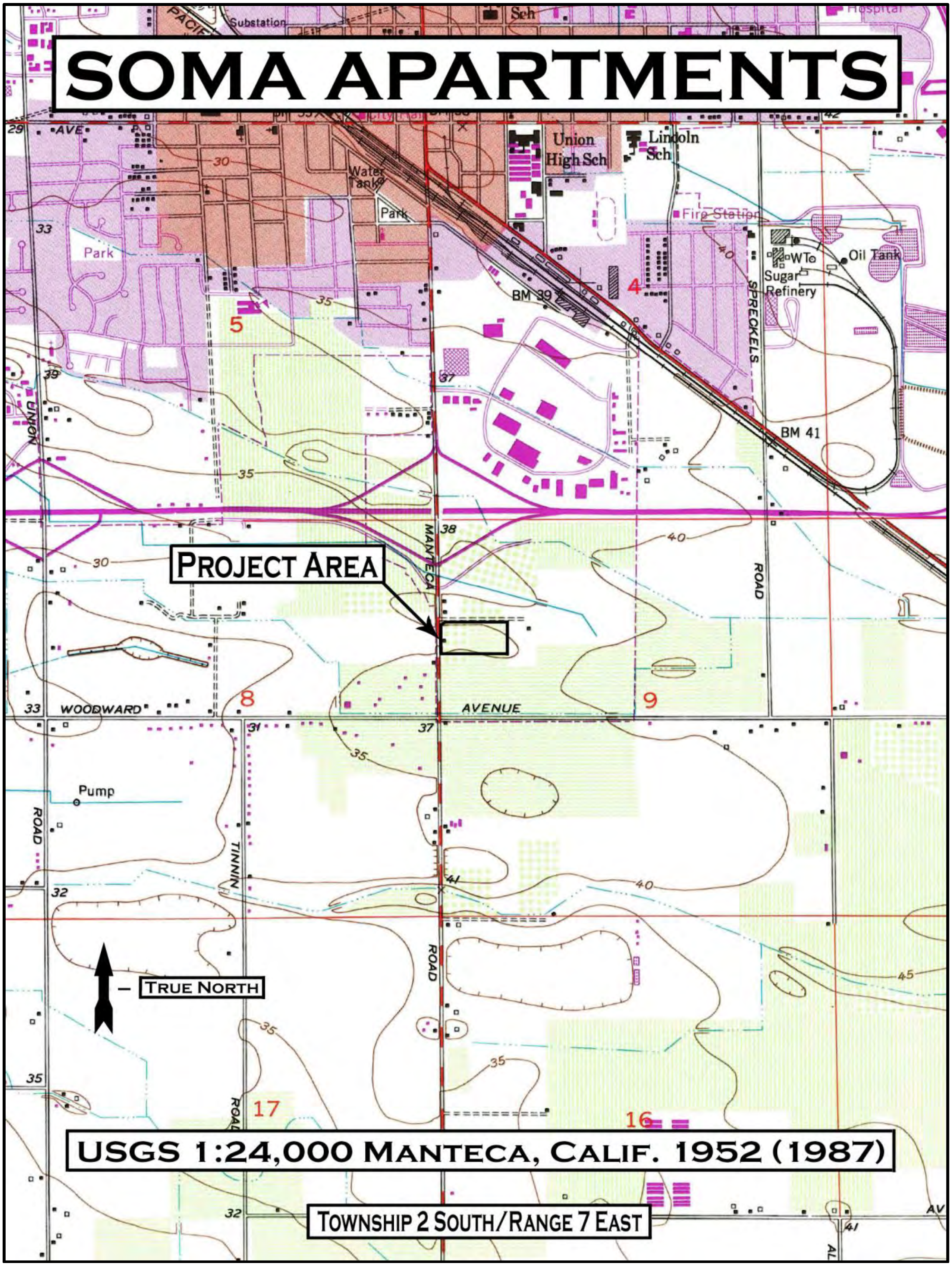
SOMA APARTMENTS
PROJECT AREA
TRUE NORTH
USGS 1:24,000 MANTECA, CALIF. 1952 (1987)
TOWNSHIP 2 SOUTH/RANGE 7 EAST
Union High Sch
Lindoln Sch
Water Tank
Park
Fire Station
Sugar Refinery
Oil Tank
BM 39
BM 41
SPRECKELS
UNION
MANTECA
ROAD
WOODWARD
AVENUE
Pump
TINNIN
Substation

Figure 3

The California Register of Historical Resources (Public Resources Code Section 5020 et seq.)

The State Historic Preservation Office (SHPO) maintains the California Register of Historical Resources (CRHR). Properties listed, or formally designated as eligible for listing, on the National Register of Historic Places are automatically listed on the CRHR, as are State Landmarks and Points of Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

For the purposes of CEQA, an historical resource is a resource listed in, or determined eligible for listing in the California Register of Historical Resources. When a project will impact a site, it needs to be determined whether the site is an historical resource. The criteria are set forth in Section 15064.5(a) (3) of the CEQA Guidelines, and are defined as any resource that does any of the following:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

B. Is associated with the lives of persons important in our past;

C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

D. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, the CEQA Guidelines, Section 15064.5(a) (4) states:

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code section 5020.1(j) or 5024.1.

California Health and Safety Code Sections 7050.5, 7051, And 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such

remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

California Public Resources Code Section 15064.5(e)

This law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction. The section establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project and establishes the Native American Heritage Commission as the entity responsible to resolve disputes regarding the disposition of such remains.

Senate Bill 18

Senate Bill (SB) 18, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning. This legislation, which amended §65040.2, §65092, §65351, §65352, and §65560, and added §65352.3, §653524, and §65562.5 to the Government Code; also requires the Governor's Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments on how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

Assembly Bill 52

Assembly Bill (AB) 52 establishes a formal consultation process for California tribes as part of CEQA and equates significant impacts on tribal cultural resources with significant environmental impacts. AB 52 defines a "California Native American Tribe" as a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission. AB 52 requires formal consultation with California Native American Tribes prior to determining the level of environmental document if a tribe has requested to be informed by the lead agency of proposed projects. AB 52 also requires that consultation address project alternatives, mitigation measures, for significant effects, if requested by the California Native American Tribe, and that consultation be considered

concluded when either the parties agree to measures to mitigate or avoid a significant effect, or the agency concludes that mutual agreement cannot be reached. Under AB 52, such measures shall be recommended for inclusion in the environmental document and adopted mitigation monitoring program if determined to avoid or lessen a significant impact on a tribal cultural resource.

CULTURAL SETTING

Prehistory

The Central Valley region was among the first in the state to attract intensive fieldwork, and research has continued to the present day. This has resulted in a substantial accumulation of data.

In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality, where survey and excavation studies were conducted by the Sacramento Junior College (Lillard and Purves 1936). Excavation data, in particular from the stratified Windmiller site (CA-Sac-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

The Windmiller Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads; a high percentage of burials with grave goods; frequent presence of red ocher in graves; large projectile points, of which 60 percent are of materials other than obsidian; rectangular *Haliotis* beads; *Olivella* shell beads (types A1a and L); rare use of bone; some use of baked clay objects; and well-fashioned charm stones, usually perforated.

The Cosumnes Culture (Middle Horizon) displays considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. There are a lower percentage of burials with grave goods, and ocher staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis sp.* rather than red *Haliotis sp.* Other characteristic artifacts include

perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked clay.

Hotchkiss Culture (Late Horizon) -- The burial pattern retains the use of the flexed mode, and there is wide spread evidence of cremation, lesser use of red ocher, heavy use of baked clay, *Olivella* beads of Types E and M, extensive use of *Haliotis* ornaments of many elaborate shapes and forms, shaped mortars and cylindrical pestles, bird-bone tubes with elaborate geometric designs, clam shell disc beads, small projectile points indicative of the introduction of the bow and arrow, flanged tubular pipes of steatite and schist, and use of magnesite (Moratto 1984:181-183). The characteristics noted are not all-inclusive, but cover the more important traits.

Schulz (1981), in an extensive examination of the central California evidence for the use of acorns, used the terms Early, Middle and Late Complexes, but the traits attributed to them remain generally the same. While it is not altogether clear, Schulz seemingly uses the term "Complex" to refer to the particular archeological entities (above called "Horizons") as defined in this region. Ragir's (1972) cultures are the same as Schulz's complexes.

Bennyhoff and Hughes (1984) have presented alternative dating schemes for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the horizons to reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

There have been other chronologies proposed, including Fredrickson (1973), and since it is correlated with Bennyhoff's (1977) work, it does merit discussion. The particular archeological cultural entities Fredrickson has defined, based upon the work of Bennyhoff, are patterns, phases and aspects. Bennyhoff's (1977) work in the Plains Miwok area is the best definition of the Cosumnes District, which likely conforms to Fredrickson's pattern. Fredrickson also proposed periods of time associated heavily with economic modes, which provides a temporal term for comparing contemporary cultural entities. It corresponds with Willey and Phillips' (1958) earlier "tradition", although it is tied more specifically to the archeological record in California.

Ethnohistory

The Project site lies within the northern portion of the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts

differed from other ethnographic groups in California as they had true tribal divisions with group names (Kroeber 1925; Latta 1949). Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they were mutually intelligible (Kroeber 1925).

The Yokuts held portions of the San Joaquin Valley from the Tehachapi mountains in the south to Stockton in the north. On the north they were bordered by the Plains Miwok, and on the west by the Saclan or Bay Miwok and Costonoan peoples. Although neighbors were often from distinct language families, differences between the people appear to have been more influenced by environmental factors as opposed to linguistic affinities. Thus, the Plains Miwok were more similar to the nearby Yokuts than to foothill members of their own language group. Similarities in cultural inventory co-varied with distance from other groups and proximity to culturally diverse people. The material culture of the southern San Joaquin Yokuts was therefore more closely related to that of their non-Yokuts neighbors than to that of Delta members of their own language group.

Trade was well developed, with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the San Joaquin Valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and to some extent from the Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal people, and acorns, rare in the Great Basin, were among many items exported to the east by Yokuts traders (Davis 1961).

Economic subsistence was based on the acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs that formed a maze within the valley provided abundant food resources such as fish, shellfish, and turtles. Game, wild fowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In general, the eastern portion of the San Joaquin Valley provided a lush environment of varied food resources, with the estimated large population centers reflecting this abundance (Cook 1955; Baumhoff 1963).

Settlements were oriented along the water ways, with their village sites normally placed adjacent to these features for their nearby water and food resources. House structures varied in size and shape (Latta 1949; Kroeber 1925), with most constructed from the readily available tules found in the extensive marshes of the low-lying valley areas. The housepit depressions for the structures ranged in diameter from 3 meters to 18 meters (Wallace 1978:470).

Historical Background

The first extensive wheat-growing in the San Joaquin Valley took place on the sand plains in the region between Stockton and Manteca and on the west side of the valley between Tracy and

Newman. The wheat growing was due to an initial experiment of John Wheeler Jones, who planted 160 acres to wheat in 1855 which included the central town site of what is now Manteca. He plowed his fields with a walking plow. The famous Stockton gang-plow was reported to be invented near the present site of Manteca (Smith 1960: 221, 243).

When the Visalia Branch of the Central Pacific Railroad (later the Fresno Branch of the Southern Pacific) was completed through the San Joaquin Valley, a shipping point was set up in the region and named Cowell or Cowell Station for Joshua Cowell, who had donated the right of way for the railroad. Maps of the area printed in the early San Joaquin County history shows scattered ranches in the area on large tracts of land (Thompson and West 1879). The town became a supply center for the region.

The station was re-named Manteca in 1904 or 1905 by the Southern Pacific for a local creamery that had taken its name from the Spanish word for "butter" or "lard" (Gudde 1969: 191). Another version of the naming of the town is that the Southern Pacific misprinted the name of the "Monteca" as "Manteca", and would not change the spelling (Hillman and Covello 1985).

After irrigation systems were developed, the large tracts of land formerly cultivated by dry land crops such as grain could be converted to use for orchards, alfalfa, diversified crops and large-scale dairying. Within a short time after the completion of the first irrigation system in the region by the Stanislaus and San Joaquin Water Company, the population of the town grew from 80 to about 500. Further growth occurred with the creation of the South San Joaquin Irrigation District in 1909 and the completion of Goodwin Dam on the Stanislaus River and associated canals in 1913 (Hillman and Covello 1985).

Industries in the area were agricultural in nature for many years, with stockyards, dairy farms, pumpkins and sugar beets being important economically. The Spreckels Sugar Company opened a mill in 1918 that remained an important industry in the region for many years.

The population of Manteca began to grow at a rapid rate in the early 1950s, with the town serving as a bedroom community for industrial plants in San Joaquin County communities. Beginning in the 1970s, improvements to community infrastructure and the attractive pricing of homes brought even more growth (Hillman and Covelo 1985). The pattern of rapid growth continues to this day, with industrial development in the area, as well as many residents commuting regularly to the Bay Area.

RESEARCH

Records of previously recorded cultural resources and cultural resource investigations were examined by the Central California Information Center of the California Historical Resources Information

System on for the Project site and a ¼-mile radius (CCIC File # 12112L, Appendix 2) on March 17, 2022. There are no resources recorded in either the Project site or in the ¼-mile radius search area.

The 1952 USGS topographic map indicates the presence of a residence on the Project site, but it is removed by the time the maps are re-issued.

The Project site is shown as included in a 1993 preliminary overview of a large region by Napton in 1993 (SJ-01900) as part of report done for the Windmiller and Napoli in 2002 (SJ-04786). This is an overview, with limited survey, and most private property would not have been surveyed in 2002.

Three other surveys have been completed in the search radius (complete citations in the Report List in Appendix 2).

FIELD INVESTIGATIONS

The property was surveyed on March 21, 2022 by Michael Lawson of Peak & Associates. He investigated the property by walking linear transects spaced no more than ten meters apart across the entire property due to the low sensitivity of the Project site (Figure 4).

The lands around the Project site are mostly rural, with a subdivision adjacent to south boundary. Part of the parcel is currently being used for growing several small row crops. The parcel is rectangular in shape, flat and possibly graded and leveled for farming. Modern irrigation equipment is currently present.

Throughout the survey area the soil is light brown silty loam with no cobbles or other large stone visible. The gravel content is low. Nonnative grasses and plants were observed outside of the area with crops, but no trees or large bushes. Ground visibility was generally good. At the time of survey crop-plants were in the early stage of growth and did not impeding inspection. Wild plants on the rest of the property were dispersed.

No evidence was found for the house present on the Project site as indicated on the 1952 USGS topographic map.

No prehistoric period or historic period artifacts or other features were observed during the survey.

RECOMMENDATIONS

Although unlikely, there is always a slight possibility that a site may exist in the Project site and be obscured by vegetation, siltation or historic activities, leaving no surface evidence. In order to assist in the recognition of cultural resources, a training session for all workers should be conducted in advance of the initiation of construction activities at the site. The training session will provide

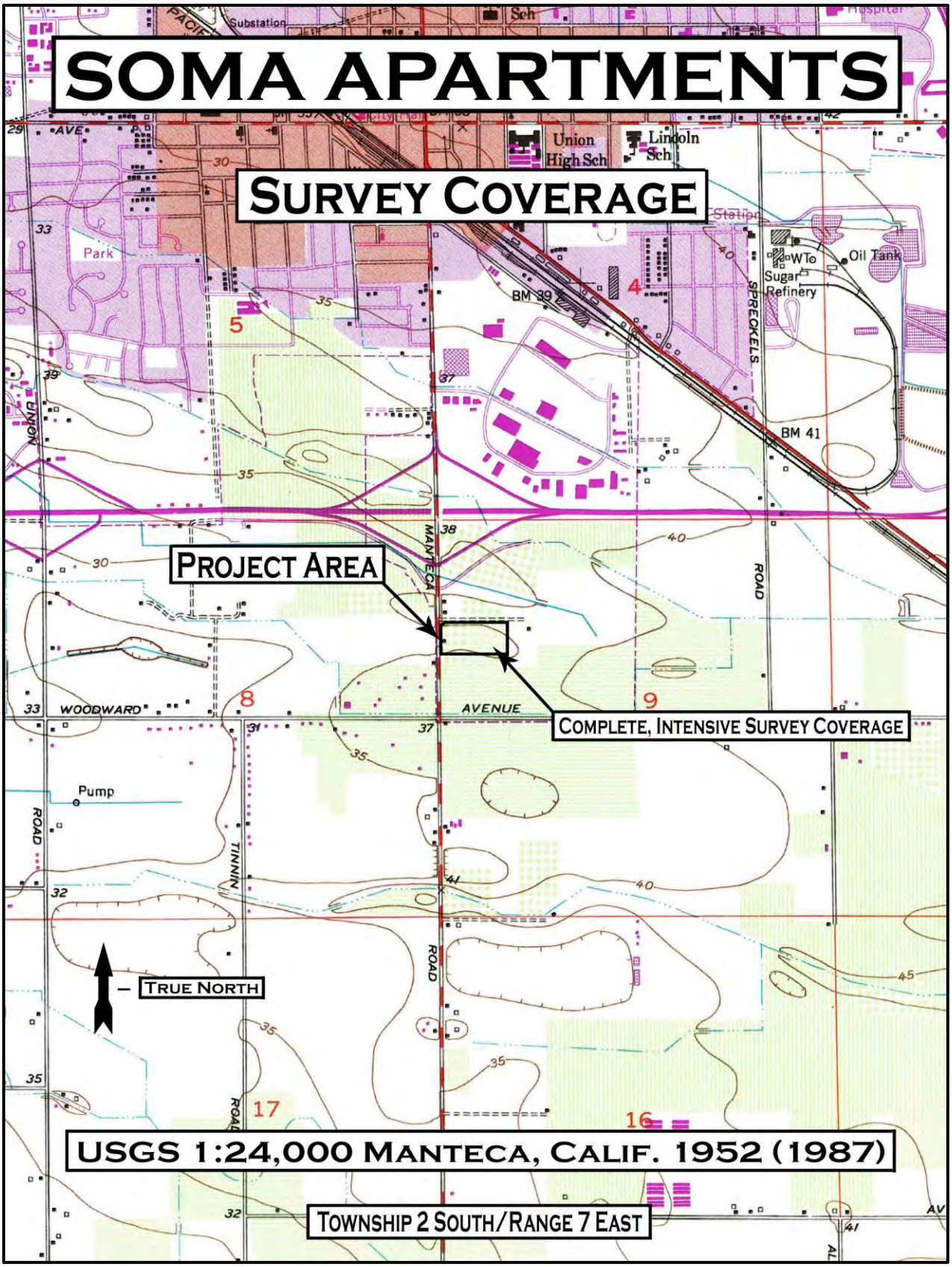
SOMA APARTMENTS
SURVEY COVERAGE
PROJECT AREA
COMPLETE, INTENSIVE SURVEY COVERAGE
TRUE NORTH
USGS 1:24,000 MANTECA, CALIF. 1952 (1987)
TOWNSHIP 2 SOUTH/RANGE 7 EAST
Union High Sch
Lincoln Sch
Park
BM 39
BM 41
Oil Tank
Sugar Refinery
SPRECKELS
UNION
MANTECA
ROAD
WOODWARD
AVENUE
Pump
TINNIN

Figure 4

information on recognition of artifacts, human remains, and cultural deposits to help in the recognition of potential issues.

Discovery of Human Remains

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area suspected to overlie adjacent remains until the San Joaquin County Coroner has determined that the remains are not subject to any provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

If the San Joaquin County Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC).

After notification, the NAHC will follow the procedures outlined in Public Resources Code Section 5097.98, that include notification of most likely descendants (MLDs), and recommendations for treatment of the remains. The MLDs will have 48 hours after notification by the NAHC to make their recommendations (PRC Section 5097.98).

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APPENDIX 1

Resumes

PEAK & ASSOCIATES, INC.

RESUME

MELINDA A. PEAK **January 2022**
Senior Historian/Archeologist
3941 Park Drive, Suite 20 #329
El Dorado Hills, CA 95762
(916) 939-2405

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey, Native American consultation and report preparation.

In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site-specific research for historic period resources. She is a registered professional historian and has completed a number of historical research projects for a wide variety of site types.

Through her education and experience, Ms. Peak meets the Secretary of Interior Standards for historian, architectural historian, prehistoric archeologist and historic archeologist.

EDUCATION

M.A. - History - California State University, Sacramento, 1989

Thesis: *The Bellevue Mine: A Historical Resources Management Site Study in Plumas and Sierra Counties, California*

B.A. - Anthropology - University of California, Berkeley

PROJECTS

In recent years, Ms. Peak has led the team completing the cultural resource sections for General Plan and General Plan Updates, for a number of cities/neighborhoods including Campbell, Milpitas, Yountville, Manteca, The Springs, Sebastopol, Martinez, Brentwood, Colusa County and Foster City. Older General Plan efforts include Wheatland, Rocklin, Sheridan, Granite Bay and South Sutter County.

In recent months, Ms. Peak has completed a number of determinations of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of a number of sites for the National Register of Historic Places.

She has also completed historical research projects on a wide variety of topics for a number of projects including the development of a winery in a ranch in Folsom, commercial buildings in the City of Davis, a lumber mill in Clovis, older farmhouses dating to the 1860s, an early roadhouse, bridges, canals, former small-town site, and a section of an electric railway line.

In recent years, Ms. Peak has prepared a number of cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to direct a number of surveys of these areas, allowing the model to be tested.

Ms. Peak completed the cultural resource research and contributed to the text prepared for the DeSabla-Centerville PAD for the initial stage of the FERC relicensing. She also served cultural resource project manager for the FERC relicensing of the Beardsley-Donnells Project. For the South Feather Power Project and the Woodleaf-Palermo and Sly Creek Transmission Lines, her team completing the technical work for the project.

She served as principal investigator for the multi-phase Twelve Bridges Golf Club project in Placer County. She served as liaison with the various agencies, helped prepare the historic properties treatment plan, managed the various phases of test and data recovery excavations, and completed the final report on the analysis of the test phase excavations of a number of prehistoric sites. She is currently involved as the principal investigator for the Clover Valley Lakes project adjacent to Twelve Bridges in the City of Rocklin, coordinating contacts with Native Americans, the Corps of Engineers and the Office of Historic Preservation.

Ms. Peak has served as project manager for a number of major survey and excavation projects in recent years, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project, and served as principal investigator for a major coaxial cable removal project for AT&T.

Additionally, she completed a number of small surveys, served as a construction monitor at several urban sites, and conducted emergency recovery excavations for sites found during monitoring. She has directed the excavations of several historic complexes in Sacramento, Placer and El Dorado Counties.

Ms. Peak is the author of a chapter and two sections of a published history (1999) of Sacramento County, *Sacramento: Gold Rush Legacy, Metropolitan Legacy*. She served as the consultant for a children's book on California, published by Capstone Press in 2003 in the Land of Liberty series.

PEAK & ASSOCIATES, INC.
RESUME

MICHAEL LAWSON **January 2022**
Archeological Specialist
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95672
(916) 939-2405

PROFESSIONAL EXPERIENCE

Mr. Lawson has compiled an excellent record of supervision of excavation and survey projects for both the public and private sectors over the past twenty-four years. He has conducted a number of surveys throughout northern and central California, as well as serving as an archeological technician and crew chief for a number of excavation projects.

EDUCATION

B.A. - Anthropology - California State University, Sacramento

Special Course: Comparative Osteology. University of Tennessee, Knoxville. Forensic Anthropology Center. January 2018.

> Intensive lab and outdoor study with human example from outdoor research facility, including typical and non-metric examples, compared with fifty non-human species most commonly confused with human remains. Outdoor research facility "The Body Farm" study included survey, photography, collection and identification of faunal and human bone fragments, with a Power Point presentation discussing finds.

EXPERIENCE

- Extensive monitoring of open space, streets and project development areas for prehistoric period and historic period resources. Areas monitored include Sutter Street in Folsom; Mud Creek Archeological District in Chico; Camp Roberts, San Luis Obispo County; Avila Beach, San Luis Obispo County; Edgewood Golf Course, South Lake Tahoe; Davis Water Project, Davis; Star Bend levee section, Sutter County; Feather River levees, Sutter County; Bodega Bay, Sonoma County; San Jose BART line extension, Santa Clara County; and numerous sites for PG&E in San Francisco.
- Over twenty years of experience working in CRM, volunteer, and academic settings in California historic, proto-historic, and prehistoric archaeology.
- Expertise in pedestrian survey, excavation, feature (including burial) exposure, laboratory techniques, research. Field positions include crew chief and lead technician.

APPENDIX 2

Record Search

CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: 3/17/2022

Records Search File No.: 12112L
Access Agreement: #137
Project: Soma Apartments

Robert Gerry
Peak & Associates, Inc.
3941 Park Drive, Ste 30-329
El Dorado Hills, CA 95762
916-939-2405/916-283-5238 peakinc@surewest2.net

Invoice to: peakinc@surewest.net

Dear Mr. Gerry:

The Central California Information Center received your record search request for the project area/radius referenced above, located on the Manteca 7.5' quadrangle in San Joaquin County. The following reflects the results of the records search for the project study area and radius:

As per data currently available at the CCaIC, the locations of resources/reports are provided in the following format: ☒ custom GIS maps ☐ GIS Data/shape files ☐ hand-drawn maps

Summary Data:

Resources within the project area:	None formally reported to the Information Center.
Resources within the 1/4-mile radius:	None formally reported to the Information Center.
Reports within the project area:	2: SJ-01900, 4786
Reports within the 1/4-mile radius:	3: SJ-05309, 6625, 9247

Resource Database Printout (list):	☐ enclosed	☐ not requested	☒ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☐ not requested	☒ nothing listed
Report Copies:	☒ enclosed	☐ not requested	☐ nothing listed

OHP Historic Properties Directory: New Excel File: Built Environment Resource Directory (BERD) Dated 11/17/2021

Not all resources listed in the BERD are mapped in GIS, nor do we have records on file for; if you identify additional resources in the BERD that you need copies of, contact the IC.

	☐ enclosed	☐ not requested	☒ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed

Shipwreck Inventory: ☒ not available at CCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp

Soil Survey Maps: ☒ not available at CCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Note: Billing will be transmitted separately via email by our Financial Services office *($243.60), payable within 60 days of receipt of the invoice.

If you wish to include payment by Credit Card, you must wait to receive the official invoice from Financial Services so that you can reference the CMP # (Invoice Number), and then contact the link below:

https://commerce.cashnet.com/ANTHROPOLOGY

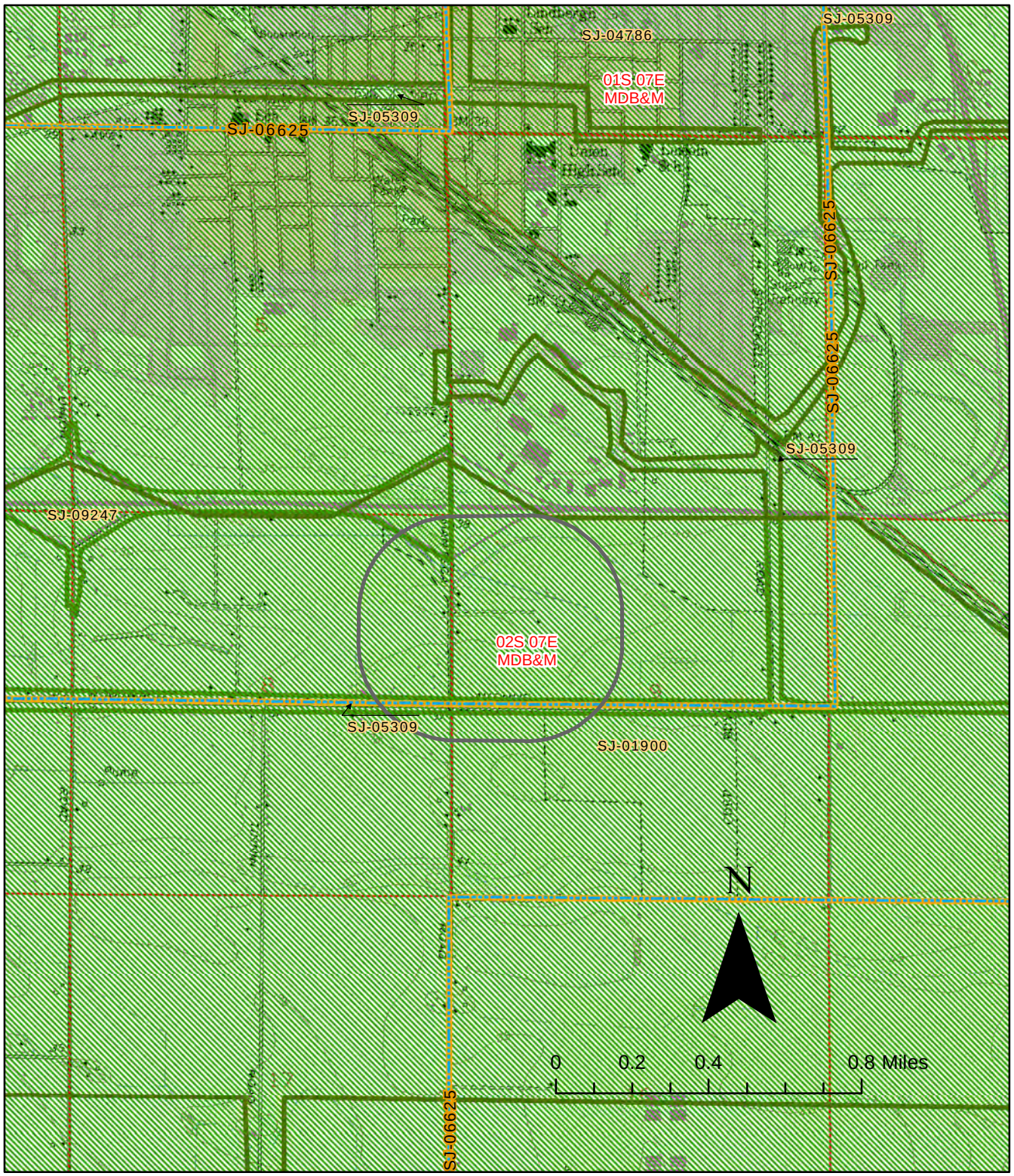
Sincerely,

E. A. Greathouse

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

* Invoice Request sent to: ARBilling@csustan.edu, CSU Stanislaus Financial Services

CCalC 12112L Soma Apartments
Reports 1/4-mile radius 1:24,000-scale
Manteca USGS 7.5' Quadrangle



Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SJ-01900	NADB-R - 1360590	1993	Napton, L. K.	A Preliminary Cultural Resources Investigation of the South Manteca Area Plan, 7,800 acres in San Joaquin County, California.	CSU Stanislaus, Institute for Archaeological Research	39-000282
SJ-04786	NADB-R - 1364725	2002	Windmiller, Ric and Donald Napoli	City of Manteca--General Plan Update, Background Reports: Archaeological Resources, Historical Resources, Records Search Results.	Ric Windmiller, Consulting Archaeologist (and) Donald Napoli, of Historic Preservation Planning; for Wade Associates, Sacramento, CA	39-000002, 39-000015, 39-000098, 39-000099, 39-000102, 39-000103, 39-000111, 39-000282, 39-000354, 39-000681, 39-000682, 39-000683, 39-000684, 39-004148, 39-004188, 39-004189, 39-004190, 39-004191, 39-004192
SJ-05309	NADB-R - 1365195	2004	Baloian, M., R. Baloian, and W. Nettles	Cultural Resources Investigations for the South San Joaquin Irrigation District in San Joaquin County, California.	Applied Earthworks, Inc.; prepared for Russell Associates, Palo Alto, CA	39-000002, 39-000015, 39-000098, 39-000099, 39-000103, 39-000354, 39-004400, 39-004401, 39-004402, 39-004403, 39-004404, 39-004405, 39-004406, 39-004407, 39-004408, 39-004409, 39-004410, 39-004411, 39-004412, 39-004413, 39-004414, 39-004415, 39-004416, 39-004417
SJ-06625	NADB-R - 1367290	1998	ASI Archaeology and Cultural Resource Management	Cultural Resources Survey, South County Surface Water Project, San Joaquin County, California, South San Joaquin Irrigation District	ASI Archaeology and Cultural Resource Management (prepared for Environmental Science Associates, Inc.)	39-000002, 39-000098, 39-000129, 39-000317, 39-000531, 39-000548, 50-000001
SJ-09247		2017	Falke, M. and K. Vallaire	Supplemental Archaeological Survey Report, State Route 120 at Union Road Interchange Project, Manteca, San Joaquin County, California; 10-SJ-120, P.M. 3.4/5.2, EA 10-0P200, ID 10-0000-0182	LSA Associates, Inc. for Caltrans	

APPENDIX C: NOISE REPORT

Environmental Noise Assessment

SOMA Apartments

City of Manteca, California

April 21, 2022

Project #220305

Prepared for:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762

Prepared by:

Saxelby Acoustics LLC

Luke Saxelby, INCE Bd. Cert.
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Roseville, CA 95678

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Appendix A: Acoustical Terminology

Appendix B: Continuous Ambient Noise Measurement Results

Appendix C: Traffic Noise Calculation Inputs and Results

Appendix D: Interior Noise Reduction Calculations

3.10 NOISE

This section provides a general description of the existing noise sources in the project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts.

3.10.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response. A-weighted dB values are expressed as dBA.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dB) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dB is generally perceived as a doubling in loudness. For example, a 70-dB sound is half as loud as an 80-dB sound, and twice as loud as a 60-dB sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes

a +5-dB penalty for evening noise. Table 3.10-1 lists several examples of the noise levels associated with common situations.

TABLE 3.10-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DB)*	*COMMON INDOOR ACTIVITIES*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dB change cannot be perceived;
- Outside of the laboratory, a 3-dB change is considered a just-perceivable difference;
- A change in level of at least 5-dB is required before any noticeable change in human response would be expected; and

- A 10-dB change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING AND FUTURE NOISE AND VIBRATION ENVIRONMENTS

Existing and Surrounding Land Uses

North: East Atherton Drive borders the northern boundary of the project site. Existing residential uses are located to the north.

East: City-owned land and single-family residences are located to the east of the project site.

South: Single-family residences border the southern boundary of the project site.

West: South Main Street borders the western boundary of the project site. Existing residential uses are located to the west.

Existing Ambient Noise Levels

To quantify the existing ambient noise environment in the Project Vicinity, continuous (24-hour) noise level measurements were conducted on the project site on March 23rd, 2022. The noise measurement locations are shown on Figure 3.10-1. The noise level measurement survey results are provided in Table 3.10-2. Appendix B of Appendix F shows the complete results of the noise monitoring survey.

The sound level meters were programmed to collect hourly noise level intervals at each site during the survey. The maximum value (L_{max}) represents the highest noise level measured during an interval. The average value (L_{eq}) represents the energy average of all of the noise measured during an interval. The median value (L_{50}) represents the sound level exceeded 50 percent of the time during an interval.

TABLE 3.10-2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

SITE	LOCATION	DATE/TIME	L_{DN}	AVERAGE MEASURED HOURLY NOISE LEVELS, dB					
				DAYTIME (7AM-10PM)			NIGHTTIME (10PM-7AM)		
				L_{EQ}	L_{50}	L_{MAX}	L_{EQ}	L_{50}	L_{MAX}
Continuous (24-hour) Noise Level Measurements1									
LT-1	Eastern side of project site, 210 feet to Atherton Rd Centerline	3/23/2022	63	57	54	75	57	56	73
LT-2	Eastern side of project site, 350 feet to Atherton Rd Centerline	3/23/2022	64	54	51	70	58	55	73
LT-3	Western Side of project site, 50 feet to Main St centerline	3/23/2022	71	69	65	87	64	56	80

SOURCE: SAXELBY ACOUSTICS, 2022.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Existing and Future Traffic Noise Environment at Sensitive Receptors

OFF-SITE TRAFFIC NOISE IMPACT ASSESSMENT METHODOLOGY

To predict existing and cumulative noise levels due to traffic, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions.

Traffic noise analysis was conducted for roadways which would affect sensitive receptors within the project area as well as receptors which lie outside of the overall project site. Traffic noise level changes are presented by roadway rather than by planning boundary.

Traffic volumes for existing conditions were obtained from the traffic data prepared for the project (Fehr & Peers, 2022). Truck percentages and vehicle speeds on the local area roadways were estimated from field observations.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. Where traffic noise barriers are predominately

along a roadway segment, a -5 offset was added to the noise prediction model to account for various noise barrier heights. A -5 to dB offset was also applied where outdoor activity areas are shielded by intervening buildings. In some locations, sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

Table 3.10-3 shows the existing traffic noise levels in terms of L_{dn} at closest sensitive receptors along each roadway segment. A complete listing of the FHWA Model input data is contained in Appendix C of Appendix F.

TABLE 3.10-3: EXISTING TRAFFIC NOISE LEVELS

ROADWAY	*SEGMENT*	*EXTERIOR TRAFFIC NOISE LEVEL, DB L_{DN}*
SR 120 WB On-Ramp	WB Slip On-Ramp	51.2
SR 120 WB Off-Ramp	WB Off-Ramp	63.2
SR 120 EB On-Ramp	EB Slip On-Ramp	46.7
SR 120 EB Off-Ramp	EB Off-Ramp	64.9
Main Street	North of Mission Ridge Dr	55.6
Main Street	SR 120 EB and SR 120 WB	38.3
Main Street	SR 120 EB and SR 120 WB	41.7
Main Street	Between EB SR 120 and Atherton Dr	66.3
Main Street	Between Atherton Dr and Woodward Ave	60.3
Main Street	South of Woodward Ave	59.1
Main Street	Between Mission Ridge Dr and WB SR 120	43.4
Atherton Dr	East of S Main St	47.0
Atherton Dr	West of S Main St	44.4
Industrial Park Dr	East of S Main St	60.1
Mission Ridge Dr	West of S Main St	59.6
Woodward Ave	East of Main St	51.1
Woodward Ave	West of Main St	59.5

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND SAXELBY ACOUSTICS. 2022.

PREDICTED EXTERIOR TRAFFIC NOISE LEVELS

Implementation of the proposed project would result in an increase in ADT volumes on the local roadway network, and consequently, an increase in noise levels from traffic sources along affected segments. Tables 3.10-4 and 3.10-5 show the predicted traffic noise level increases on the local roadway network for Existing, Existing + Project, Cumulative No Project, and Cumulative + Project

conditions. Appendix C of Appendix F provides the complete inputs and results of the FHWA traffic noise modeling.

TABLE 3.10-4: EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

		NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING	*EXISTING + PROJECT*	*CHANGE*	*EX. GP CRITERIA*[1]	*SIGNIFICANT UNDER EX. GP?*
ROADWAY	*SEGMENT*				*PROPOSED GP CRITERIA*[2]	*SIGNIFICANT UNDER GP UPDATE?*
SR 120 WB On-Ramp	WB Slip On-Ramp	64.3	64.5	0.2	+5-10 dBA	No
					+3 dBA	No
SR 120 WB Off-Ramp	WB Off-Ramp	45.0	45.1	0.1	>60 dBA	No
					+5 dBA	No
SR 120 EB On-Ramp	EB Slip On-Ramp	41.9	42.2	0.3	>60 dBA	No
					+5 dBA	No
SR 120 EB Off-Ramp	EB Off-Ramp	56.0	56.1	0.1	>60 dBA	No
					+5 dBA	No
Main Street	North of Mission Ridge Dr	67.4	67.4	0.0	+5-10 dBA	No
					+1.5 dBA	No
Main Street	SR 120 EB and SR 120 WB	41.3	41.4	0.1	>60 dBA	No
					+5 dBA	No
Main Street	SR 120 EB and SR 120 WB	43.7	43.8	0.1	>60 dBA	No
					+5 dBA	No
Main Street	Between EB SR 120 and Atherton Dr	45.4	45.6	0.2	>60 dBA	No
					+5 dBA	No
Main Street	Between Atherton Dr and Woodward Ave	61.9	62.1	0.2	+5-10 dBA	No
					+3 dBA	No
Main Street	South of Woodward Ave	61.9	61.9	0.0	+5-10 dBA	No
					+3 dBA	No
Main Street	Between Mission Ridge Dr and WB SR 120	45.3	45.3	0.0	>60 dBA	No
					+5 dBA	No
Atherton Dr	East of S Main St	65.8	66.2	0.4	+5-10 dBA	No
					+1.5 dBA	No
Atherton Dr	West of S Main St	62.1	62.2	0.1	+5-10 dBA	No
					+3 dBA	No
Industrial Park Dr	East of S Main St	65.2	65.2	0.0	+5-10 dBA	No
					+1.5 dBA	No
Mission Ridge Dr	West of S Main St	67.4	67.4	0.0	+5-10 dBA	No
					+1.5 dBA	No
Woodward Ave	East of Main St	63.2	63.2	0.0	+5-10 dBA	No
					+3 dBA	No
Woodward Ave	West of Main St	65.9	65.9	0.0	+5-10 dBA	No
					+1.5 dBA	No

[1] *EXISTING GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS ARE INCREASED BY 10 DB OR MORE. AN INCREASE FROM 5-10 DB MAY BE SUBSTANTIAL. FACTORS TO BE CONSIDERED IN DETERMINING THE SIGNIFICANCE OF INCREASES FROM 5-10 DB INCLUDE:*

- *THE RESULTING NOISE LEVELS*
- *THE DURATION AND FREQUENCY OF THE NOISE*
- *THE NUMBER OF PEOPLE AFFECTED*
- *THE LAND USE DESIGNATION OF THE AFFECTED RECEPTOR SITES*
- *PUBLIC REACTIONS/CONTROVERSY AS DEMONSTRATED AT WORKSHOPS/HEARINGS, OR BY CORRESPONDENCE*
- *PRIOR CEQA DETERMINATIONS BY OTHER AGENCIES SPECIFIC TO THE PROJECT*

[2] *PROPOSED GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS ARE HAVE A SUBSTANTIAL INCREASE. GENERALLY, A 3 DB INCREASE IN NOISE LEVELS IS BARELY PERCEPTIBLE, AND A 5 DB INCREASE IN NOISE LEVELS IS CLEARLY PERCEPTIBLE. THEREFORE, INCREASES IN NOISE LEVELS SHALL BE CONSIDERED TO BE SUBSTANTIAL WHEN THE FOLLOWING OCCURS:*

- *WHEN EXISTING NOISE LEVELS ARE LESS THAN 60 DB, A 5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;*
- *WHEN EXISTING NOISE LEVELS ARE BETWEEN 60 DB AND 65 DB, A 3 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL;*
- *WHEN EXISTING NOISE LEVELS EXCEED 65 DB, A 1.5 DB INCREASE IN NOISE WILL BE CONSIDERED SUBSTANTIAL.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM FEHR & PEERS AND SAXELBY ACOUSTICS. 2022.

TABLE 3.10-5: CUMULATIVE AND CUMULATIVE + PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
		CUMULATIVE	CUMULATIVE + PROJECT	CHANGE	EX. GP CRITERIA[1]	SIGNIFICANT UNDER EX. GP?
					PROPOSED GP CRITERIA[2]	SIGNIFICANT UNDER GP UPDATE?
SR 120 WB On-Ramp	WB Slip On-Ramp	63.3	63.4	0.1	+5-10 dBA	No
					+3 dBA	No
SR 120 WB Off-Ramp	WB Off-Ramp	46.7	46.8	0.1	>60 dBA	No
					+5 dBA	No
SR 120 EB On-Ramp	EB Slip On-Ramp	41.6	41.9	0.3	>60 dBA	No
					+5 dBA	No
SR 120 EB Off-Ramp	EB Off-Ramp	57.9	58.0	0.1	>60 dBA	No
					+5 dBA	No
Main Street	North of Mission Ridge Dr	68.5	68.5	0.0	+5-10 dBA	No
					+1.5 dBA	No
Main Street	SR 120 EB and SR 120 WB	43.3	43.4	0.1	>60 dBA	No
					+5 dBA	No
Main Street	SR 120 EB and SR 120 WB	45.7	45.7	0.0	>60 dBA	No
					+5 dBA	No
Main Street	Between EB SR 120 and Atherton Dr	47.9	48.0	0.1	>60 dBA	No
					+5 dBA	No
Main Street	Between Atherton Dr and Woodward Ave	64.0	64.1	0.1	+5-10 dBA	No
					+3 dBA	No
Main Street	South of Woodward Ave	63.6	63.6	0.0	+5-10 dBA	No
					+3 dBA	No
Main Street	Between Mission Ridge Dr and WB SR 120	46.3	46.3	0.0	>60 dBA	No
					+5 dBA	No
Atherton Dr	East of S Main St	69.5	69.6	0.1	+5-10 dBA	No
					+1.5 dBA	No
Atherton Dr	West of S Main St	65.0	65.1	0.1	+5-10 dBA	No
					+1.5 dBA	No
Industrial Park Dr	East of S Main St	65.6	65.6	0.0	+5-10 dBA	No
					+1.5 dBA	No
Mission Ridge Dr	West of S Main St	67.8	67.8	0.0	+5-10 dBA	No
					+1.5 dBA	No
Woodward Ave	East of Main St	63.8	63.9	0.1	+5-10 dBA	No
					+3 dBA	No
Woodward Ave	West of Main St	68.6	68.6	0.0	+5-10 dBA	No
					+1.5 dBA	No

[1] EXISTING GP CRITERIA - IN MAKING A DETERMINATION OF IMPACT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), A SUBSTANTIAL INCREASE WILL OCCUR IF AMBIENT NOISE LEVELS ARE INCREASED BY 10 DB OR MORE. AN INCREASE FROM

5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:

- *the resulting noise levels*
- *the duration and frequency of the noise*
- *the number of people affected*
- *the land use designation of the affected receptor sites*
- *public reactions/controversy as demonstrated at workshops/hearings, or by correspondence*
- *prior CEQA determinations by other agencies specific to the project*

[2] Proposed GP Criteria - In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are have a substantial increase. Generally, a 3 dB increase in noise levels is barely perceptible, and a 5 dB increase in noise levels is clearly perceptible. Therefore, increases in noise levels shall be considered to be substantial when the following occurs:

- *When existing noise levels are less than 60 dB, a 5 dB increase in noise will be considered substantial;*
- *When existing noise levels are between 60 dB and 65 dB, a 3 dB increase in noise will be considered substantial;*
- *When existing noise levels exceed 65 dB, a 1.5 dB increase in noise will be considered substantial.*

Source: FHWA-RD-77-108 with inputs from Fehr & Peers and Saxelby Acoustics. 2022.

Based upon data in Tables 3.10-4 and 3.10-5, the proposed project is predicted to result in a maximum traffic noise level increase of 0.4 dB.

EVALUATION OF TRANSPORTATION NOISE ON OVERALL PROJECT SITE

Traffic Noise Levels

East Atherton Drive

Cumulative plus project traffic noise levels are predicted to be 75 dB L_{dn} at a distance of approximately 60 feet from the centerline of East Atherton Drive, assuming no shielding from intervening buildings or sound walls. The proposed residential uses are located approximately 60 feet from the centerline of East Atherton Drive. Saxelby Acoustics determined that the proposed second floor residences adjacent to East Atherton Drive would be 2 dB higher than the ground floor. Therefore, maximum exterior noise levels of 77 dB L_{dn} are predicted for these uses.

South Main Street

Cumulative plus project traffic noise levels are predicted to be 74 dB L_{dn} at a distance of 50 feet from the centerline of South Main Street, assuming no shielding from intervening buildings or sound walls. The proposed residential uses are located approximately 50 feet from the centerline of South Main Street. Saxelby Acoustics determined that the proposed second floor residences adjacent to South Main Street would be 2 dB higher than the ground floor. Therefore, maximum exterior noise levels of 76 dB L_{dn} are predicted for these uses.

CONSTRUCTION NOISE ENVIRONMENT

During the construction of the proposed project, including roads, water, and sewer lines and related infrastructure, noise from construction activities would add to the noise environment in the project vicinity. As indicated in Table 3.10-6, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

TABLE 3.10-6: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	*MAXIMUM LEVEL, DB*	
	25 FEET	*50 FEET*
Backhoe	84	78
Compactor	89	83
Compressor (air)	84	78
Concrete Saw	96	90
Dozer	88	82
Dump Truck	82	76
Excavator	87	81
Generator	87	81
Jackhammer	94	89
Pneumatic Tools	91	85

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.

CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities associated with the proposed project would happen during construction when activities such as grading, utilities placement, and road construction occur. Table 3.10-7 shows the typical vibration levels produced by construction placement.

TABLE 3.10-7: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)*	*PEAK PARTICLE VELOCITY @ 100 FEET (INCHES/SECOND)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

3.10.2 REGULATORY SETTING

FEDERAL

There are no federal regulations related to noise that apply to the proposed project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance section.

California State Building Codes

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room.

Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels

are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment

CITY OF MANTECA

The City of Manteca General Plan – Existing (2003) General Plan

The City of Manteca General Plan Noise Element contains goals, policies, and implementation measures for assessing noise impacts within the City. Listed below are the noise goals, policies, and implementation measures that are applicable to the proposed Project (City of Manteca as amended through 2016):

GOALS: NOISE

- N-1. Protect the residents of Manteca from the harmful and annoying effects of exposure to excessive noise.
- N-3. Ensure that the downtown core noise levels remain acceptable and compatible with commercial and higher density residential land uses.
- N-4. Protect public health and welfare by eliminating existing noise problems where feasible, by establishing standards for acceptable indoor and outdoor noise, and by preventing significant increases in noise levels.
- N-5. Incorporate noise considerations into land use planning decisions, and guide the location and design of transportation facilities to minimize the effects of noise on adjacent land uses.

POLICIES: NOISE

- N-P-2. New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to satisfy the performance standards in Table 9-1 [Table 3.10-8].

TABLE 3.10-8: MAXIMUM ALLOWABLE NOISE EXPOSURE MOBILE NOISE SOURCES

LAND USE[4]	*OUTDOOR ACTIVITY AREAS*[1]	*INTERIOR SPACES*	
		L_{DN}/CNEL, dB	L_{EQ}/CNEL, dB[3]
Residential	60[2]	45	--
Transient Lodging	60[2]	45	--
Hospitals, Nursing Homes	60[2]	45	--
Theatres, Auditoriums, Music Halls	--	--	35
Churches, Music Halls	60[2]	--	40
Office Buildings	65	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

NOTES: [1] OUTDOOR ACTIVITY AREAS FOR RESIDENTIAL DEVELOPMENT ARE CONSIDERED TO BE BACKYARD PATIOS OR DECKS OF SINGLE FAMILY DWELLINGS, AND THE COMMON AREAS WHERE PEOPLE GENERALLY CONGREGATE FOR MULTI-FAMILY DEVELOPMENTS. OUTDOOR ACTIVITY AREAS FOR NON-RESIDENTIAL DEVELOPMENTS ARE CONSIDERED TO BE THOSE COMMON AREAS WHERE PEOPLE

GENERALLY CONGREGATE, INCLUDING PEDESTRIAN PLAZAS, SEATING AREAS, AND OUTSIDE LUNCH FACILITIES. WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN, THE EXTERIOR NOISE LEVEL STANDARD SHALL BE APPLIED TO THE PROPERTY LINE OF THE RECEIVING LAND USE.

[2] IN AREAS WHERE IT IS NOT POSSIBLE TO REDUCE EXTERIOR NOISE LEVELS TO 60 DB L_{DN} OR BELOW USING A PRACTICAL APPLICATION OF THE BEST NOISE-REDUCTION TECHNOLOGY, AN EXTERIOR NOISE LEVEL OF UP TO 65 L_{DN} WILL BE ALLOWED.

[3] DETERMINED FOR A TYPICAL WORST-CASE HOUR DURING PERIODS OF USE.

[4] WHERE A PROPOSED USE IS NOT SPECIFICALLY LISTED ON THE TABLE, THE USE SHALL COMPLY WITH THE NOISE EXPOSURE STANDARDS FOR THE NEAREST SIMILAR USE AS DETERMINED BY THE CITY.

SOURCE: CITY OF MANTECA GENERAL PLAN, NOISE ELEMENT, TABLE 9-1.

- N-P-3. The City may permit the development of new noise-sensitive uses only where the noise level due to fixed (non-transportation) noise sources satisfies the noise level standards of Table 9-2 [Table 3.10-9]. Noise mitigation may be required to meet Table 9-2 [Table 3.10-9] performance standards.

TABLE 3.10-9: PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES OR PROJECTS AFFECTED BY STATIONARY NOISE SOURCES [1,2]

NOISE LEVEL DESCRIPTOR	*DAYTIME (7 AM – 10 PM)*	*NIGHTTIME (10 PM – 7 AM)*
Hourly L_{eq}, dB	50	45
Maximum Level, dB	70	65

NOTES: [1] EACH OF THE NOISE LEVELS SPECIFIED ABOVE SHOULD BE LOWERED BY FIVE (5) DB FOR SIMPLE NOISE TONES, NOISES CONSISTING PRIMARILY OF SPEECH OR MUSIC, OR RECURRING IMPULSIVE NOISES. SUCH NOISES ARE GENERALLY CONSIDERED BY RESIDENTS TO BE PARTICULARLY ANNOYING AND ARE A PRIMARY SOURCE OF NOISE COMPLAINTS.

[2] NO STANDARDS HAVE BEEN INCLUDED FOR INTERIOR NOISE LEVELS. STANDARD CONSTRUCTION PRACTICES SHOULD, WITH THE EXTERIOR NOISE LEVELS IDENTIFIED, RESULT IN ACCEPTABLE INTERIOR NOISE LEVELS.

SOURCE: CITY OF MANTECA GENERAL PLAN, NOISE ELEMENT, TABLE 9-2.

- N-P-5. In accord with the Table 9-2 [Table 3.10-9] standards, the City shall regulate construction-related noise impacts on adjacent uses.

IMPLEMENTATION MEASURES: NOISE

- N-I-1. New development in residential areas with an actual or projected exterior noise level of greater than 60 dB L_{dn} will be conditioned to use mitigation measures to reduce exterior noise levels to less than or equal to 60 dB L_{dn}.
- N-I-3. In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are increased by 10 dB or more. An increase from 5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:
    - the resulting noise levels
    - the duration and frequency of the noise
    - the number of people affected
    - the land use designation of the affected receptor sites
    - public reactions or controversy as demonstrated at workshops or hearings, or by correspondence
    - prior CEQA determinations by other agencies specific to the project

- N-I-4. Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours and other techniques. Use noise barriers to attenuate noise to acceptable levels.

The City of Manteca General Plan – Proposed General Plan Update

The goals and policies of the proposed General Plan are also considered in this document. The City of Manteca General Plan Update noise goals, policies, and implementation measures are included below:

GOALS

Goal S-5: Protect the quality of life by protecting the community from harmful and excessive noise.

POLICIES

S-5.1 Incorporate noise considerations into land use, transportation, and infrastructure planning decisions, and guide the location and design of noise-producing uses to minimize the effects of noise on adjacent noise-sensitive land uses, including residential uses and schools.

S-5.2 Ensure that Downtown noise levels remain acceptable and compatible with a pedestrian-oriented environment and higher density residential land uses.

S-5.3 Areas within Manteca exposed to existing or projected exterior noise levels from mobile noise sources exceeding the performance standards in Table S-1 shall be designated as noise-impacted areas.

S-5.4 Require residential and other noise-sensitive development projects to satisfy the noise level criteria in Tables S-1 and S-2.

S-5.5 Require new stationary noise sources proposed adjacent to noise sensitive uses to be mitigated so as to not exceed the noise level performance standards in Table S-2, or a substantial increase in noise levels established through a detailed ambient noise survey.

S-5.6 Regulate construction-related noise to reduce impacts on adjacent uses to the criteria identified in Table S-2 or, if the criteria in Table S-2 cannot be met, to the maximum level feasible using best management practices and complying with the MMC Chapter 9.52.

S-5.7 Where the development of residential or other noise-sensitive land use is proposed for a noise-impacted area or where the development of a stationary noise source is proposed in the vicinity of noise-sensitive uses, an acoustical analysis is required as part of the environmental review process so that noise mitigation may be considered in the project design. The acoustical analysis shall:

- Be the responsibility of the applicant.
- Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.

- Estimate existing and projected (20 years) noise levels in terms of the standards of Table S-1 or Table S-2, and compare those levels to the adopted policies of the Noise Element.
- Recommend appropriate mitigation measures to achieve compliance with the adopted policies and standards of the Noise Element.
- Estimate noise exposure after the prescribed mitigation measures have been implemented.
- If necessary, describe a post-project assessment program to monitor the effectiveness of the proposed mitigation measures.

S-5.8 Apply noise level criteria applied to land uses other than residential or other noise-sensitive uses consistent with noise performance levels of Table S-1 and Table S-2.

S-5.9 Enforce the Sound Transmission Control Standards of the California Building Code concerning the construction of new multiple occupancy dwellings such as hotels, apartments, and condominiums.

S-5.10 Ensure that new equipment and vehicles purchased by the City comply with noise level performance standards consistent with the best available noise reduction technology.

S-5.11 Require the Manteca Police Department to actively enforce requirements of the California Vehicle Code relating to vehicle mufflers and modified exhaust systems.

S-5.12 For new residential development backing on to a freeway or railroad right-of-way, the developer shall be required to provide appropriate mitigation measures to satisfy the performance standards in Table S-1.

S-5.13 It is recognized that the City and surrounding areas are considered to be urban in nature and rely upon both the industrial and agricultural economy of the area. Therefore, it is recognized that noise sources of existing uses may exceed generally accepted standards.

S-5.14 Carefully review and give potentially affected residents an opportunity to fully review any proposals for the establishment of helipads or heliports.

S-5.15 Recognizing that existing noise-sensitive uses may be exposed to increase noise levels due to circulation improvement projects associated with development under the General Plan and that it may not be feasible to reduce increased traffic noise levels to the criteria identified in Table S-1, the following criteria may be used to determine the significance of noise impacts associated with circulation improvement projects:

- Where existing traffic noise levels are less than 60 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and
- Where existing traffic noise levels range between 60 and 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a +3 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant; and
- Where existing traffic noise levels are greater than 65 dB Ldn at the outdoor activity areas of noise-sensitive uses, a + 1.5 dB Ldn increase in noise levels due to roadway improvement projects will be considered significant.

S-5.16 Work with the Federal Railroad Administration and passenger and freight rail operators to reduce exposure to rail and train noise, including establishing train horn "quiet zones" consistent with the federal regulations.

IMPLEMENTATION

S-5a Require an acoustical analysis that complies with the requirements of S-5.7 where:

- *Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels exceeding the levels specified in Table S-1 or S-2.*
- *Proposed transportation projects are likely to produce noise levels exceeding the levels specified in Table S-1 or S-2 at existing or planned noise sensitive uses.*

S-5b Assist in enforcing compliance with noise emissions standards for all types of vehicles, established by the California Vehicle Code and by federal regulations, through coordination with the Manteca Police Department and the California Highway Patrol.

S-5c Update the City's Noise Ordinance (Chapter 9.52) to reflect the noise standards established in this Noise Element and proactively enforce the City's Noise Ordinance, including requiring the following measures for construction:

- *Restrict construction activities to the hours of 7:00 a.m. to 7:00 p.m. on Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays. No construction shall be permitted outside of these hours or on Sundays or federal holidays, without a specific exemption issued by the City.*
- *A Construction Noise Management Plan shall be submitted by the applicant for construction projects, when determined necessary by the City. The Construction Noise Management Plan shall include proper posting of construction schedules, appointment of a noise disturbance coordinator, and methods for assisting in noise reduction measures.*
- *Noise reduction measures may include, but are not limited to, the following:*
    a. *Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) wherever feasible.*
    b. *Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. This muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available. this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.*
    c. *Temporary power poles shall be used instead of generators where feasible.*
    d. *Stationary noise sources shall be located as far from adjacent properties as*

possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City of provide equivalent noise reduction.

e. The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

f. Delivery of materials shall observe the hours of operation described above.

g. *Truck traffic should avoid residential areas to the extent possible.*

S-5d In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are have a substantial increase. Generally, a 3 dB increase in noise levels is barely perceptible, and a 5 dB increase in noise levels is clearly perceptible. Therefore, increases in noise levels shall be considered to be substantial when the following occurs:

- *When existing noise levels are less than 60 dB, a 5 dB increase in noise will be considered substantial;*
- *When existing noise levels are between 60 dB and 65 dB, a 3 dB increase in noise will be considered substantial;*
- *When existing noise levels exceed 65 dB, a 1.5 dB increase in noise will be considered substantial.*

Additional or alternative criteria can be used for determining a substantial increase in noise levels. For instance, if the overall increase in noise levels occurs where no noise-sensitive uses are located, then the City may use their discretion in determining if there is any impact at all. In such a case, the following alternative factors may be used for determining a substantial increase in noise levels:

- *the resulting noise levels;*
- *the duration and frequency of the noise;*
- *the number of people affected;*
- *conforming or non-conforming land uses;*
- *the land use designation of the affected receptor sites;*
- *public reactions or controversy as demonstrated at workshops or hearings, or by correspondence; and*
- *prior CEQA determinations by other agencies specific to the project.*

S-5e Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours, and similar techniques. Where such techniques would not meet acceptable levels, use noise barriers to attenuate noise associated with new noise sources to acceptable levels.

S-5f Require that all noise-attenuating features are designed to be attractive and to minimize maintenance.

S-5g Evaluate new transportation projects, such as truck routes, rail or public transit routes, and

transit stations, using the standards contained in Table S-1. However, noise from these projects may be allowed to exceed the standards contained in Table S-1, if the City Council finds that there are special overriding circumstances.

S-5h *Work with the Federal Rail Authority and passenger and freight rail service providers to establish a Quiet Zone at at-grade crossings in the City. Where new development would be affected by the train and rail noise, require project applicants to fund a fair-share of: a) studies associated with the application for a Quiet Zone, and b) alternative safety measures associated with the Quiet Zone (including, but not limited to signage, gates, lights, etc.).*

S-5i *Work in cooperation with Caltrans, the Union Pacific Railroad, San Joaquin Regional Rail Commission, and other agencies where appropriate to maintain noise level standards for both new and existing projects in compliance with Table S-1.*

S-5j *The City shall require new residential projects located adjacent to major freeways, truck routes, hard rail lines, or light rail lines to follow the FTA screening distance criteria to ensure that groundborne vibrations to do not exceed acceptable levels.*

TABLE S-1: MAXIMUM ALLOWABLE NOISE EXPOSURE FROM MOBILE NOISE SOURCES

Land Use[1]	Outdoor Activity Areas[2,3]	Interior Spaces	
		Ldn/ CNEL, dBA	Leq, dBA[4]
Residential	60	45	-
Motels/Hotels	65	45	-
Mixed-Use	65	45	
Hospitals, Nursing Homes	60	45	-
Theaters, Auditoriums	-	-	35
Churches	60	-	40
Office Buildings	65	-	45
Schools, Libraries, Museums	70	-	45
Playgrounds, Neighborhood Parks	70	-	-
Industrial	75	-	45
Golf Courses, Water Recreation	70	-	-

[1]Where a proposed use is not specifically listed, the use shall comply with the standards for the most similar use as determined by the City.

[2]Outdoor activity areas for residential development are considered to be the back yard patios or decks of single family units and the common areas where people generally congregate for multi-family developments. Where common outdoor activity areas for multi-family developments comply with the outdoor noise level standard, the standard will not be applied at patios or decks of individual units provided noise-reducing measures are incorporated (e.g., orientation of patio/deck, screening of patio with masonry or other noise-attenuating material). Outdoor activity areas for non-residential developments are the common areas where people generally congregate, including pedestrian plazas, seating areas, and outside lunch facilities; not all residential developments include outdoor activity areas.

[3]In areas where it is not possible to reduce exterior noise levels to achieve the outdoor activity area standard w using a practical application of the best noise-reduction technology, an increase of up to 5 Ldn over the standard will be allowed provided that available exterior noise reduction measures have been implemented and interior noise levels are in

compliance with this table

[4]Determined for a typical worst-case hour during periods of use.

TABLE S-2: PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES, INCLUDING AFFECTED PROJECTS[1,2,3,4]

NOISE LEVEL DESCRIPTOR	DAYTIME	NIGHTTIME
	7 AM TO 10 PM	10 PM TO 7 AM
Hourly Leq, dBA	55	45

[1]Each of the noise levels specified above should be lowered by 5 dB for simple noise tones, noises consisting primarily of speech or music, or recurring impulsive noises. Such noises are generally considered to be particularly annoying and are a primary source of noise complaints.

[2]No standards have been included for interior noise levels. Standard construction practices should, with the exterior noise levels identified, result in acceptable interior noise levels.

[3]Stationary noise sources which are typically of concern include, but are not limited to, the following:

HVAC Systems	*Cooling Towers/Evaporative Condensers*
Pump Stations	*Lift Stations*
Emergency Generators	*Boilers*
Steam Valves	*Steam Turbines*
Generators	*Fans*
Air Compressors	*Heavy Equipment*
Conveyor Systems	*Transformers*
Pile Drivers	*Grinders*
Drill Rigs	*Gas or Diesel Motors*
Welders	*Cutting Equipment*
Outdoor Speakers	*Blowers*

[4]The types of uses which may typically produce the noise sources described above include but are not limited to: industrial facilities, pump stations, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and athletic fields.

City of Manteca Municipal Code Noise Ordinance

Section 9.52.030 of the City of Manteca Municipal Code prohibits excessive or annoying noise or vibration to residential and commercial properties in the City. The following general rules are outline in the ordinance:

9.52.030 PROHIBITED NOISES—GENERAL STANDARD

No person shall make, or cause to suffer, or permit to be made upon any public property, public right-of-way or private property, any unnecessary and unreasonable noises, sounds or vibrations which are physically annoying to reasonable persons of ordinary sensitivity or which are so harsh or so prolonged or unnatural or unusual in their use, time or place as to cause or contribute to the unnecessary and unreasonable discomfort of any persons within the neighborhood from which said noises emanate or which interfere with the peace and comfort of residents or their guests, or the

operators or customers in places of business in the vicinity, or which may detrimentally or adversely affect such residences or places of business. (Ord. 1374 § 1(part), 2007)

17.58.050 D. EXEMPT ACTIVITIES

8. Construction activities when conducted as part of an approved Building Permit, except as prohibited in Subsection 17.58.050(E)(1) (Prohibited Activities) below.

17.58.050 E. Prohibited Activities

1. Construction Noise. Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work daily between the hours of 7:00 p.m. and 7:00 a.m., so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities.

VIBRATION STANDARDS

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities are addressed as potential noise impacts associated with project implementation.

Human and structural response to different vibration levels is influenced by several factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.10-10 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 3.10-10: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN./SEC.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

Source: Caltrans. Transportation Related Earthborn Vibrations. TAV-02-01-R9601 February 20, 2002.

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

Would the project:

a. Generate 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. Generate 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, would the project expose people residing or working in the project area to excessive noise levels?

Determination of a Significant Increase in Noise Levels

Existing (2003) General Plan Policies

The CEQA guidelines define a significant impact of a project if it "increases substantially the ambient noise levels for adjoining areas". Implementation Measure N-I-3 of the City of Manteca General Plan Noise Element provides specific guidance for assessing increases in ambient noise, as follows:

> *In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels are increased by 10 dB or more. An increase from 5-10 dB may be substantial. Factors to be considered in determining the significance of increases from 5-10 dB include:*
>
> - *the resulting noise levels*
> - *the duration and frequency of the noise*
> - *the number of people affected*
> - *the land use designation of the affected receptor sites*
> - *public reactions/controversy as demonstrated at workshops/hearings, or by correspondence*
> - *prior CEQA determinations by other agencies specific to the project*

Proposed General Plan Policies

Under the City's proposed General Plan Update, the following policy S-5d will apply when evaluating substantial noise increases:

In making a determination of impact under the California Environmental Quality Act (CEQA), a substantial increase will occur if ambient noise levels have a substantial increase. Generally, a 3 dB increase in noise

levels is barely perceptible, and a 5 dB increase in noise levels is clearly perceptible. Therefore, increases in noise levels shall be considered to be substantial when the following occurs:

- *When existing noise levels are less than 60 dB, a 5 dB increase in noise will be considered substantial;*
- *When existing noise levels are between 60 dB and 65 dB, a 3 dB increase in noise will be considered substantial;*
- *When existing noise levels exceed 65 dB, a 1.5 dB increase in noise will be considered substantial.*

Additional or alternative criteria can be used for determining a substantial increase in noise levels. For instance, if the overall increase in noise levels occurs where no noise-sensitive uses are located, then the City may use their discretion in determining if there is any impact at all. In such a case, the following alternative factors may be used for determining a substantial increase in noise levels:

- *the resulting noise levels;*
- *the duration and frequency of the noise;*
- *the number of people affected;*
- *conforming or non-conforming land uses;*
- *the land use designation of the affected receptor sites;*
- *public reactions or controversy as demonstrated at workshops or hearings, or by correspondence; and*
- *prior CEQA determinations by other agencies specific to the project.*

IMPACTS AND MITIGATION MEASURES

IMPACT 1: WOULD THE PROJECT GENERATE 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?

TRAFFIC NOISE INCREASES UNDER EXISTING (2003) GENERAL PLAN STANDARDS

As shown in Tables 3.10-4 and 3.10-5, some noise-sensitive receptors located along the project-area roadways within and outside of the project site are currently exposed to exterior traffic noise levels exceeding the City of Manteca 60 dB L_{dn} exterior noise level standard for residential uses. These receptors would continue to experience elevated exterior noise levels with implementation of the proposed project. For example, sensitive receptors under Existing conditions located adjacent to South Main Street between Atherton Drive and Woodward Avenue experience an exterior noise level of approximately 60.3 dB L_{dn}. Under Existing + Project conditions, exterior traffic noise levels are predicted to be approximately 60.4 dB L_{dn}. Exterior noise levels in both scenarios exceed the City's exterior noise level standard of 60 dB L_{dn}. Under the City's existing General Plan, the project's contribution of 0.1 dB would not exceed the City's increase criteria of 5-10 dB. Therefore, this would be a ***less than significant*** impact.

TRAFFIC NOISE INCREASES UNDER PROPOSED GENERAL PLAN STANDARDS

The Proposed City of Manteca General Plan Noise Element specifies criteria to determine the significance of traffic noise impacts. An increase in the traffic noise level of 1.5 dB or more would be significant where the pre-project noise levels are greater than 65 dB L_{dn}, or 3.0 dB or more where existing noise levels are between 60-65 dB L_{dn}.

According to Tables 3.10-4 and 3.10-5, the maximum noise level increase due to project traffic is predicted to be 0.4 dBA L_{dn} at Atherton Drive east of South Main Street. The road segment has a noise level of 66.2 dBA. A pre-project noise level that are greater than 65 dBA L_{dn} would need an increase in traffic noise level of 1.5 dB to be considered a significant impact. Therefore, the road segment is not considered a significant impact. All other roadway segments analyzed in the traffic study do not exceed the Proposed General Plan Standards for significant impacts. Therefore, this would be a ***less than significant*** impact.

OPERATIONAL NOISE INCREASES

As shown in Figure 3.10-2, the project is predicted to expose nearby residence to noise levels up to 34 dBA Leq, during both daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) hours. The predicted project noise levels would meet the City of Manteca daytime and nighttime noise standards for stationary non-transportation noise sources of 50 dBA, L_{eq} and 45 dBA, L_{eq}, respectively. Therefore, this would be a ***less than significant*** impact.

It should be noted that maximum noise levels generated by the residential HVAC units and on-site vehicle circulation are predicted to be 20 dBA, or less, than the average (L_{eq}) values. The City of Manteca maximum (L_{max}) nighttime noise level standard is 65 dBA Lmax, which is 20 dBA higher than the L_{eq} standard. Therefore, where average noise levels are in compliance with the L_{eq} standards, maximum noise levels will also meet the County's standards. Based upon the predicted noise levels of 34 dBA, L_{eq} at the nearest sensitive receptor, the maximum noise levels will be 55 dBA, L_{max} and comply with the City maximum standards.

CONSTRUCTION NOISE

During the construction of the project, including roads, water, sewer lines, and related infrastructure, noise from construction activities would add to the noise environment in the project vicinity. Existing receptors adjacent to the proposed construction activities are located north, south, east, and west of the site.

As indicated in Table 3.10-6, activities involved in construction would generate maximum noise levels ranging from 82 to 96 dB L_{max} at a distance of 50 feet. Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration and would likely occur primarily during daytime hours.

Construction activities would be temporary in nature and are exempt from noise regulation during the hours of 7:00 AM to 7:00 PM, as outlined in the City's Municipal Code:

> **17.58.050 D. Exempt Activities**
>
> 8. Construction activities when conducted as part of an approved Building Permit, except as prohibited in Subsection 17.58.050(E)(1) (Prohibited Activities) below.
>
> **17.58.050 E. Prohibited Activities**
>
> 1. Construction Noise. Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work daily between the hours of 7:00 p.m. and 7:00 a.m., so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities.

Therefore, with implementation of MM 3.10-1, temporary construction noise impacts would be reduced to less than significant.

EXTERIOR TRANSPORTATION NOISE AT PROPOSED USES

Figure 3.10-3 shows the predicted transportation noise levels at the proposed project site. The proposed project includes the construction of a pool area. Based on Figure 3.10-3, the predicted noise level at the residential outdoor activity area is estimated to be 50 dBA, L_{dn}. This would comply with the City of Manteca noise standard for residential outdoor activity area of 60 dBA. Therefore, no noise control measures would be required to meet this standard.

INTERIOR NOISE IMPACTS AT PROPOSED RESIDENTIAL USES

Modern construction typically provides a 25-dB exterior-to-interior noise level reduction with windows closed. Therefore, sensitive receptors exposed to exterior noise of 70 dB L_{dn}, or less, will typically comply with the City of Manteca 45 dB L_{dn} interior noise level standard. Additional noise reduction measures, such as acoustically-rated windows, are generally required for exterior noise levels exceeding 70 dB L_{dn}.

It should be noted that noise barriers do not typically reduce exterior noise levels at second floor locations. The proposed residential uses are predicted to be exposed to unmitigated first-floor exterior transportation noise levels up to 75 dBA L_{dn} at the residential units adjacent to East Atherton Drive and 74 dBA L_{dn} adjacent to South Main Street. Saxelby Acoustics determined that second-floor receivers would be exposed to noise levels 2 dB higher than ground floor receivers. Therefore, noise levels of 77 dB L_{dn} are expected at the second-floor facades.

Based upon a 25-dB exterior-to-interior noise level reduction, interior noise levels are predicted to be up to 52-53 dB L_{dn} at second floors and 49-50 dBA L_{dn} at first floors. Accordingly, predicted interior

noise levels along the first row of residential uses along East Atherton Drive and South Main Street are predicted to exceed the City's 45 dB L_{dn} interior noise level standard at second floor locations.

Appendix D (See Appendix F of this EIR) shows an estimate of the interior noise control measures required to meet the City's interior noise level standards. Figure 3.10-4 shows a summary of estimated noise control measures as well as the facades requiring acoustic upgrades.

Implementation of the following mitigation measure will ensure that these potential impacts are reduced to a ***less-than-significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.10-1A: *Construction activities shall adhere to the requirements of the City of Manteca Municipal Code with respect to hours of operation. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department.*

Mitigation Measure 3.10-1B: *All equipment shall be fitted with factory equipped mufflers, and in good working order. This requirement shall be noted in the improvements plans prior to approval by the City's Public Works Department.*

Mitigation Measure 3.10-: *The first rows of residential units adjacent to the East Atherton Drive and South Main Street right of way shall include the following noise control measures:*

- *Windows shall have a sound transmission class (STC) rating of 36;*
- *Interior gypsum at exterior walls shall be 5/8" on resilient channels or staggered stud walls;*
- *Ceiling gypsum shall be 5/8";*
- *Flooring shall be carpet on foam padding in bedrooms and vinyl plank in living rooms;*
- *Exterior finish shall be stucco, fiber cement lap siding, or system with equivalent weight per square foot;*
- *Mechanical ventilation shall be installed in all residential uses to allow residents to keep doors and windows closed, as desired for acoustical isolation.*
- *As an alternative to the above-listed interior noise control measures, the applicant may provide a detailed analysis of interior noise control measures once building plans become available. The analysis should be prepared by a qualified noise control engineer and shall outline the specific measures required to meet the City of Manteca 45 dB L_{dn} interior noise level standard.*

It should be noted that interior noise control measures are based upon an estimate of the future residence layouts. These assumptions should be verified once floor plans become available for an accurate assessment of interior noise control measures.

IMPACT 2: WOULD THE PROJECT GENERATE EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS?

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage.

The Table 3.10-7 data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec threshold at distances of 26 feet. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located further than 26 feet from typical construction activities. At distances greater than 26 feet construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

This is a ***less-than-significant*** impact and no mitigation is required.

IMPACT 3: 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, WOULD THE PROJECT EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS?

There are no airports within two miles of the project vicinity. Therefore, this impact is not applicable to the proposed project.

SOMA Apartments

City of Manteca, California

Figure 1

Noise Measurement Sites

Legend

- Project Site
- Noise Measurement - Long Term

0 m 50 m 100 m 150 m

Projection: UTM Zone 10 / WGS84 / meters
Rev. Date: 03/25/2022

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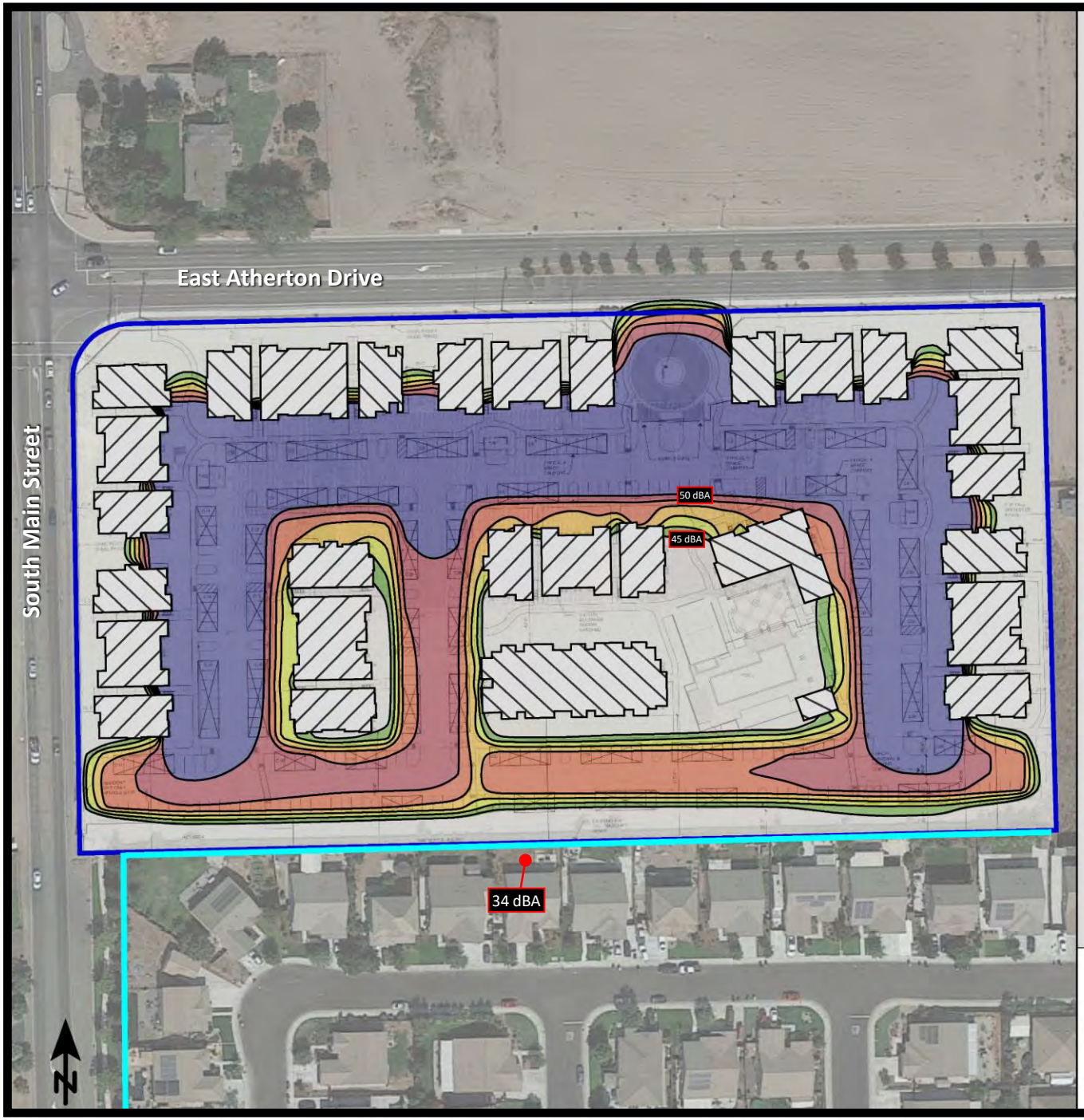

SOMA Apartments

City of Manteca, California

Figure 3.10-2

Project-Generated Noise Contours (dBA L_{eq})

Signs and symbols

- Project Boundary
- Existing Wall
- Proposed Building

Levels in dB(A)

- <= 45
- 45 - 46
- 46 - 47
- 47 - 48
- 48 - 49
- 49 - 50
- > 50

1 : 1600

0 10 20 40 60 80 m

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SOMA Apartments

City of Manteca, California

Figure 3.10-3

Cumulative Plus Project Transportation Noise Contours (dBA L_{dn})

Signs and symbols

- Project Boundary
- Existing Wall
- Proposed Building

Levels in dB(A)

- <= 65
- 65 - 66
- 66 - 67
- 67 - 68
- 68 - 69
- 69 - 70
- > 70

1 : 1600

0 10 20 40 60 80 m

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SOMA Apartments

City of Manteca, California

Figure 3.10-4

Interior Noise Control Measures

Legend

Facades Needing Acoustic Upgrades

Interior Noise Control Measures
(Required for Indicated Facades of Proposed Building)

- *Glazing shall have a sound transmission class (STC) rating of 36 minimum;*
- *Exterior finish shall be stucco with sheathing;*
- *Interior gypsum at exterior walls shall be 5/8" on resilient channel or 5/8" on staggered stud wall assembly;*
- *Flooring shall be carpet on foam padding in bedrooms and vinyl plank in living rooms;*
- *Ceiling gypsum shall be 5/8";*
- *Mechanical ventilation shall be installed in all residential uses to allow residents to keep doors and windows closed, as desired for acoustical isolation;*
- *No PTAC's shall be used.*

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Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

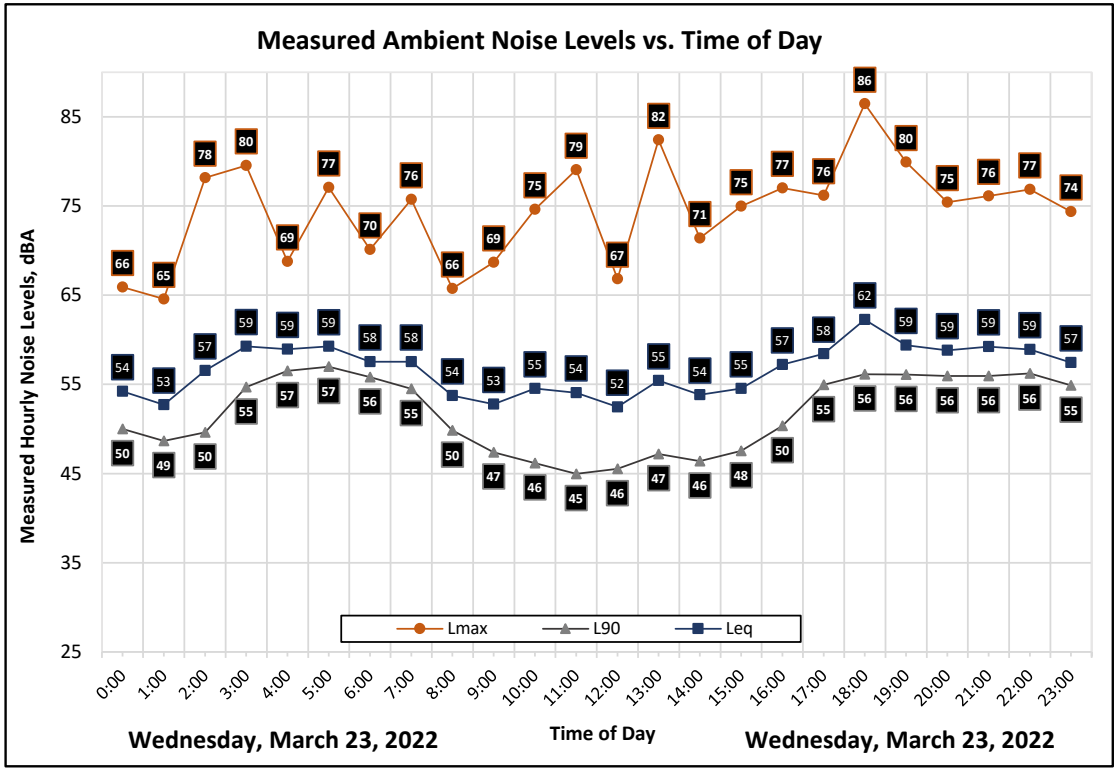
Appendix B: Continuous and Short-Term Ambient Noise Measurement Results

Appendix B1: Continuous Noise Monitoring Results

Site: LT-1
Project: SOMA Apartments
Location: East Project Boundary
Coordinates: 37.7786969°, -121.2125538°
Meter: LDL 820-1
Calibrator: CAL200

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Wednesday, March 23, 2022	0:00	54	66	53	50
Wednesday, March 23, 2022	1:00	53	65	52	49
Wednesday, March 23, 2022	2:00	57	78	54	50
Wednesday, March 23, 2022	3:00	59	80	58	55
Wednesday, March 23, 2022	4:00	59	69	59	57
Wednesday, March 23, 2022	5:00	59	77	59	57
Wednesday, March 23, 2022	6:00	58	70	57	56
Wednesday, March 23, 2022	7:00	58	76	56	55
Wednesday, March 23, 2022	8:00	54	66	53	50
Wednesday, March 23, 2022	9:00	53	69	51	47
Wednesday, March 23, 2022	10:00	55	75	49	46
Wednesday, March 23, 2022	11:00	54	79	48	45
Wednesday, March 23, 2022	12:00	52	67	49	46
Wednesday, March 23, 2022	13:00	55	82	50	47
Wednesday, March 23, 2022	14:00	54	71	50	46
Wednesday, March 23, 2022	15:00	55	75	51	48
Wednesday, March 23, 2022	16:00	57	77	55	50
Wednesday, March 23, 2022	17:00	58	76	57	55
Wednesday, March 23, 2022	18:00	62	86	58	56
Wednesday, March 23, 2022	19:00	59	80	58	56
Wednesday, March 23, 2022	20:00	59	75	58	56
Wednesday, March 23, 2022	21:00	59	76	58	56
Wednesday, March 23, 2022	22:00	59	77	58	56
Wednesday, March 23, 2022	23:00	57	74	57	55

Statistics	Leq	Lmax	L50	L90
Day Average	57	75	54	51
Night Average	57	73	56	54
Day Low	52	66	48	45
Day High	62	86	58	56
Night Low	53	65	52	49
Night High	59	80	59	57
Ldn	63	Day %		64
CNEL	64	Night %		36

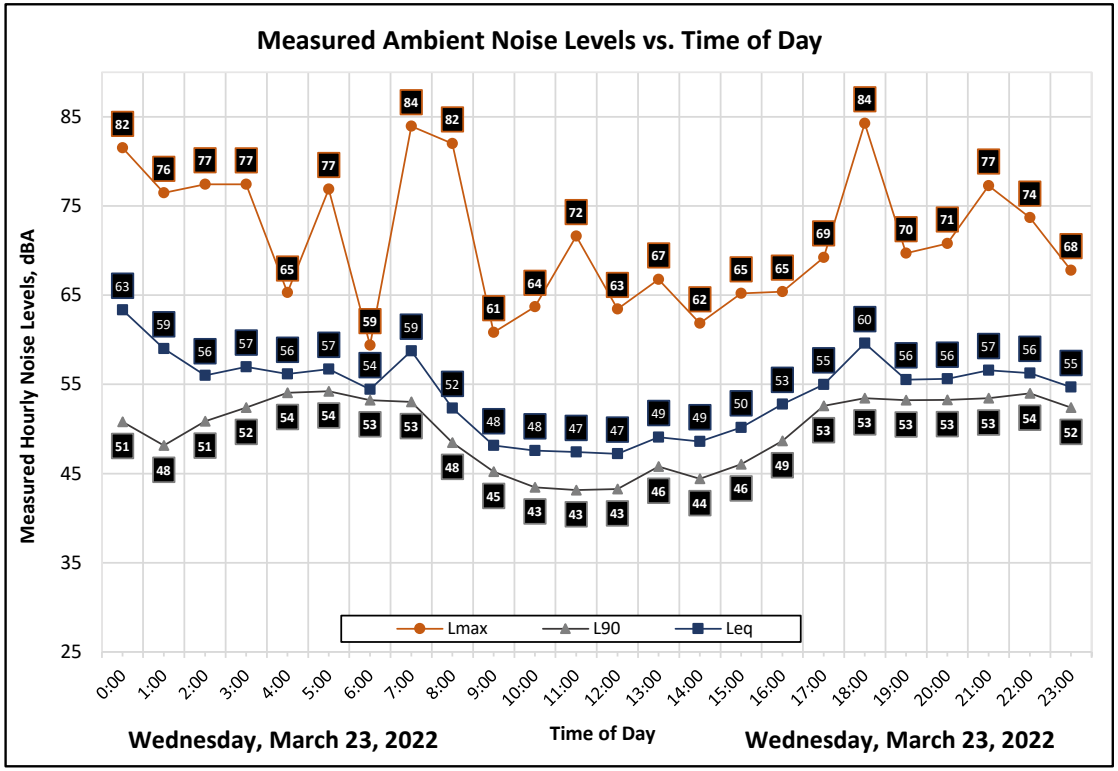


Appendix B2: Continuous Noise Monitoring Results

Site: LT-2
Project: SOMA Apartments
Meter: LDL 820-2
Location: East Project Boundary
Calibrator: CAL200
Coordinates: 37.7780050°, -121.2125424°

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Wednesday, March 23, 2022	0:00	63	82	58	51
Wednesday, March 23, 2022	1:00	59	76	54	48
Wednesday, March 23, 2022	2:00	56	77	53	51
Wednesday, March 23, 2022	3:00	57	77	55	52
Wednesday, March 23, 2022	4:00	56	65	56	54
Wednesday, March 23, 2022	5:00	57	77	56	54
Wednesday, March 23, 2022	6:00	54	59	54	53
Wednesday, March 23, 2022	7:00	59	84	55	53
Wednesday, March 23, 2022	8:00	52	82	50	48
Wednesday, March 23, 2022	9:00	48	61	47	45
Wednesday, March 23, 2022	10:00	48	64	46	43
Wednesday, March 23, 2022	11:00	47	72	45	43
Wednesday, March 23, 2022	12:00	47	63	46	43
Wednesday, March 23, 2022	13:00	49	67	48	46
Wednesday, March 23, 2022	14:00	49	62	47	44
Wednesday, March 23, 2022	15:00	50	65	49	46
Wednesday, March 23, 2022	16:00	53	65	52	49
Wednesday, March 23, 2022	17:00	55	69	54	53
Wednesday, March 23, 2022	18:00	60	84	55	53
Wednesday, March 23, 2022	19:00	56	70	55	53
Wednesday, March 23, 2022	20:00	56	71	55	53
Wednesday, March 23, 2022	21:00	57	77	55	53
Wednesday, March 23, 2022	22:00	56	74	56	54
Wednesday, March 23, 2022	23:00	55	68	54	52

Statistics	Leq	Lmax	L50	L90
Day Average	54	70	51	48
Night Average	58	73	55	52
Day Low	47	61	45	43
Day High	60	84	55	53
Night Low	54	59	53	48
Night High	63	82	58	54
Ldn	64	Day %		43
CNEL	64	Night %		57

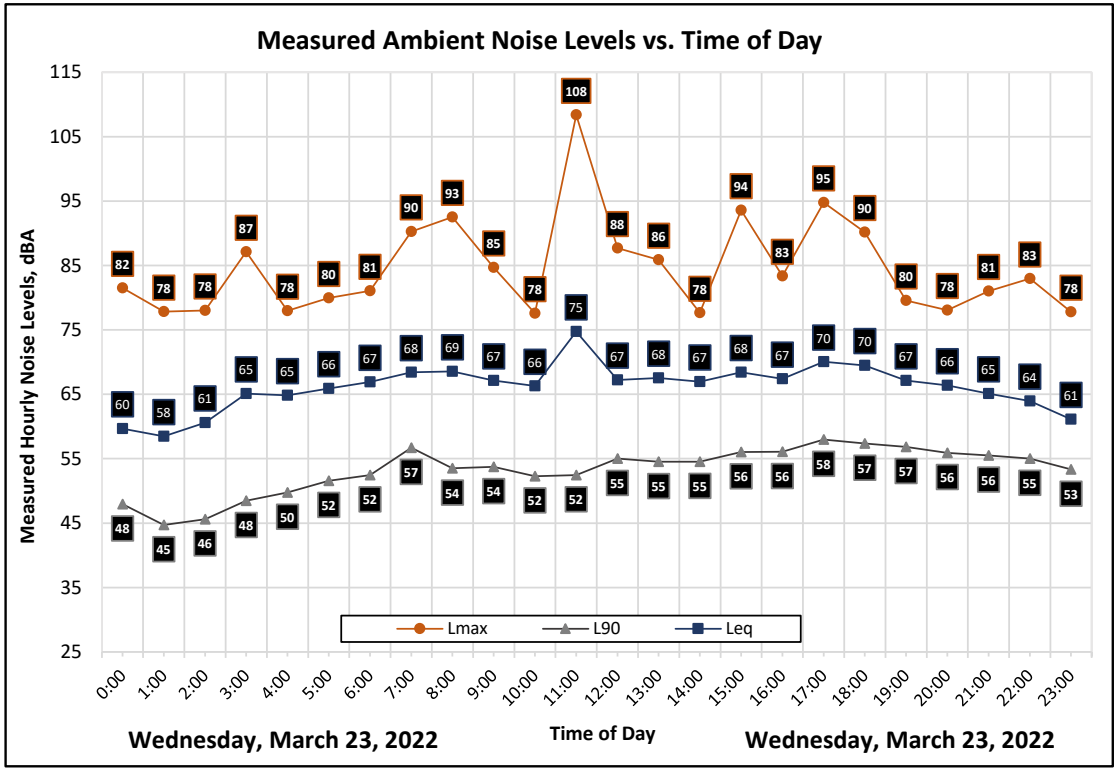


Appendix B3: Continuous Noise Monitoring Results

Site: LT-3
Project: SOMA Apartments
Location: South-West Project Boundary
Coordinates: 37.7777789°, -121.2155478°
Meter: LDL 820-3
Calibrator: CAL200

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Wednesday, March 23, 2022	0:00	60	82	51	48
Wednesday, March 23, 2022	1:00	58	78	48	45
Wednesday, March 23, 2022	2:00	61	78	50	46
Wednesday, March 23, 2022	3:00	65	87	54	48
Wednesday, March 23, 2022	4:00	65	78	58	50
Wednesday, March 23, 2022	5:00	66	80	61	52
Wednesday, March 23, 2022	6:00	67	81	64	52
Wednesday, March 23, 2022	7:00	68	90	66	57
Wednesday, March 23, 2022	8:00	69	93	65	54
Wednesday, March 23, 2022	9:00	67	85	65	54
Wednesday, March 23, 2022	10:00	66	78	65	52
Wednesday, March 23, 2022	11:00	75	108	65	52
Wednesday, March 23, 2022	12:00	67	88	65	55
Wednesday, March 23, 2022	13:00	68	86	66	55
Wednesday, March 23, 2022	14:00	67	78	66	55
Wednesday, March 23, 2022	15:00	68	94	66	56
Wednesday, March 23, 2022	16:00	67	83	66	56
Wednesday, March 23, 2022	17:00	70	95	67	58
Wednesday, March 23, 2022	18:00	70	90	67	57
Wednesday, March 23, 2022	19:00	67	80	66	57
Wednesday, March 23, 2022	20:00	66	78	64	56
Wednesday, March 23, 2022	21:00	65	81	62	56
Wednesday, March 23, 2022	22:00	64	83	59	55
Wednesday, March 23, 2022	23:00	61	78	56	53

Statistics	Leq	Lmax	L50	L90
Day Average	69	87	65	55
Night Average	64	80	56	50
Day Low	65	78	62	52
Day High	75	108	67	58
Night Low	58	78	48	45
Night High	67	87	64	55
Ldn	71	Day %		86
CNEL	71	Night %		14



Appendix C: Traffic Noise Calculation Inputs and Results

Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220305
Description: SOMA Apartmetns - Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	SR 120	S Main St WB Slip On-Ramp	10,518	70	0	30	1.0%	1.0%	65	93	-5	390	181	84	64.3
2	SR 120	S Main St WB Off-Ramp	4,902	70	0	30	1.0%	1.0%	65	1090	-5	234	109	51	45.0
3	SR 120	S Main St EB Slip On-Ramp	3,747	70	0	30	1.0%	3.0%	65	1600	-5	215	100	46	41.9
4	SR 120	S Main St EB Off-Ramp	9,485	70	0	30	1.0%	1.0%	65	312	-5	364	169	78	56.0
5	Atherton Dr	East of S Main St	7,402	64	0	36	1.0%	1.0%	45	73	0	179	83	39	65.8
6	Atherton Dr	West of S Main St	9,401	64	0	36	1.0%	1.0%	45	70	-5	210	97	45	62.1
7	Industrial Park Dr	East of S Main St	12,137	65	0	35	1.0%	1.0%	35	73	0	163	76	35	65.2
8	Main Street	North of Mission Ridge Dr/Industrial Park Dr	19,562	71	0	29	1.0%	1.0%	35	66	0	204	95	44	67.4
9	Main Street	NB SR 120 EB and SR 120 WB	8,428	71	0	29	1.0%	1.0%	35	950	-5	116	54	25	41.3
10	Main Street	SB SR 120 EB and SR 120 WB	14,394	71	0	29	1.0%	1.0%	35	950	-5	166	77	36	43.7
11	Main Street	Between EB SR 120 and Atherton Dr	20,991	71	0	29	1.0%	1.0%	35	932	-5	214	99	46	45.4
12	Main Street	Between Atherton Dr and Woodward Ave	15,740	71	0	29	1.0%	1.0%	35	61	-5	177	82	38	61.9
13	Main Street	South of Woodward Ave	14,341	71	0	29	1.0%	1.0%	45	86	-5	250	116	54	61.9
14	Main Street	Between Mission Ridge Dr/Industrial Park Dr and WB SR 120	27,193	71	0	29	1.0%	1.0%	35	1132	-5	254	118	55	45.3
15	Mission Ridge Dr	West of S Main St	11,066	65	0	35	1.0%	1.0%	30	42	0	130	60	28	67.4
16	Woodward Ave	East of Main St	9,644	65	0	35	1.0%	1.0%	45	60	-5	210	98	45	63.2
17	Woodward Ave	West of Main St	6,939	65	0	35	1.0%	1.0%	45	68	0	169	78	36	65.9

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Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220305
Description: SOMA Apartments - Existing Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	SR 120	S Main St WB Slip On-Ramp	10,792	70	0	30	1.0%	1.0%	65	93	-5	397	184	85	64.5
2	SR 120	S Main St WB Off-Ramp	5,001	70	0	30	1.0%	1.0%	65	1090	-5	238	110	51	45.1
3	SR 120	S Main St EB Slip On-Ramp	3,960	70	0	30	1.0%	3.0%	65	1600	-5	223	103	48	42.2
4	SR 120	S Main St EB Off-Ramp	9,705	70	0	30	1.0%	1.0%	65	312	-5	370	172	80	56.1
5	Atherton Dr	East of S Main St	8,010	64	0	36	1.0%	1.0%	45	73	0	188	87	41	66.2
6	Atherton Dr	West of S Main St	9,546	64	0	36	1.0%	1.0%	45	70	-5	212	98	46	62.2
7	Industrial Park Dr	East of S Main St	12,160	65	0	35	1.0%	1.0%	35	73	0	163	76	35	65.2
8	Main Street	North of Mission Ridge Dr/Industrial Park Dr	19,730	71	0	29	1.0%	1.0%	35	66	0	205	95	44	67.4
9	Main Street	NB SR 120 EB and SR 120 WB	8,565	71	0	29	1.0%	1.0%	35	950	-5	118	55	25	41.4
10	Main Street	SB SR 120 EB and SR 120 WB	14,774	71	0	29	1.0%	1.0%	35	950	-5	169	79	36	43.8
11	Main Street	Between EB SR 120 and Atherton Dr	22,017	71	0	29	1.0%	1.0%	35	932	-5	221	103	48	45.6
12	Main Street	Between Atherton Dr and Woodward Ave	16,553	71	0	29	1.0%	1.0%	35	61	-5	183	85	39	62.1
13	Main Street	South of Woodward Ave	14,349	71	0	29	1.0%	1.0%	45	86	-5	250	116	54	61.9
14	Main Street	Between Mission Ridge Dr/Industrial Park Dr and WB SR 120	27,337	71	0	29	1.0%	1.0%	35	1132	-5	255	118	55	45.3
15	Mission Ridge Dr	West of S Main St	11,096	65	0	35	1.0%	1.0%	30	42	0	130	60	28	67.4
16	Woodward Ave	East of Main St	9,766	65	0	35	1.0%	1.0%	45	60	-5	212	98	46	63.2
17	Woodward Ave	West of Main St	6,954	65	0	35	1.0%	1.0%	45	68	0	169	78	36	65.9

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Appendix C-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220305
Description: SOMA Apartments - Cumulative
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	SR 120	S Main St WB Slip On-Ramp	8,193	70	0	30	1.0%	1.0%	65	93	-5	330	153	71	63.3
2	SR 120	S Main St WB Off-Ramp	7,319	70	0	30	1.0%	1.0%	65	1090	-5	306	142	66	46.7
3	SR 120	S Main St EB Slip On-Ramp	3,511	70	0	30	1.0%	3.0%	65	1600	-5	206	95	44	41.6
4	SR 120	S Main St EB Off-Ramp	14,774	70	0	30	1.0%	1.0%	65	312	-5	489	227	105	57.9
5	Atherton Dr	East of S Main St	17,184	64	0	36	1.0%	1.0%	45	73	0	313	146	68	69.5
6	Atherton Dr	West of S Main St	18,248	64	0	36	1.0%	1.0%	45	70	-5	326	151	70	65.0
7	Industrial Park Dr	East of S Main St	13,125	65	0	35	1.0%	1.0%	35	73	0	172	80	37	65.6
8	Main Street	North of Mission Ridge Dr/Industrial Park Dr	25,521	71	0	29	1.0%	1.0%	35	66	0	244	113	53	68.5
9	Main Street	NB SR 120 EB and SR 120 WB	13,247	71	0	29	1.0%	1.0%	35	950	-5	157	73	34	43.3
10	Main Street	SB SR 120 EB and SR 120 WB	22,868	71	0	29	1.0%	1.0%	35	950	-5	227	105	49	45.7
11	Main Street	Between EB SR 120 and Atherton Dr	37,073	71	0	29	1.0%	1.0%	35	932	-5	313	145	67	47.9
12	Main Street	Between Atherton Dr and Woodward Ave	25,308	71	0	29	1.0%	1.0%	35	61	-5	242	113	52	64.0
13	Main Street	South of Woodward Ave	21,098	71	0	29	1.0%	1.0%	45	86	-5	323	150	70	63.6
14	Main Street	Between Mission Ridge Dr/Industrial Park Dr and WB SR 120	34,094	71	0	29	1.0%	1.0%	35	1132	-5	296	137	64	46.3
15	Mission Ridge Dr	West of S Main St	12,289	65	0	35	1.0%	1.0%	30	42	0	139	65	30	67.8
16	Woodward Ave	East of Main St	11,202	65	0	35	1.0%	1.0%	45	60	-5	232	108	50	63.8
17	Woodward Ave	West of Main St	12,920	65	0	35	1.0%	1.0%	45	68	0	256	119	55	68.6

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Appendix C-4

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220305
Description: SOMA Apartments - Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	SR 120	S Main St WB Slip On-Ramp	8,466	70	0	30	1.0%	1.0%	65	93	-5	337	157	73	63.4
2	SR 120	S Main St WB Off-Ramp	7,418	70	0	30	1.0%	1.0%	65	1090	-5	309	143	67	46.8
3	SR 120	S Main St EB Slip On-Ramp	3,724	70	0	30	1.0%	3.0%	65	1600	-5	214	99	46	41.9
4	SR 120	S Main St EB Off-Ramp	14,995	70	0	30	1.0%	1.0%	65	312	-5	494	229	106	58.0
5	Atherton Dr	East of S Main St	17,792	64	0	36	1.0%	1.0%	45	73	0	321	149	69	69.6
6	Atherton Dr	West of S Main St	18,392	64	0	36	1.0%	1.0%	45	70	-5	328	152	71	65.1
7	Industrial Park Dr	East of S Main St	13,156	65	0	35	1.0%	1.0%	35	73	0	172	80	37	65.6
8	Main Street	North of Mission Ridge Dr/Industrial Park Dr	25,688	71	0	29	1.0%	1.0%	35	66	0	245	114	53	68.5
9	Main Street	NB SR 120 EB and SR 120 WB	13,460	71	0	29	1.0%	1.0%	35	950	-5	159	74	34	43.4
10	Main Street	SB SR 120 EB and SR 120 WB	23,248	71	0	29	1.0%	1.0%	35	950	-5	229	106	49	45.7
11	Main Street	Between EB SR 120 and Atherton Dr	38,099	71	0	29	1.0%	1.0%	35	932	-5	318	148	69	48.0
12	Main Street	Between Atherton Dr and Woodward Ave	26,121	71	0	29	1.0%	1.0%	35	61	-5	248	115	53	64.1
13	Main Street	South of Woodward Ave	21,128	71	0	29	1.0%	1.0%	45	86	-5	323	150	70	63.6
14	Main Street	Between Mission Ridge Dr/Industrial Park Dr and WB SR 120	34,314	71	0	29	1.0%	1.0%	35	1132	-5	297	138	64	46.3
15	Mission Ridge Dr	West of S Main St	12,327	65	0	35	1.0%	1.0%	30	42	0	140	65	30	67.8
16	Woodward Ave	East of Main St	11,286	65	0	35	1.0%	1.0%	45	60	-5	234	108	50	63.9
17	Woodward Ave	West of Main St	12,950	65	0	35	1.0%	1.0%	45	68	0	256	119	55	68.6

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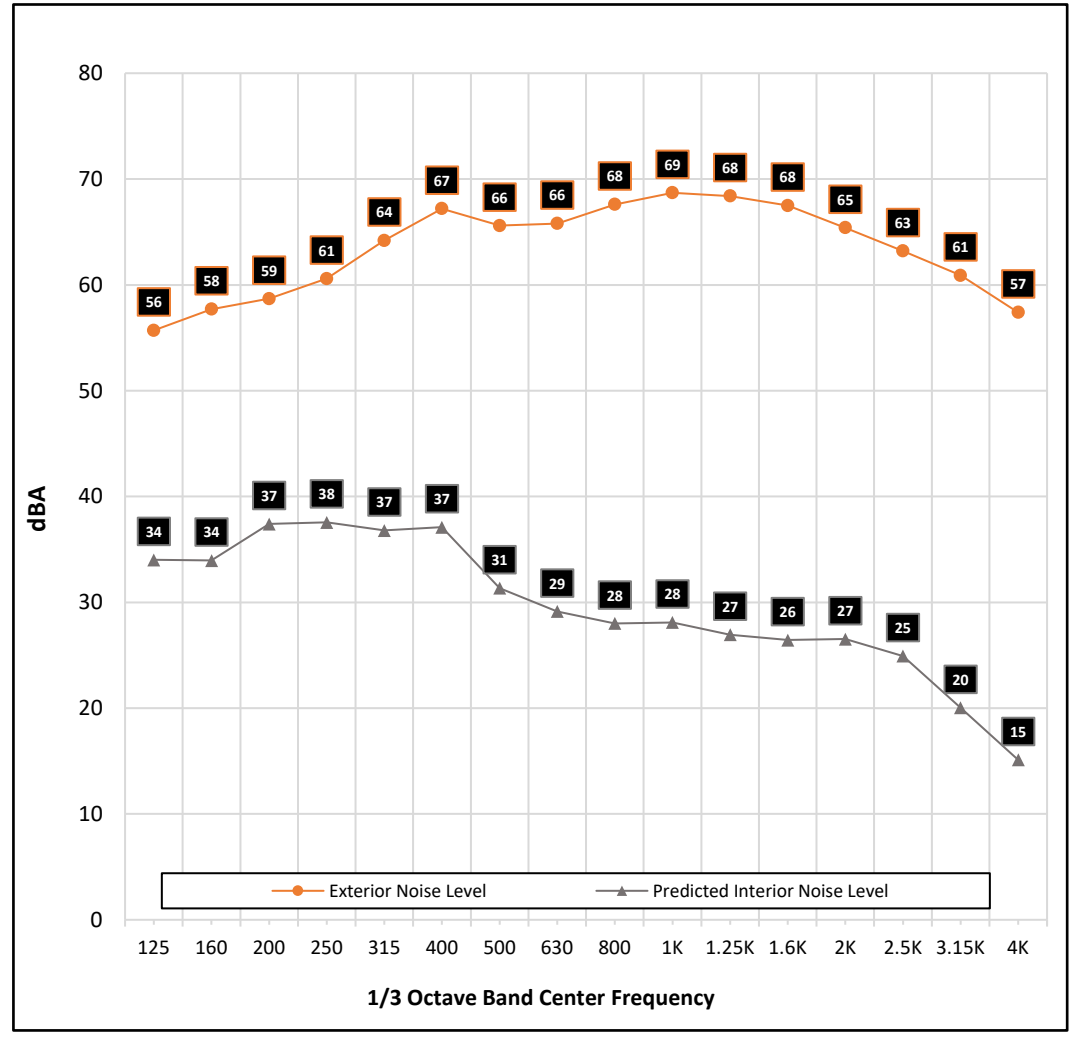
Appendix D: Interior Noise Calculations

Appendix D1: Interior Noise Calculation Sheet

Project: SOMA Apartments
Room Description: Bedroom

Inputs		
Parallel Exterior level, dBA:	77.0	Ldn
Correction Factor, dBA:	5.0	
Noise Source:	Arterial Traffic	
Room Perimeter, ft:	40.0	
Room Area, ft:	100.0	
Room Height, ft:	9.0	
Transmitting Panel Length, ft:	20.0	
Glazing Area, ft:	24.0	
Ceiling Finish:	Gyp Board	
Ceiling, sf:	100	
Wall Finish 1:	Gyp Board	
Wall Finish 1, sf:	336	
Wall Finish 2:	Glass	
Wall Finish 2, sf:	24	
Floor:	Carpet, on foam rubber pad	
Floor, sf:	100	
Misc. Finish:	Soft Furnishings	
Misc. Finish, sf:	25	
Transmitting Element 1:	Wall - 1-Coat Stucco, RC 5/8" gyp INSUL	
Element 1, sf:	156	
Transmitting Element 2:	Glazing - STC 36	
Element 2, sf:	24	
Transmitting Element 3:		
Element 3, sf:		
Transmitting Element 4:		
Element 4, sf:		

Predicted Interior Noise Level, dBA: 45
Noise Reduction, dBA: -32



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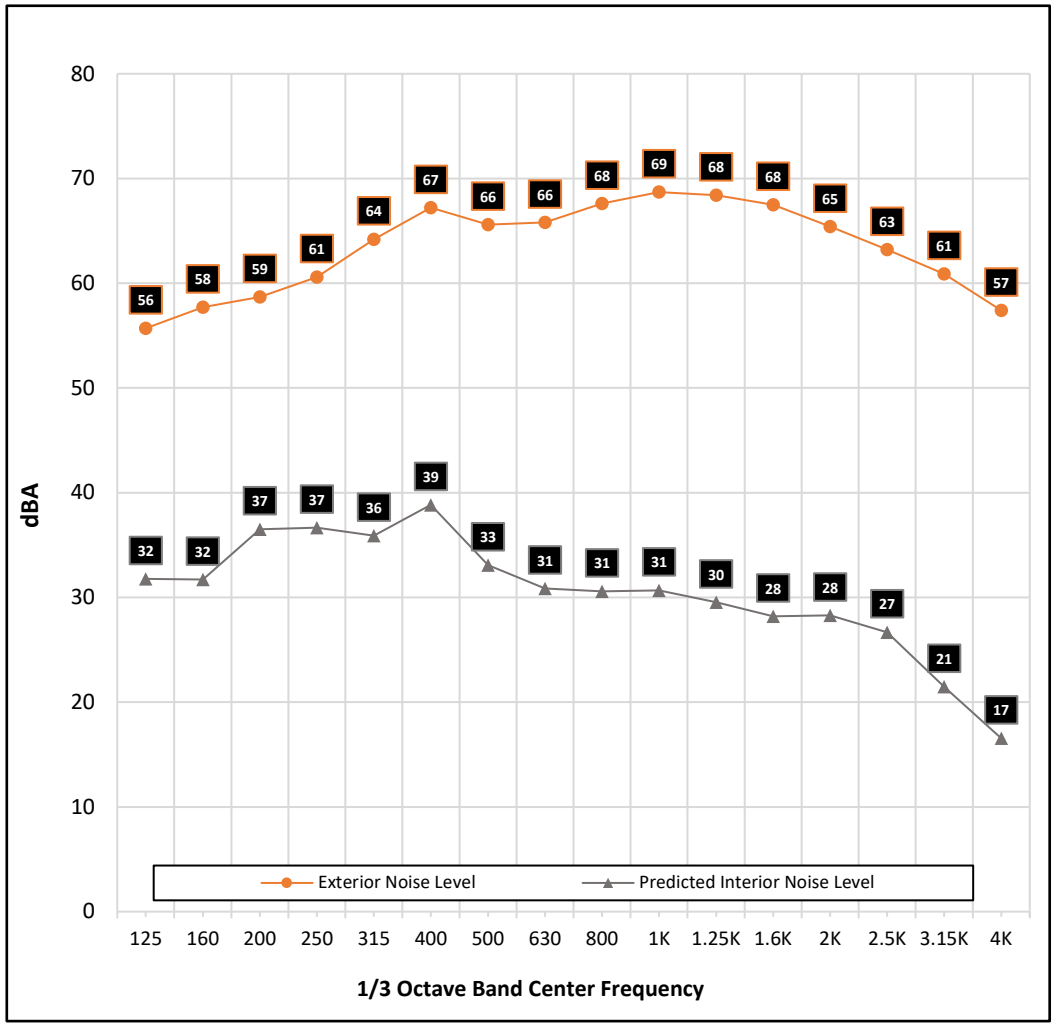
Appendix D2: Interior Noise Calculation Sheet

Project: SOMA Apartments
Room Description: Living Room

Inputs

Parallel Exterior level, dBA:	77.0	**Ldn**
Correction Factor, dBA:	5.0	
Noise Source:	Arterial Traffic	
Room Perimeter, ft:	64.0	
Room Area, ft:	240.0	
Room Height, ft:	9.0	
Transmitting Panel Length, ft:	20.0	
Glazing Area, ft:	24.0	
Ceiling Finish:	Gyp Board	
Ceiling, sf:	240	
Wall Finish 1:	Gyp Board	
Wall Finish 1, sf:	552	
Wall Finish 2:	Glass	
Wall Finish 2, sf:	24	
Floor:	Vinyl Plank	
Floor, sf:	240	
Misc. Finish:	Soft Furnishings	
Misc. Finish, sf:	25	
Transmitting Element 1:	Wall - 1-Coat Stucco, RC 5/8" gyp INSUL	
Element 1, sf:	156	
Transmitting Element 2:	Glazing - STC 36	
Element 2, sf:	24	
Transmitting Element 3:		
Element 3, sf:		
Transmitting Element 4:		
Element 4, sf:		

Predicted Interior Noise Level, dBA: 45
Noise Reduction, dBA: -32



APPENDIX D: TRANSPORTATION IMPACT ANALYSIS REPORT

The SOMA Apartments Project

Transportation Analysis Report

Prepared for:
De Novo Planning Group
City of Manteca

November 15, 2022

RS22-4159

FEHR PEERS

FEHR PEERS

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1. Introduction

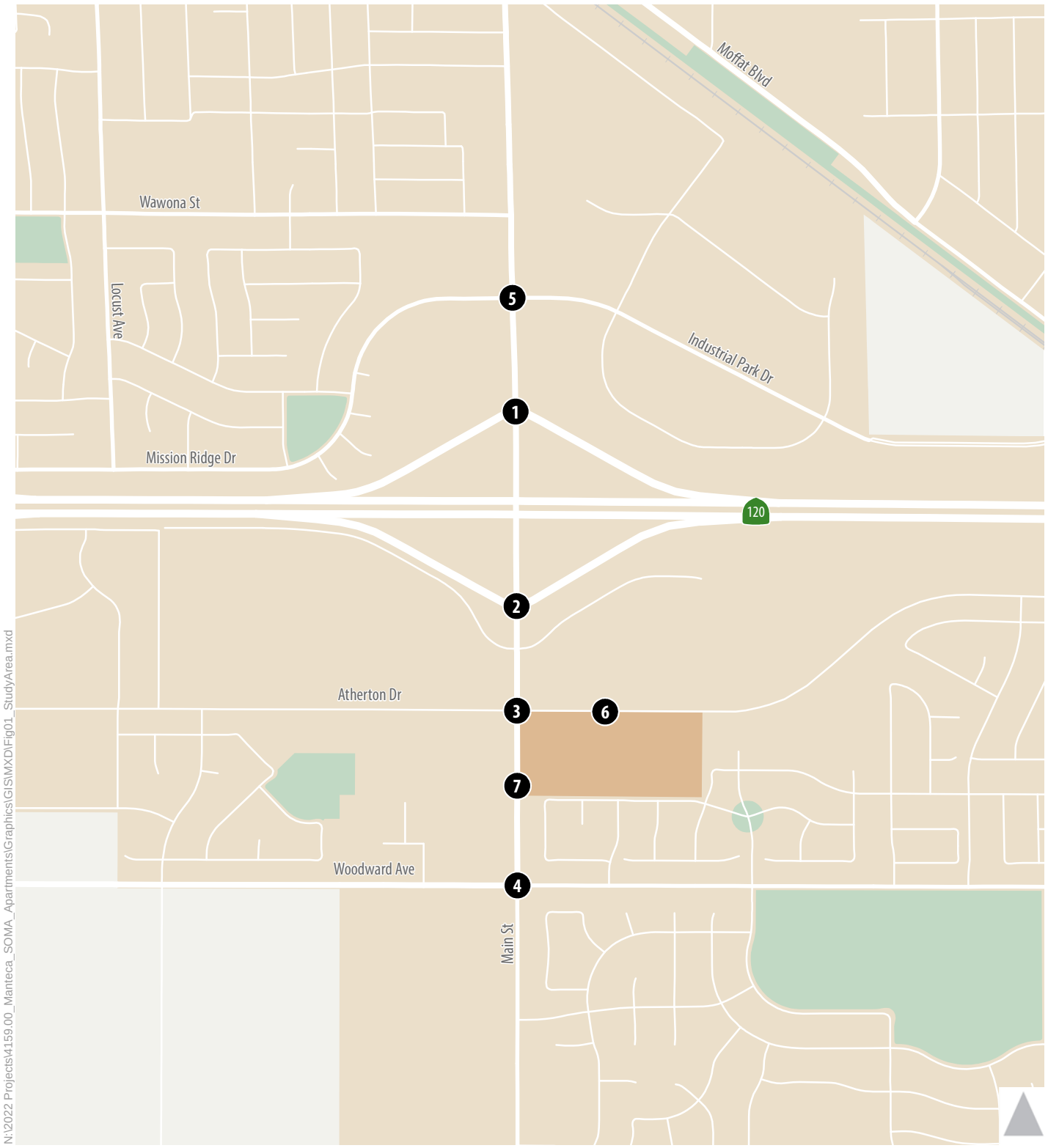
This study addresses the potential transportation impacts associated with the proposed SOMA Apartments Project located in the City of Manteca. Vehicle miles traveled, intersection operations, site access, and access to bicycle, pedestrian and transit facilities are analyzed. This report documents the methodologies, inputs, and results of the analysis.

1.1 Project Description

The Project site includes approximately 10.32 acres located in the central portion of the City of Manteca, south of State Route 120, in Manteca, California. The Project site is identified as Assessor's Parcel Numbers (APNs) 224-040-09 and -04, by the San Joaquin County Assessor's Office. The Project site is bound by E. Atherton Drive to the north, S. Main Street to the west, a single-family residential neighborhood to the south and east, and vacant land to the east. **Figure 1** shows the location of the project site.

The proposed Project includes a 210-apartment complex consisting of studios, one-, two-, and three-bedroom dwelling units, a community center, dog park, and pool. The Project would include 50 percent site coverage and the density of the Project would be approximately 21 units/acre. The apartment buildings would be two and three stories tall and have a maximum height of 45 feet.

The Project site would be accessed via a main gate off E. Atherton Drive. Pedestrian access gates are present on either side of the main gate. The Project site would also have a residential exit-only gate off S. Main Street. The Project site is anticipated to contain approximately 363 parking spaces and will provide 38 electric vehicle (EV) chargers. **Figure 2** displays the project site plan.



1 Study Intersection

Project Site

City of Manteca

Figure 1

Study Area

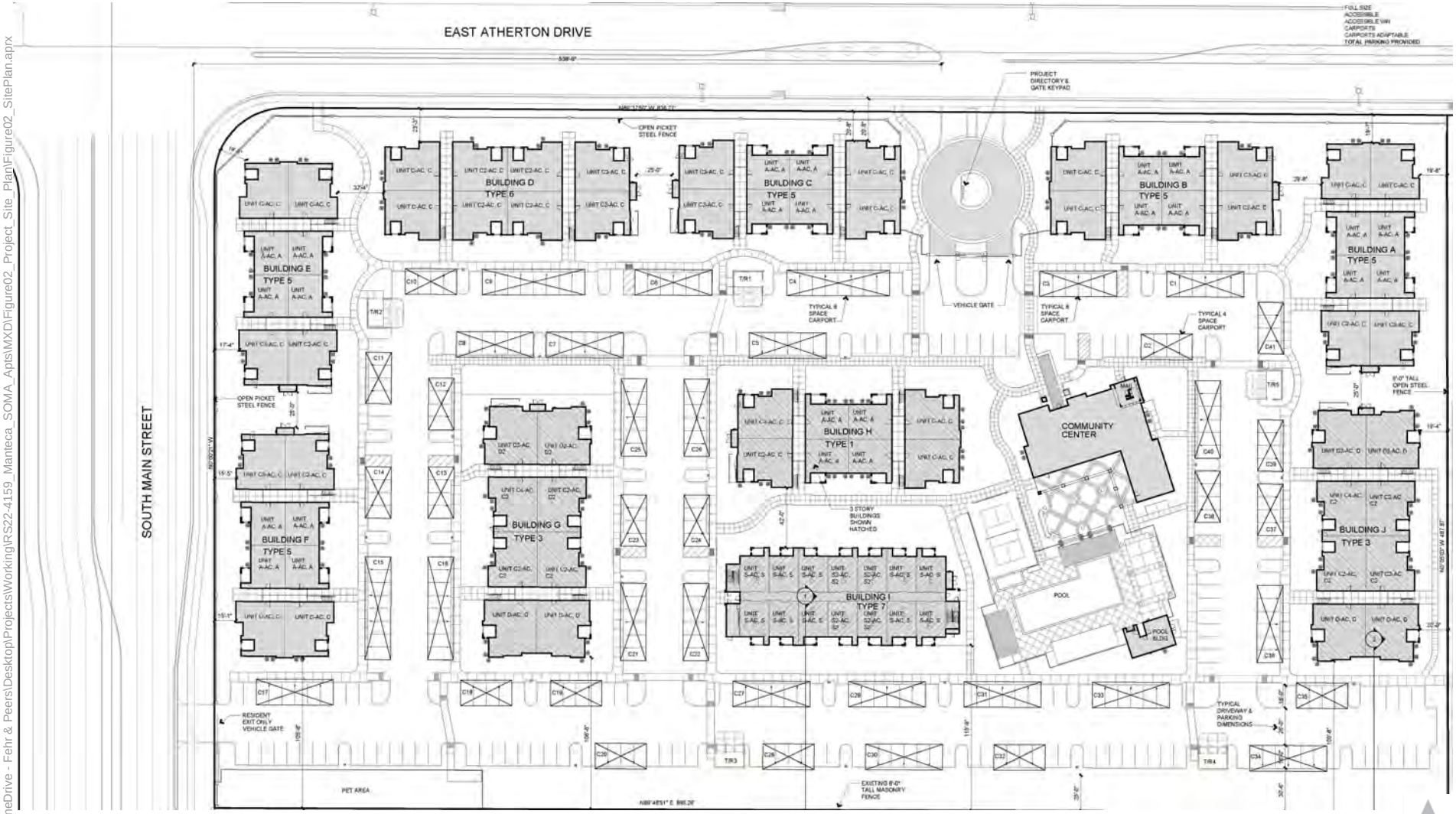


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Figure 2

Site Plan

2. Vehicle Miles Traveled

This chapter describes the significance criteria and the methodology used to evaluate project impacts related to vehicle miles traveled (VMT).

2.1 Applicable Policies and Significance Criteria

Vehicle Miles Traveled

Senate Bill (SB) 743 was signed into law in 2013 and is leading to substantial changes in the way transportation impact analyses are being prepared. Notably, it precludes the use of level of service (LOS) to identify significant transportation impacts in CEQA documents for land use projects, recommending instead that VMT be used as the preferred metric. On December 28, 2018, the CEQA Guidelines were amended to add Section 15064.3, Determining the Significance of Transportation Impacts, which states that generally, VMT is the most appropriate measure of transportation impacts. According to 15064.3(a), "Except as provided in subdivision (b)(2) (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact." Beginning on July 1, 2020, the provisions of 15064.3 applied statewide.

To aid lead agencies with SB 743 implementation, OPR produced the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018).[1] The *Technical Advisory* helps lead agencies think about the variety of implementation questions they face with respect to shifting to a VMT metric. However, the guidance is not a recipe for SB 743 implementation; lead agencies must still make their own specific decisions about methodology, thresholds, and mitigation.

The City of Manteca is in the process of developing guidelines for transportation impact analysis. By City's direction, for the purpose of this study, methodology and thresholds identified in the Draft *Transportation Impact Analysis Guidelines* (TIA Guidelines) will be applied.

The TIA Guidelines identify VMT per dwelling unit as the VMT metric for residential land uses. VMT per dwelling unit includes VMT associated with trips produced by a dwelling unit's residents, such as to work, school, or shop, and with one end of the trip at the home, on a typical weekday. The TIA Guidelines also identify a threshold of 15 percent below baseline city-wide average VMT of the project's land use category. For multi-family residential projects, the baseline city-wide VMT is 78.6 VMT per dwelling unit. Therefore, multi-family projects that exceeds 85 percent of the baseline, or 66.8 VMT per dwelling unit, may be considered to have a significant VMT impact.

[1] http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

By the City's direction, the City of Manteca General Plan Update travel forecasting model was used to develop baseline and cumulative (General Plan Buildout) VMT per dwelling unit.

2.2 VMT Analysis Methodology

As part of the City of Manteca General Plan Update project, Fehr & Peers developed the City of Manteca, Lathrop, and Ripon Travel Forecasting Model (TFM). The TFM is a modified version of the Three-County RTP/SCS Air Quality Conformity Mode, with improvements to all major components focused on this three-city area. Each scenario of the TFM used for VMT forecasting is described below.

Baseline Year (2019) TFM

The Base Year TFM developed for the General Plan Update was used to develop Baseline city-wide average weekday daily VMT per multi-family dwelling unit. The Baseline Year TFM incorporates Base Year land use data for dwelling units (single-family and multi-family) and employment (food, retail, office, industrial, medical, government, and school), as well as the roadway network (lanes, speed, capacity class), based on Base Year (i.e., 2019) data. The TFM Trip generation rates were derived from the Institute of Transportation Engineer's Trip Generation Manual and include appropriate inbound/outbound trip generation rates for residential and employment land uses for AM and PM peak hour conditions. The TFM was calibrated to reflect more accurate trip distribution for Internal-to-Internal Trips (II), Internal-to-External Trips (IX), External-to-Internal Trips (XI) and External-to-External (XX or Through) Trips based on a combination of the Caltrans Household Travel Survey (CHTS), the American Community Survey (ACS), and California Statewide Model to replicate the majority of vehicle trips to and from the west (San Francisco Bay Area) and a smaller percentage to and from the north (including Stockton and Sacramento) and to and from the south.

Cumulative Current General Plan Buildout Scenario TFM

The Current General Plan Buildout Scenario TFM was used to estimate the Project's weekday daily home-based VMT per multi-family dwelling unit under cumulative Current General Plan Buildout conditions. This scenario of the TFM incorporates land use data (dwelling units and employment) and reflects the City's jobs-housing balance, II, IX, XI, and XX trips under cumulative conditions where the current City of Manteca General Plan is built out. This scenario also incorporates roadway network (lanes, speed, capacity class) based on the current City of Manteca General Plan, the City of Manteca Public Facilities Implementation Plan (PFIP), and the San Joaquin Council of Government (SJCOG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Project List.

Cumulative Proposed General Plan (Alternative D) Buildout Scenario TFM

The City of Manteca is in the process of updating its General Plan, and the City has selected Alternative D to be the preferred General Plan alternative. The Proposed General Plan (Alternative D) Buildout Scenario TFM was used to estimate the Project's weekday daily home-based VMT per multi-family dwelling unit under cumulative Proposed General Plan (Alternative D) Buildout conditions.

This scenario of the TFM incorporates land use data (dwelling units and employment) and reflects the City's jobs-housing balance, II, IX, XI, and XX trips under cumulative conditions where the proposed City of Manteca General Plan (Alternative D) is built out. This scenario also incorporates roadway network (lanes, speed, capacity class) based on the Proposed General Plan (Alternative D), the City of Manteca PFIP, and the SJCOG RTP/SCS Project List.

3.1 VMT Impact Analysis

As discussed earlier in this chapter, the proposed Project would result in a significant transportation impact if it would generate VMT that exceeds 85 percent of the established baseline, or 66.8 VMT per multi-family dwelling unit.

Table 1 presents the established baseline city-wide VMT and the Project generated VMT under baseline and cumulative conditions. VMT generated by the Project is compared to the baseline city-wide average VMT per multi-family dwelling units.

Table 1: Project Vehicle Miles Traveled Analysis – Project-Generated VMT

Scenario	Home-Based VMT per Multi-Family Dwelling Unit	Compared to Baseline City-wide Average Without SOMA Project
Baseline City-wide Average	78.6	-
SOMA Project – Existing Conditions	83.3	+6.0%
SOMA Project – Cumulative Current General Plan Buildout Scenario	57.1	-27.3%
SOMA Project - Cumulative Proposed General Plan (Alternative D) Buildout Scenario	62.7	-20.3 %

Source: City of Manteca Travel Demand Model - Fehr & Peers, 2022

As displayed, under Existing Conditions, the proposed Project would generate an estimated average of 83.3 VMT per multi-family dwelling unit (6.0% above the baseline city-wide average).

Under Cumulative Current General Plan Buildout conditions, the Project would generate an estimated average of 57.1 VMT per multi-family dwelling unit (27.3% below the baseline city-wide average). Under Cumulative Proposed General Plan (Alternative D) Buildout conditions, the Project would generate an estimated average of 62.7 VMT per multi-family dwelling unit (20.3% below the baseline city-wide average).

The TIA Guidelines states that, "due to the timing issues involved with development, it is foreseeable that under a project only scenario, a project may exceed threshold levels. As development occurs around the project, the project may assist the City in achieving cumulative VMT reduction goals. In these cases, the project is considered consistent with the City's VMT reduction goals."

Bothe the Current General Plan and Proposed General Plan (Alternative D) identify substantial increase in employment and commercial land uses, which would allow residents to travel shorter distances to access jobs and services. Conversely, the proposed residential project would complement the employment and commercial land uses by supplying workers and patrons to businesses. The improved jobs-housing balance under either cumulative scenario is consistent with the City's vision for future development.

Because the development would generate VMT per dwelling unit that is less than 85 percent of the established baseline city-wide average VMT under cumulative conditions, the impact would be less-than-significant**.**

3. Intersection Operations Analysis

This chapter describes the significance criteria and methodology used to analyze the study intersections identified below, and methodology used to develop traffic forecasts for study intersections.

3.1 Study Area

The study area was selected based on the Project's location, site access, and expected trip distribution and assignment. The analysis considers traffic operations at the following intersections, which are displayed on Figure 1.

Study Intersections

1. S. Main Street/Westbound SR 120 Ramps
2. S. Main Street/Eastbound SR 120 Ramps
3. S. Main Street/E. Atherton Drive
4. S. Main Street/E. Woodward Avenue
5. S. Main Street/Mission Ridge Drive/Industrial Park Drive
6. S. Main Street/Project Driveway
7. E. Atherton Drive/Project Driveway

Study Scenarios

The study intersections were evaluated for the following four scenarios:

- **Existing Conditions** – Analyzes operations as they exist today.
- **Existing Plus Project Conditions** – Analyzes existing operations with the addition of trips generated by the Project. The Base Year TFM developed for the General Plan Update was used to develop project trip distribution during the AM peak hour and PM peak hour.
- **Existing Plus Adjacent Entitled Projects Conditions** – Analyzes existing operations with the addition of trips generated by the Project and four other entitled projects that are most likely to affect operations at study intersections. Minor modifications were made to the existing roadway conditions to reflect necessary changes required to access adjacent projects. The Base Year TFM developed for the General Plan Update was updated and used to develop traffic forecast for this scenario during the AM and PM peak hour.
- **Cumulative No Project Conditions** - Analyzes Interim year (2040) volumes based on the City of Manteca, Lathrop, and Ripon Travel Forecasting Model, assuming the project site remains in its current undeveloped state.
- **Cumulative Plus Project Conditions** – Analyzes Interim year (2040) volumes with the addition of trips generated by the Project.

3.2 Data Collection

Traffic count data at all study intersections was collected in Spring 2022, when school was in session, and weather condition was dry. Intersection turning movement counts were conducted during the AM (7:00 to 9:00) and PM (4:00 to 6:00) peak periods. **Figures 3** displays the existing intersection turning movement counts at the study intersections.

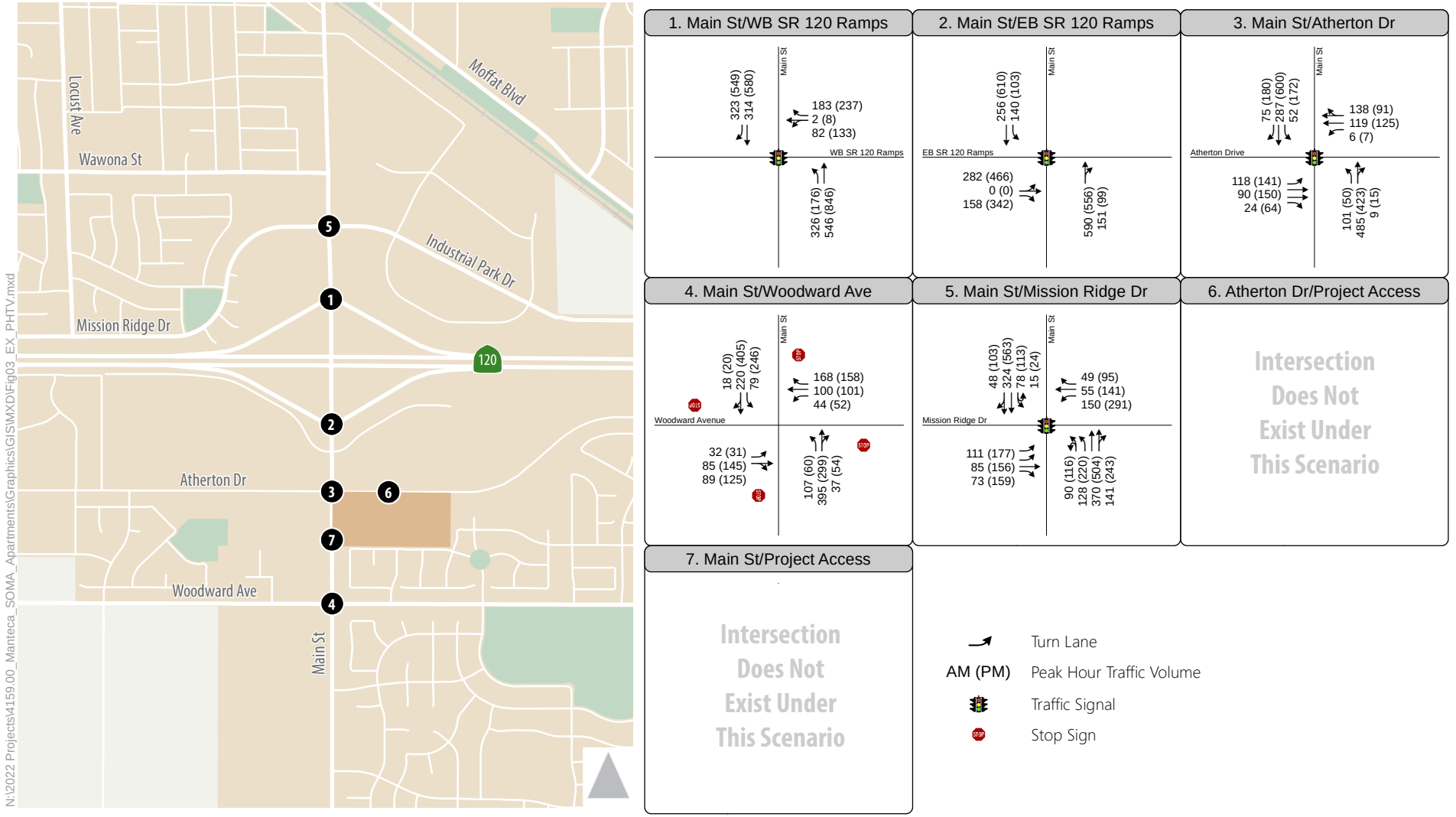


Figure 3

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

3.4 Analysis Methodology

Level of Service

Study intersections were analyzed using procedures and methodologies contained in the Highway Capacity Manual – 6th Edition (Transportation Research Board, 2016). These methodologies were applied using Synchro 11 software which considers traffic volumes, lane configurations, signal timings, signal coordination, and other pertinent parameters of intersection operations.

As previously noted, LOS may no longer be used to identify significant transportation impacts in CEQA documents for land use projects. However, this analysis includes a LOS analysis to determine if the proposed project would result in deficient intersection operations per the City of Manteca standards. Policy C-P-2 of the 2023 General Plan strives for LOS D or better while LOS E or worse is considered deficient.

LOS is a qualitative measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions. For signalized intersections, roundabouts and all way stop control intersections, LOS is based on the average delay experienced by all vehicles passing through the intersection. For side-street stop-controlled intersections, the delay and LOS for the overall intersection is reported along with the delay for the worst-case movement. **Table 2** displays the delay range associated with each LOS category for signalized and unsignalized intersections.

Table 2: Intersection Level of Service (LOS) Criteria			
LOS	**Description (for Signalized Intersections)**	**Average Delay (Seconds/Vehicle) at Signalized Intersections**	**Average Delay (Seconds/Vehicle) at Unsignalized Intersections**
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	< 10.0	< 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	> 10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	Operations with high delay values indicating poor progression, and long cycle lengths. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0	> 35.0 to 50.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0
Note: LOS = level of service; V/C ratio = volume-to-capacity ratio Source: Transportation Research Board, 2016			

Traffic Volume Forecast

Baseline Year (2019) TFM

The Base Year TFM developed for the General Plan Update, as described in Chapter 2, was used to develop trip distribution under Existing Plus Project conditions. The Base Year model represents 2019/2020 pre-COVID 19 AM peak hour, PM peak hour, and Average Daily Traffic (ADT) conditions.

Based on City of Manteca staff input, the Baseline Year TFM was updated to create an Existing Plus Adjacent Entitled Projects scenario. This scenario includes the proposed Project and four adjacent entitled projects located near the S. Main Street/E. Atherton Drive intersection.

The traffic forecasting adjustment procedure known as the "difference method" was used to develop Existing Plus Adjacent Entitled conditions AM and PM peak hour traffic forecast. For a given intersection, this forecasting procedure is calculated as follows for every movement at the study intersections:

Interim Year Forecast =
Existing Volume + (Interim Year TFM Volume – Base Year TFM Volume)

Interim General Plan Year (2040) Scenario TFM

The Interim Year 2040 TFM was developed based on expected future land use and transportation network for the City of Manteca and adjacent areas in 2040. Similar to other cities in the Central Valley region, the City of Manteca is projecting large amount of growth for both housing and employment in the General Plan Buildout scenarios. The Interim Year 2040 model scenario was developed in coordination with both Manteca and Lathrop to ensure that the TFM represents market-based demand for future growth in both housing (population) and employment, and therefore does not underestimate or overestimate traffic demand volumes. The City of Manteca 2040 land use inputs were developed based on the City of Manteca's approved and anticipated projects that will be constructed and occupied by year 2040. The City of Lathrop 2040 land use inputs were developed based on the City's historic rate of growth in households and employment for the past 5 years (2016 to 2020). The location of the growth was allocated across the city where future growth is anticipated, including the area west of I-5 and south of the SR 120 corridor.

The Interim Year 2040 TFM was updated to reflect the proposed Project and four adjacent entitled projects located near the S. Main Street/E. Atherton Drive intersection. The traffic forecasting adjustment procedure known as the "difference method" was used to develop Interim Year (2040) AM and PM peak hour traffic forecasts.

4. Existing Conditions

This chapter presents the existing bicycle, pedestrian, and transit facilities and intersection operations under Existing Conditions.

4.1 Existing Bicycle and Pedestrian Facilities

The City of Manteca Active Transportation Plan (adopted September 1, 2020) defines the following bicycle facility types:

Class I Bikeway: Bike Path

Bike paths, often referred to as shared-use paths or trails, are off-street facilities that provide exclusive use for non-motorized travel, including bicyclists and pedestrians. Bike paths have minimal cross flow with motorists and are typically located along landscaped corridors.

Class II Bikeway: Bike Lane

Class II bike lanes are on-street facilities that use striping, stencils, and signage to denote preferential or exclusive use by bicyclists. On-street bike lanes are located adjacent to motor vehicle traffic.

Class III Bikeway: Bike Route

Class III bike routes are streets with signage and optional pavement markings where bicyclists travel on the shoulder or share a lane with motor vehicles. Class III bike routes are utilized on low-speed and low-volume streets to connect bike lanes or paths along corridors that do not provide enough space for dedicated lanes.

Class III Bikeway: Bicycle Boulevard

Class III bicycle boulevards are similar to Class III bike routes, in that they are primarily utilized on low-speed and low-volume streets, and can close important gaps in the bicycle network where there may be insufficient space for dedicated lanes. Bicycle boulevards provide further enhancements to bike routes to encourage slow speeds and discourage non-local vehicle traffic via traffic diverters, chicanes, traffic circles, and/or speed tables.

Class IV Bikeway: Separated Bikeway

Class IV separated bikeways, commonly known as cycle tracks, are physically separated bicycle facilities that are distinct from the sidewalk and designed for exclusive use by bicyclists. They are located within the street right-of-way, but provide comfort similar to Class I bike paths.

Figure 4 presents the existing bicycle and pedestrian network in the study area. As displayed, paved sidewalks are present on the south side of E. Atherton Drive. A Class I multi-use path is present on the north side of E. Atherton Drive, along the frontage of developed parcels. The Class I path currently terminates approximately 2,100 feet west and 2,800 feet east of the S. Main Street/Atherton intersection, with a gap in between that is anticipated to be filled as future development occurs. There is currently no sidewalk or bike facilities along S. Main Street.

4.2 Existing Transit Facilities

Figure 5 presents the existing transit network in the study area. Manteca Transit operates a fixed-route and Dial-a-Ride bus service with stops throughout the City. The nearest bus stop is the Route 2 stop located at the intersection of E. Atherton Drive and Tinnin Road, approximately 2,000 feet west of the project site. Route 2 provides weekday and Saturday fixed route service. In addition, the Manteca Transit Route 2, Route 4, and the San Joaquin Regional Transportation District (RTD) route 91 bus stop at the S. Main Street/Industrial Park Drive/Mission Ridge Drive intersection is located approximately ½ mile north of the project site. Route 4 provides weekday fixed route service in Manteca. RTD Route 91 provides weekday AM and PM peak period service between Stockton and Ripon.

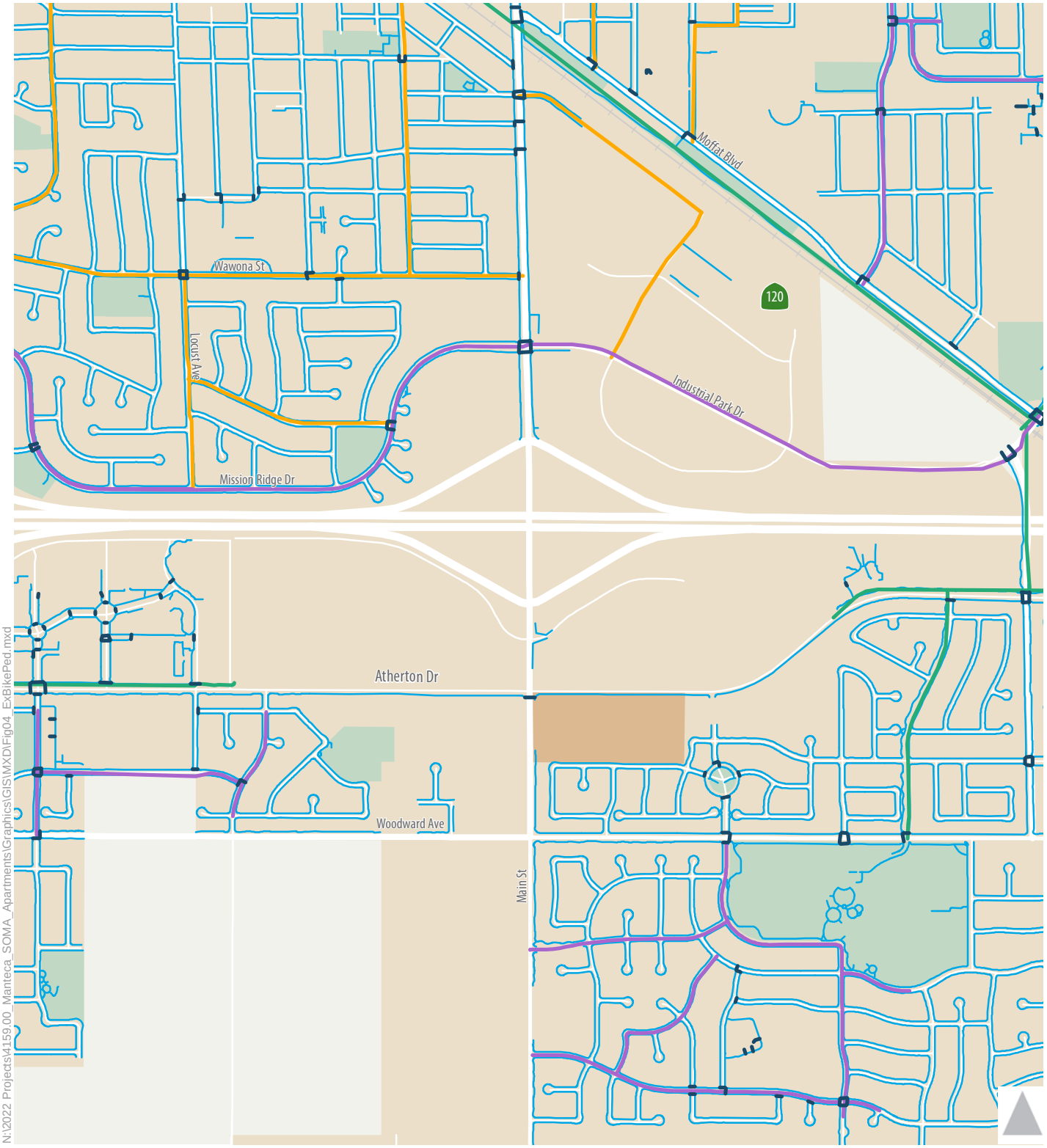


Figure 4

Existing Bicycle and Pedestrian Facilities

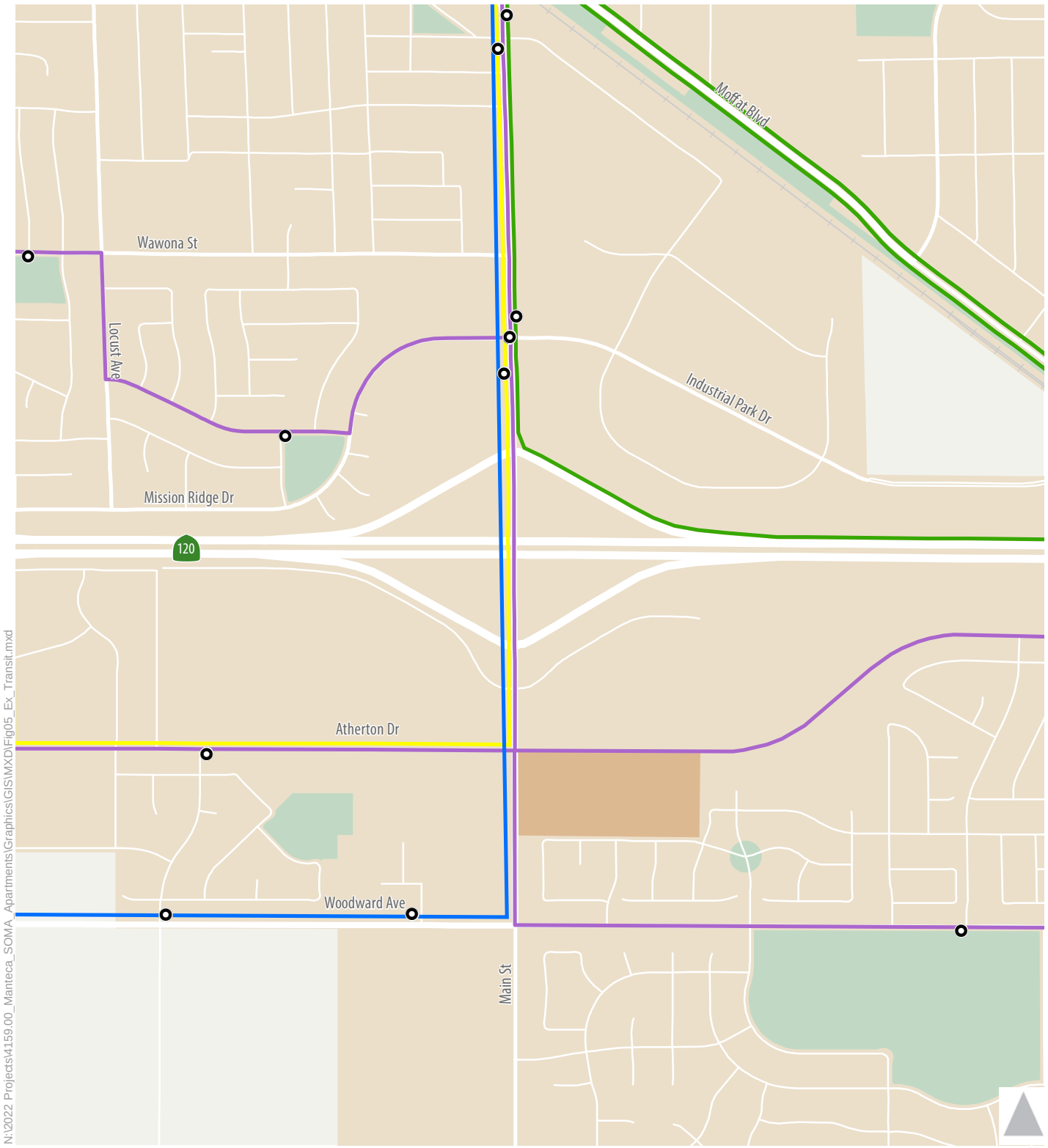


Figure 5

Existing Transit Facilities

4.3 Existing Intersection Operations

Table 3 displays the existing AM and PM peak hour operations at the study intersections. Technical calculations are displayed in **Appendix A**.

Table 3: Intersection Operations – Existing Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. S. Main St/WB SR 120 Ramps	Signal	19.4	B	12.7	B
2. S. Main St/EB SR 120 Ramps	Signal	**71.7**	**E**	28.1	C
3. S. Main St/E. Atherton Dr	Signal	21.0	C	23.6	C
4. S. Main St/ E. Woodward Ave	AWSC	**55.1**	**F**	**64.2**	**F**
5. S. Main St/Mission Ridge Dr/Industrial Park Dr	Signal	24.2	C	34.9	C

Notes:
AWSC = All-Way Stop Control.
Bold indicates deficient operations.
Source: Fehr & Peers, 2022

As displayed, the S. Main Street/Eastbound SR 120 Ramps intersection currently operates deficiently at LOS E during the AM peak hour. The S. Main Street/E. Woodward Avenue intersection, currently an all-way stop controlled intersection, operates deficiently at LOS F during the AM and PM peak hour.

5. Existing Plus Project Conditions

This chapter presents the results of intersection operations analysis under Existing Plus Project conditions.

5.1 Project Trip Generation

The Project's trip generation was estimated using trip rates published in the *Trip Generation Manual 11th Edition* (Institute of Transportation Engineers, 2021). **Table 4** displays the estimated number of daily, AM peak hour, and PM peak hour vehicle trips for the proposed Project.

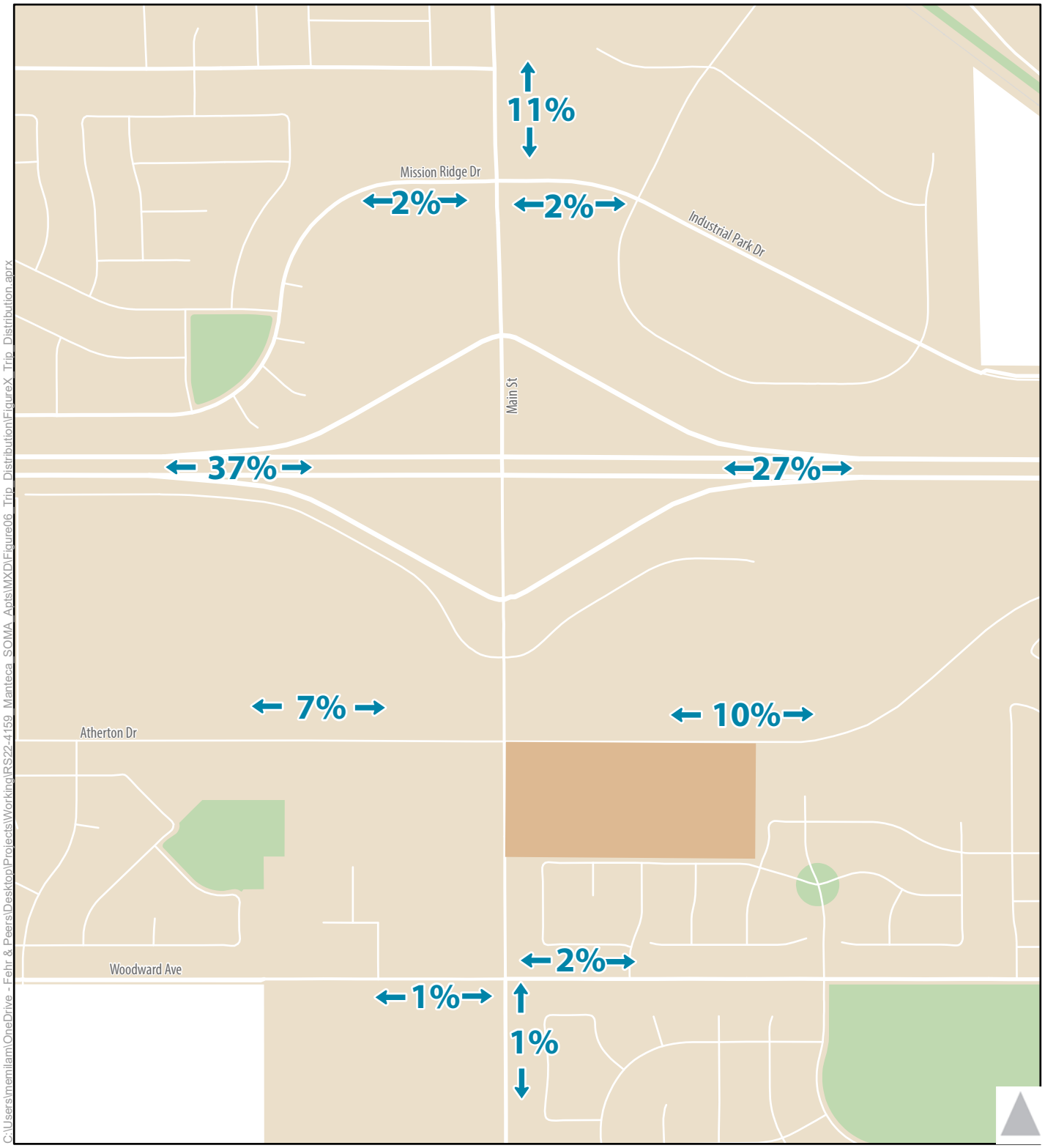
Table 4: Project Trip Generation

Land Use	Quantity	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Multi-Family Housing (ITE 220)	210 Dwelling Units	1,416	20	64	84	67	40	107

Notes:
Trip generation is based on trip rates published in *Trip Generation Manuel 11th Edition* (Institute of Transportation Engineers, 2021).
Source: Fehr & Peers, 2022

5.2 Project Trip Distribution

Project trips were distributed throughout the study area based the location of access roads, existing directional patterns, and output from the Base Year TFM. **Figure 6** presents project trip distribution. **Figures 7** displays the traffic volumes under Existing Plus Project conditions.



XX% Trip Distribution Percentage

Figure 6

Existing Plus Project Trip Distribution

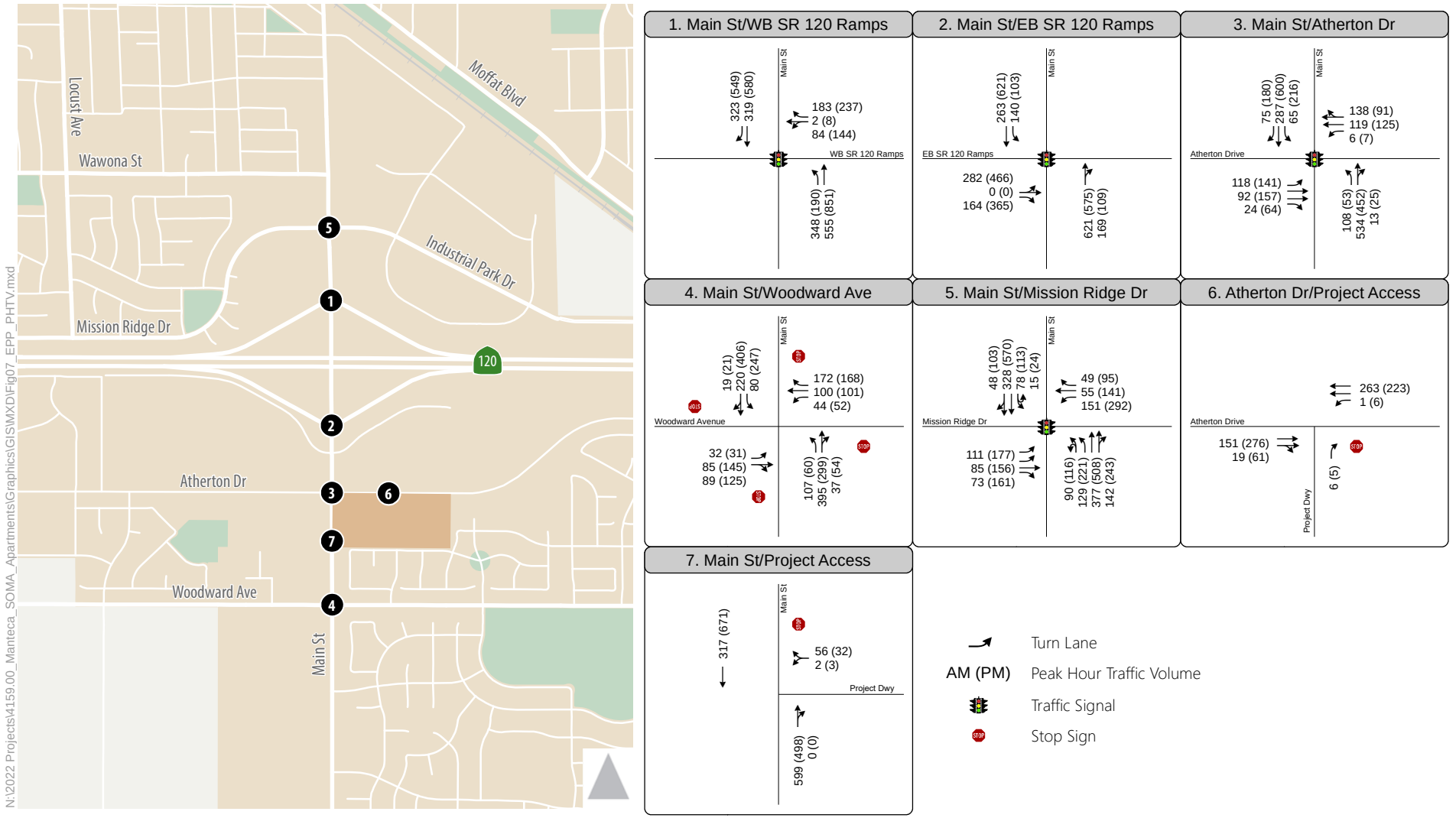


Figure 7

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions

5.3 Existing Plus Project Intersection Operations

Primary access to the Project would be provided by the main driveway on E. Atherton Drive. As shown on the proposed site plan, left-in, right-in, and right-out movements are permitted at the main driveway; left-out movements onto E. Atherton Drive are prohibited. A secondary exit-only driveway would be provided on S. Main Street. Both driveways are analyzed under Existing Plus Project conditions.

Table 5 displays the AM and PM peak hour intersection operations under Existing Plus Project conditions. Technical calculations are displayed in **Appendix A**.

Table 5: Intersection Operations – Existing Plus Project Conditions

Intersection	Control Type	Existing Conditions				Existing Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. S. Main St/WB SR 120 Ramps	Signal	19.4	B	12.7	B	24.1	C	13.5	B
2. S. Main St/EB SR 120 Ramps	Signal	**71.7**	**E**	28.1	C	**91.3**	**F**	30.6	C
3. S. Main St/E. Atherton Dr	Signal	21.0	C	23.6	C	23.0	C	29.3	C
4. S. Main St/E. Woodward Ave	AWSC	**55.1**	**F**	**64.2**	**F**	**55.6**	**F**	**66.2**	**F**
5. S. Main St/Mission Ridge Dr/Industrial Park Dr	Signal	24.2	C	34.9	C	24.3	C	35.0	C
6. E. Atherton Dr/Project Driveway	SSSC	Intersection does not exist in this scenario				0.1 (8.9)	A (A)	0.2 (9.3)	0.1 (8.9)
7. S. Main St /Project Driveway	SSSC	Intersection does not exist in this scenario				0.9 (15.1)	A (C)	0.4 (13.1)	0.9 (15.1)

Notes:
Bold indicates deficient operations.
SSSC = Side-Street Stop Control; AWSC = All-Way Stop Control.
Source: Fehr & Peers, 2022

As displayed in **Table 5**, the following intersections would continue to operate deficiently with the addition of Project traffic:

- The S. Main Street/Eastbound SR 120 Ramps intersection currently operates at LOS E during the AM peak hour. With the additional project traffic, this intersection would continue to operate deficiently and degrade to LOS F during the AM peak hour. Traffic analysis shows that signal timing modification would improve operations at this intersection.
- The S. Main Street/E. Woodward Avenue intersection currently operates at LOS F during the AM and PM peak hour. With the additional project traffic, this intersection would continue to operate

deficiently at LOS F. Delay at this intersection would worsen by 0.5 second during the AM peak hour and 2 seconds during the PM peak hour. Signalization improvements identified in the PFIP would improve operations at this intersection.

Table 6 displays the intersection AM and PM peak hour intersection operations with recommended intersection improvements. Under Existing Plus Project conditions, signal timing modification at the S. Main Street/Eastbound SR 120 Ramps intersection would improve operations to LOS D during the AM peak hour. Signalization only (i.e., without S. Main Street widening or adding lanes or turn pockets to this intersection) at the S. Main Street/E. Woodward Avenue would improve operations to LOS B during the AM peak hour and LOS C during the PM peak hour.

Table 6: Intersection Operations – Existing Plus Project Conditions with Improvements

Intersection	Control Type	Existing Plus Project Conditions with Improvements			
		AM Peak Hour		AM Peak Hour	
		Delay	LOS	Delay	LOS
2. S. Main St/EB SR 120 Ramps	Signal	42.4	D	30.6	C
4. S. Main St/E. Woodward Ave	Signal	18.7	B	28.9	C

Source: Fehr & Peers, 2022

Based on results of the intersection operations analysis and input from City of Manteca staff, the following Condition of Approval (COA) is recommended.

Traffic COA #1 – If the traffic signal at the S. Main Street/E. Woodward Avenue intersection has not already been constructed with the Griffin Park S. Main Street improvements, the SOMA project shall install the traffic signal at the S. Main Street/E. Woodward Avenue intersection. The Estimate of Probable Cost for the traffic signal improvements is $575,000. The developer shall pay for the total cost for design and construction of the traffic signal improvements but will receive PFIP Transportation Credits in accordance with the PFIP procedures. Should the cost of the S. Main Street/E. Woodward Avenue traffic signal, when added to the reimbursable costs for the PFIP improvements identified in Traffic COAs #2 & #3 below (based on three competitive bids), exceed the total amount of PFIP credits available to the SOMA Project (based on the PFIP Transportation Fee in place at the time of building permit issuance x the number or multi-family residential units), the developer will be reimbursed by the PFIP Transportation fund for the amount the S. Main Street/E. Woodward Avenue traffic signal causes the PFIP Transportation Fee credits to be exceeded. If the Fee credits are exceeded, the SOMA developer is to be reimbursed soon after City Council acceptance of the S. Main Street/E. Woodward Avenue intersection traffic signal improvements. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.

Under Existing Conditions, the S. Main Street/E. Atherton Drive intersection operates acceptably at LOS C; however, city planning documents show that near-term developments, including the proposed project, would cause the intersection operation to worsen to unacceptably levels in the near future. Therefore, it is recommended that the following improvements identified in the PFIP to be constructed as part of the proposed project:

- Widening of S. Main Street to six lanes between SR 129 and E. Woodward Avenue
- S. Main Street/E. Atherton Drive intersection expansion and signal modification

Traffic COA #2 – If the PFIP Improvements on the east side of S. Main Street, from Atherton Drive north to the SR 120 eastbound access ramp have not been constructed by others, the developer shall construct the PFIP Improvements on the east side of S. Main Street, including the median/left turn pocket(s), as shown on the PFIP *Modified 6 Lane Street Section*, Plate E-2.10 H2 (south end) transitioning to Plate E2.10 H1 (north end), from Atherton Drive north to the SR 120 eastbound access ramp, including signal timing modifications at the S. Main Street/eastbound SR 120 ramp intersection. The Estimate of Probable Cost for the PFIP improvements, from Atherton Drive to the SR120 eastbound access ramp, is $733,000. The developer shall pay for the total cost for design and construction of the PFIP improvements but will receive PFIP Transportation Credits or be reimbursed by the City in accordance with PFIP procedures. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.

Traffic COA #3 – The developer shall construct the PFIP Improvements on the east side of S. Main Street, including the median/left turn pocket(s), as shown on the PFIP *6 Lane Street Section*, Plate E-2.10 H1, from Atherton Drive south along the SOMA project frontage. The Estimate of Probable Cost for the PFIP improvements, on the east side of S. Main Street along the SOMA project frontage, is $265,000. The developer shall pay for the total cost for design and construction of the PFIP improvements but will receive PFIP Transportation Credits or be reimbursed by the City in accordance with PFIP procedures. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.

6. Existing Plus Adjacent Entitled Projects Intersection Operations

Several parcels near the proposed SOMA Apartments Project are entitled for development. This chapter presents the results of intersection operations analysis under Existing Plus Adjacent Entitled Projects conditions.

6.1 Adjacent Entitled Projects

The following adjacent entitled projects were identified for inclusion in the Existing Plus Adjacent Entitled Projects scenario. While this list does not include all approved projects in the City of Manteca, it does represent those projects whose trips may have an effect on traffic volumes at the study intersections.

1. Mixed-use project located in the northwest quadrant of the S. Main Street/E. Atherton Drive intersection; approximately 13.2 thousand square feet (KSF) of retail commercial and 430 multi-family residential dwelling units.
2. Residential project located in the northeast quadrant of the S. Main Street/E. Atherton Drive intersection; approximately 96 single-family residential dwelling units and 700 multi-family residential dwelling units.
3. Shopping Center located in the southwest quadrant of the S. Main Street/E. Atherton Drive intersection; approximately100 KSF of retail commercial.
4. Griffin Park Project located southwest of the S. Main Street/E. Woodward Avenue intersection; approximately 65 KSF of commercial and 1,301 single-family residential dwelling units.

As described in Chapter 3.4, AM and PM peak hour traffic volume forecast under Existing Plus Adjacent Entitled Projects conditions was developed by adding the proposed SOMA Apartments Project and the four entitled projects identified above to the Baseline Year TMF. The SOMA Apartments project trips are assigned based on permitted driveway movements at the two project driveways. **Figure 8** displays AM and PM peak hour turning movements and lane configurations at the study intersections under Existing Plus Adjacent Entitled Projects conditions.

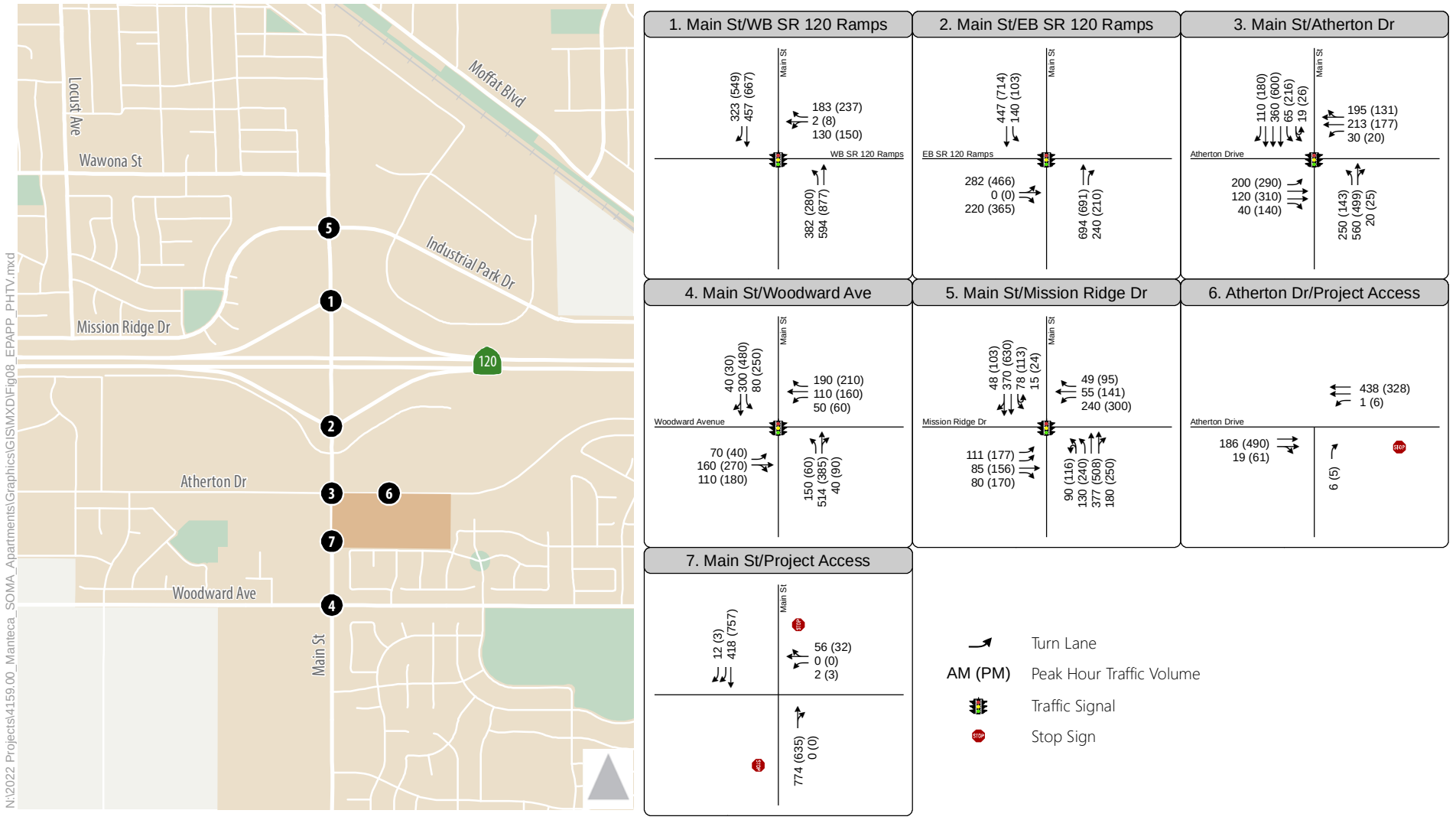


Figure 8

Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Adjacent Entitled Projects Conditions

6.2 Existing Plus Adjacent Entitled Projects Intersection Operations

Entitled Projects #1 and #2 both propose driveway access near the existing Quintal Road, located approximately 280 feet south of the eastbound SR 120 ramp intersection. Given the close proximity between a driveway and a freeway ramp intersection, the following modification is recommended to improve safety and maintain access to these two properties:

- Permit only right-turn in and right-turn out movements at Entitled Projects #1 and #2's driveways along S. Main Street.
- Construct a median along S. Main Street between eastbound SR 120 ramps and E. Atherton Drive to prevent unsafe left-turn in and left-turn out movements from Entitled Projects #1 and #2.
- Widen S. Main Street to 6 lanes between eastbound SR 120 ramps and E. Atherton Drive to enable southbound U-turn movements at the S. Main Street/E. Atherton Drive intersection and improve access to the right-in/right-out only driveways.

In addition, COA #1 identifies recommendation to signalize the S. Main Street/E. Woodward Avenue intersection. The recommended improvements are assumed in the intersection operations analysis.

Table 7 displays the AM and PM peak hour intersection operations under Existing Plus Adjacent Entitled Projects conditions. Technical calculations are displayed in **Appendix A**.

Table 7: Intersection Operations – Existing Plus Adjacent Entitled Projects Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. S. Main St/WB SR 120 Ramps	Signal	40.0	D	22.6	C
2. S. Main St/EB SR 120 Ramps[1]	Signal	46.0	D	29.7	C
3. S. Main St/E. Atherton Dr[1]	Signal	31.0	C	27.4	C
4. S. Main St/E. Woodward Ave	Signal	30.3	C	42.3	D
5. S. Main St/Mission Ridge Dr/Industrial Park Dr	Signal	29.1	C	36.2	D
6. E. Atherton Dr/Project Driveway	SSSC	0.1 (9.0)	A (A)	0.1(10.1)	A (B)
7. S. Main St /Project Driveway	SSSC	0.9 (19.6)	A (C)	0.4 (16.1)	A (C)

Notes:
Bold indicates deficient operations.
[1] Intersection lane configuration and/or traffic control are different from Existing Conditions due to planned intersection and roadway improvements associated with Proposed and Entitled Projects.
SSSC = Side-Street Stop Control; AWSC = All-Way Stop Control.
Source: Fehr & Peers, 2022

As shown, with recommended improvements to S. Main Street and the S. Main Street/E. Woodward Avenue intersection, all study intersections would operate acceptably at LOS D or better.

7. Cumulative Conditions Analysis

This chapter presents the results of intersection operations analysis under cumulative conditions. The analysis reflects long-term development in the City of Manteca and other nearby jurisdictions using the Interim General Plan Year 2040 TFM previously described.

The Cumulative Year analysis assumes the following improvements:

- **PFIP Improvements**: Intersection lane configurations, traffic controls, and roadway improvements identified in the City of Manteca PFIP were assumed to be constructed. This results in modifications at the following locations:
    - Construction of the future Anton Raymus Parkway
    - Widening of S. Main Street to 6 lanes between SR 120 and E. Woodward Avenue
    - Widening of S. Main Street to 4 lanes between E. Woodward Avenue and Anton Raymus Parkway
    - S. Main Street/E. Atherton Drive expansion and signal modification
    - S. Main Street/E. Woodward Avenue expansion and signalization
    - S. Main Street/Mission Ridge Drive/Industrial Park Drive expansion (adding one westbound left-turn pocket) and signal modification
- **SJCOG RTP/SCS Improvements**: Intersection lane configurations, traffic controls, and roadway improvements identified in the SJCOG RTP were assumed to be constructed. This results in modifications at the following locations:
    - Reconstruction of the SR 120/S. Main Street interchange. The design has not been formalized; A reconstructed partial cloverleaf interchange was assumed for the purpose of this analysis.
    - Widening of SR 120 to three lanes in both directions
    - SR 99/SR 120 interchange improvements

7.1 Cumulative No Project Intersection Operations

Cumulative no project forecasts for this study were developed by subtracting project trips from the "plus project" scenario. **Figure 9** display AM and PM peak hour turning movements and lane configurations at the study intersections under Cumulative No Project conditions.

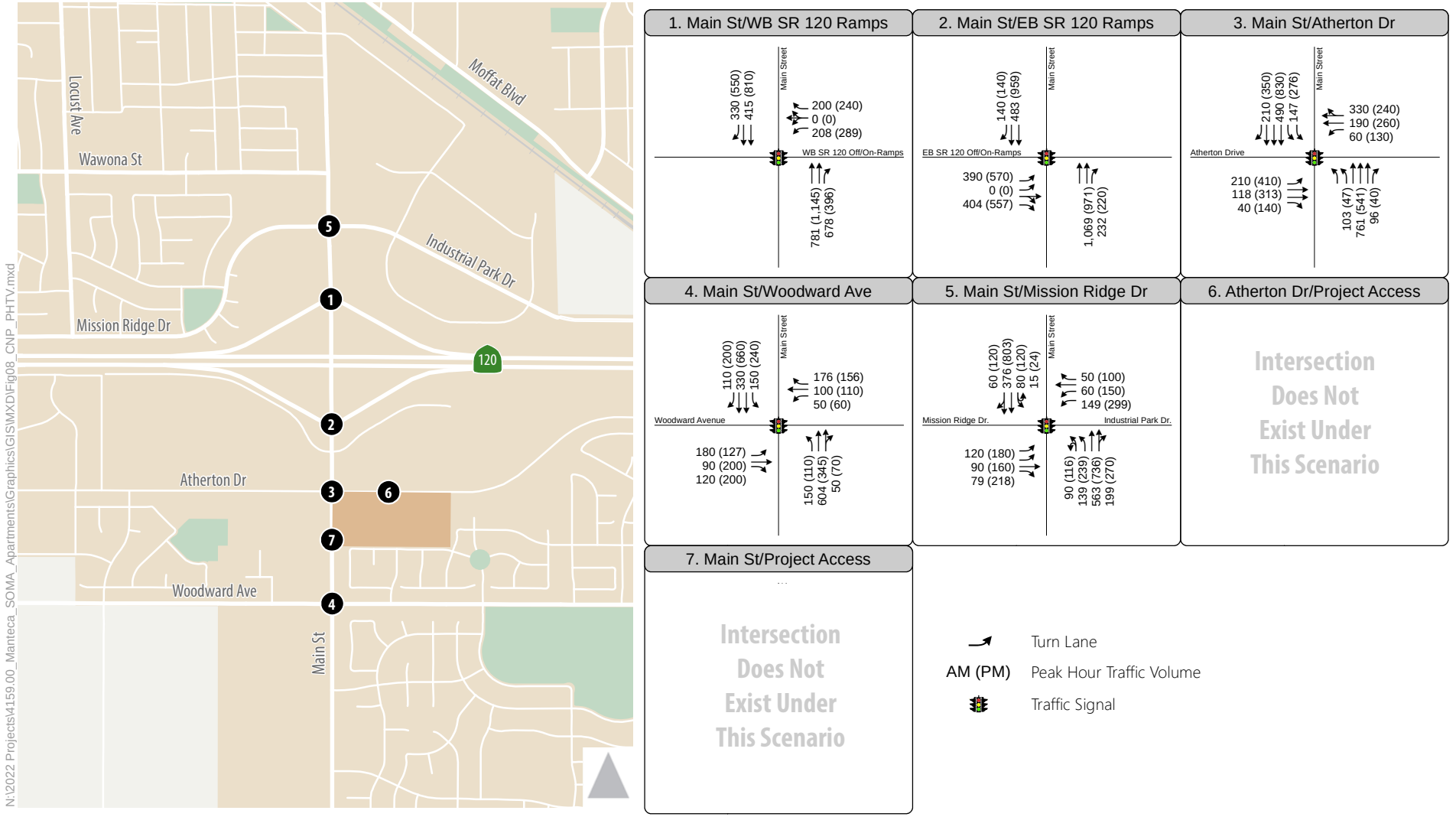


Figure 9

Peak Hour Traffic Volumes and Lane Configurations - Cumulative No Project Conditions

Table 8 displays the AM and PM peak hour intersection operations. Technical calculations are displayed in **Appendix A**. As displayed, with improvements identified in the PFIP and the SJCOG RTP/SCS, all study intersections would operate acceptably at LOS A through D during the AM and PM peak hour.

It should be noted that the design of the SR 120/S. Main Street interchange improvement has not been formalized; however, traffic operation of the future interchange will be studied in detail as part of the upcoming SR 120/S. Main Street Interchange Improvement Project led by the City of Manteca, in coordination with Caltrans. The Interim General Plan Year (2040) Scenario TFM will be modified to include the proposed SOMA Project and used to develop traffic volume forecast.

Table 8: Intersection Operations – Cumulative No Project Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. S. Main St/WB SR 120 Ramps[1]	Signal	5.7	A	7	A
2. S. Main St/EB SR 120 Ramps[1]	Signal	7.2	A	10	A
3. S. Main St/E. Atherton Dr[2]	Signal	30.4	C	36.4	D
4. S. Main St/E. Woodward Ave[2]	Signal	21.9	C	23.2	C
5. S. Main St/Mission Ridge Dr/Industrial Park Dr[2]	Signal	19.4	B	36.4	D

Notes:
[1] The future interchange design has not been formalized. Delay and LOS are estimated using a partial-cloverleaf interchange configuration and are subject to change.
[2] Intersection lane configuration and/or traffic control are different from Existing Conditions due to planned intersection and roadway improvements.
Source: Fehr & Peers, 2022

7.2 Cumulative Plus Project Intersection Operations

The Interim General Plan Year 2040 TFM was used to develop Cumulative Plus Project trip distribution and forecasts. Both project driveways, with the same permitted movements as under Existing Plus Project conditions, are analyzed under the Cumulative Plus Project conditions. **Figure 10** display the intersection turning movements and lane configurations under Cumulative Plus Project conditions.

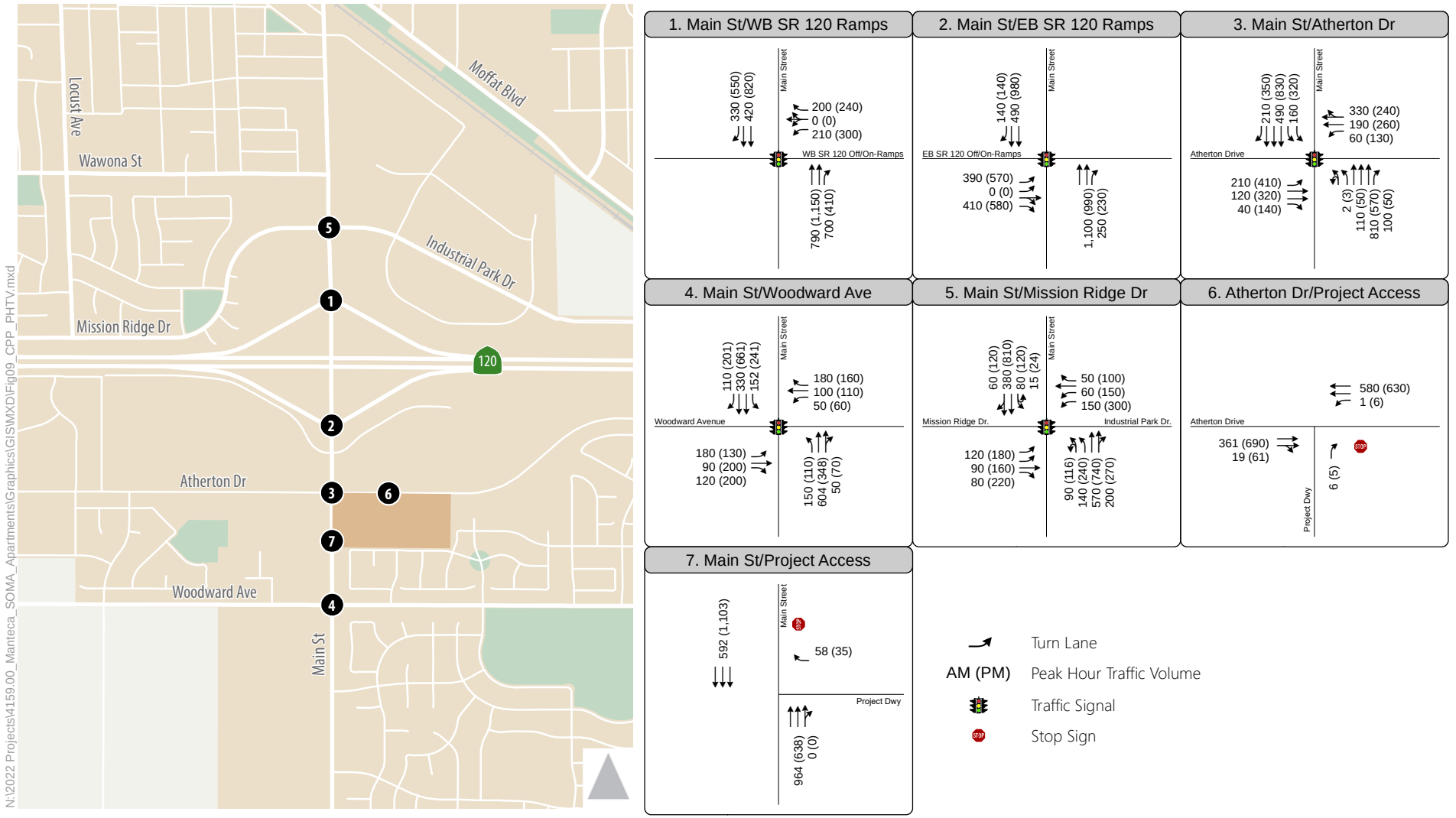


Figure 10

Peak Hour Traffic Volumes and Lane Configurations - Cumulative Plus Project Conditions

Table 8 presents the results of the Cumulative Plus Project intersection operations analysis. As displayed, with improvements identified in the PFIP and the SJCOG RTP/SCS, all seven study intersections would operate acceptably at LOS A through D during the AM and PM peak hour. It is noted that the intersection overall delay at the S. Main St/Westbound SR 120 Ramps intersection improves slightly under Cumulative Plus Project conditions. This is because the Project adds traffic to turning movements with less delay, and therefore the average intersection delay is improved.

Table 9: Intersection Operations –Cumulative Plus Project Conditions

Intersection	Control Type	Cumulative Conditions				Cumulative Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. S. Main St/WB SR 120 Ramps[2]	Signal	5.7	A	7.0	A	5.5	A	6.9	A
2. S. Main St/EB SR 120 Ramps[2]	Signal	7.2	A	10.0	A	7.3	A	10.0	B
3. S. Main St/E. Atherton Dr[3]	Signal	30.4	C	36.4	D	34.8	C	40.7	D
4. S. Main St/E. Woodward Ave[3]	Signal	21.9	C	23.2	C	22	C	24.1	C
5. S. Main St/Mission Ridge Dr/Industrial Park Dr[3]	Signal	19.4	B	36.4	D	20.5	C	36.7	D
6. E. Atherton Dr/Project Driveway	SSSC	Intersection does not exist in this scenario				0.1 (9.5)	A (A)	0.8 (11.2)	0.1 (9.5)
7. S. Main St/Project Driveway	SSSC	Intersection does not exist in this scenario				0.5 (14.9)	A (B)	0.3 (12.7)	0.5 (14.9)

Notes:
SSSC = Side-Street Stop Control.
[1] The future interchange design has not been formalized. Delay and LOS are estimated using a partial-cloverleaf interchange configuration and are subject to change.
[2] Intersection lane configuration and/or traffic control are different from Existing Conditions due to planned intersection and roadway improvements.
Source: Fehr & Peers, 2022

8. Safety Assessment Analysis

This section describes the potential safety impacts associated with transportation and circulation that could result from implementation of the proposed Project. It describes the safety-related reviews, investigations, and analysis that was completed for Existing Plus Project and Cumulative Plus Project conditions.

8.1 Planned Traffic Safety Improvements in the Project Area

The following documents and projects in the City of Manteca, SJCOG, and Caltrans jurisdictions are reviewed for traffic safety improvements:

- **City of Manteca Active Transportation Plan (ATP) (2020)**
- **City of Manteca PFIP**
- **SJCOG RTP/SCS**
- **SR 120/S. Main Street Interchange Project** – This interchange would be improved to provide additional travel lanes for motor vehicles, a Class I multi-use path, and ADA compliant ramps and crosswalks for pedestrians.

The proposed Project would construct 210 multi-family dwelling units. Traffic generated by the proposed Project would increase traffic volumes on local roadways, freeway mainline segments, and interchange ramp intersections around the project area. Existing and future land use in the vicinity of the project area consist of residential, food, retail, and service uses. Traffic generated by the Project would not change the traffic mix in the area and would be compatible with existing and planned facility design. The Project will also support the implementation of City of Manteca PFIP and ATP, which would improve multi-modal safety in the City of Manteca.

The proposed Project does not consist of any improvements or physical changes to freeway mainline, freeway interchange, or other State Highway System (SHS) facilities. A detailed review of the facility design of the safety improvement projects listed above confirmed that the proposed Project would not physically disrupt any existing multi-modal facility.

The City of Manteca PFIP identifies a Class II bike lane on S. Main Street between E. Atherton Drive and Anton Raymus Parkway. In addition, the City of Manteca ATP identifies a future Class I multi-use path on the north side of E. Atherton Drive. Based on the location of the future active transportation facilities, the following COA is recommended:

Traffic COA #4 – The developer shall coordinate with the City to construct a Class II bike lane and sidewalk along the SOMA project frontage or preserve right-of-way along the SOMA project frontage for future installation of the bike lane. The exit-only driveway on S. Main Street shall be designed to minimize impact to the bike lane. The design of the driveway shall be reviewed and approved by the Director of Engineering/City Engineer.

8.2 Freeway Off-Ramp Queueing Analysis

As described in Chapters 5 and 6, intersection operations analyses were completed for the following freeway ramp intersections:

1. S. Main St/WB SR 120 Ramps
2. S. Main St/EB SR 120 Ramps

Results of the intersection operations analysis show that, with recommended signal timing improvements, both ramp intersections operate at LOS D or better during the AM and PM peak hour under Existing Plus Project. With the reconstruction of the SR 120/S. Main Street interchange with a partial cloverleaf design, both ramp intersections operate at LOS A during the AM and PM peak hour under Cumulative No Project and Cumulative Plus Project conditions.

A freeway off-ramp queueing analysis was completed for both ramp intersections during the AM and PM peak hour. The off-ramp queueing analysis was completed using the Synchro 11 software package as described in Chapter 3, and the 95th percentile queue is reported for all freeway off-ramp movements.

Table 9 presents the results of the freeway off-ramp queueing analysis for the AM and PM peak hour under Existing Plus Project conditions. As shown, with the addition of the project traffic, all freeway off-ramp queues can be accommodated within the off-ramp storage. Technical Calculations are included in **Appendix A**.

Table 10: Freeway Off-Ramp Queueing Analysis – Existing Plus Project and Existing Plus Adjacent Entitled Projects Conditions 95th Percentile Queue

Intersection	Move-ment	Storage (ft)	Existing Plus Project				Existing Plus Adjacent Entitled Projects			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Volume	Queue (ft)	Volume	Queue (ft)	Volume	Queue (ft)	Volume	Queue (ft)
1. S. Main St/WB SR 120 Ramps	WBL/T	1,656	84	57	144	86	130	81	150	89
	WBR	175	183	50	237	85	183	55	237	88
2. S. Main St/EB SR 120 Ramps	EBL/T	1,499	282	317	466	329	282	167[1]	466	329[1]
	EBR	200	164	47	365	113	220	39[1]	365	136[1]

Notes:
[1] Intersection lane configuration and/or traffic control are different from Existing Conditions due to planned intersection and roadway improvements associated with Proposed and Entitled Projects.
Source: Fehr & Peers, 2022

Table 10 presents the results of the freeway off-ramp queueing analysis for the AM and PM peak hour under Cumulative Plus Project conditions. As shown, with the addition of the project traffic, all freeway off-ramp queues can be accommodated within the off-ramp storage. Technical Calculations are included in **Appendix A**.

Table 11: Freeway Off-Ramp Queueing Analysis – Cumulative Plus Project Conditions 95th Percentile Queue

Intersection	Move-ment	Storage (ft)	AM Peak Hour		PM Peak Hour	
			Volume	Queue (ft)	Volume	Queue (ft)
1. S. Main St/WB SR 120 Ramps[1]	WBL	200	210	64	300	83
	WBL/T/R	1,656	0	51	0	78
	WBR	200	200	47	240	71
2. S. Main St/EB SR 120 Ramps[1]	EBL	350	390	86	570	122
	EBT	1499	0	38	0	144
	EBR	350	410	38	580	144

Notes:
[1] The future interchange design has not been formalized. Off-Ramp storage is assumed to be equal to the existing off-ramp storage.
Source: Fehr & Peers, 2022

Based on the freeway off-ramp queueing analysis, the proposed Project would not result in freeway off-ramp queuing spilling back from interchanges and would not affect traffic operations on the freeway mainline. Traffic generated by the proposed Project would remain compatible with the planned traffic safety improvements in the vicinity of the Project.

It should be noted that the design of the SR 120/S. Main Street interchange improvement has not been formalized; however, off-ramp queuing of the future interchange will be studied in detail as part of the upcoming SR 120/S. Main Street Interchange Improvement Project led by the City of Manteca, in coordination with Caltrans. The Interim General Plan Year (2040) Scenario TFM will be modified to include the proposed SOMA Project and used to develop traffic volume forecast.

9. Additional Analysis

This chapter describes the additional analysis completed for the proposed Project, including a policy consistency review and a site access evaluation.

9.1 Policy Consistency

The City of Manteca PFIP (2013), City of Manteca General Plan (2003), and City of Manteca ATP (2020) were reviewed to determine if the proposed Project results in any inconsistencies with adopted transportation related policies.

City of Manteca PFIP

The PFIP identifies the following planned improvements near the project site:

- Class II bike lane on S. Main Street between E. Atherton Drive and Anton Raymus Parkway.

City of Manteca ATP

The ATP identifies the following planned improvements near the project site:

- Class I multi-use path on the north side of E. Atherton Drive
- Sidewalk on S. Main Street along project frontage

Based on the location of the future active transportation facilities, the following COA is recommended:

Traffic COA #4 – The developer shall coordinate with the City to construct a Class II bike lane and sidewalk along the SOMA project frontage or preserve right-of-way along the SOMA project frontage for future installation of the bike lane. The exit-only driveway on S. Main Street shall be designed to minimize impact to the bike lane. The design of the driveway shall be reviewed and approved by the Director of Engineering/City Engineer.

Manteca General Plan

It is noted that the currently adopted General Plan is the 2023 General Plan; however, the City is currently undergoing an update to the General Plan. The proposed General Plan Update (Alternative D) designates the project site as commercial mixed use, which permits multi-family housing developments. Therefore, the proposed Project is consistent with the proposed General Plan Update land use designation.

Although LOS cannot be used as a CEQA metric to identify significant transportation impacts, presentation of LOS information helps the City evaluate the Project's consistency with Policy C-P-2, as identified in the Circulation Element of the City of Manteca General Plan 2023:

Policies

- C-P-2: To the extent feasible, the City shall strive for a vehicular LOS of D or better at all streets and intersections, except in the Downtown area where right-of-way is limited, pedestrian, bicycle, and transit mobility are most important and vehicular LOS is not a consideration.

Intersection operations were analyzed for the proposed project and are discussed in Chapters 4, 5, and 6. With recommended improvements identified in the PFIP and described in those chapters, all intersections would operate at LOS D or better with the addition of project trips.

9.2 Site Access Evaluation

As described in Chapter 5 and displayed in **Figure 2**, primary access to the proposed Project would be provided by the main driveway on E. Atherton Drive. As shown on the proposed site plan, left-in, right-in, and right-out movements are permitted at the main driveway, and left-out movements onto E. Atherton Drive is prohibited. A secondary exit-only driveway would be provided on S. Main Street.

Both project driveways are analyzed under the Existing Plus Project and the Cumulative Plus Project conditions. As shown in **Table 5** and **Table 8**, both project driveways would operate acceptably as side-street stop controlled intersections, and project traffic would be able to enter and exit project driveways without excessive delay.

As shown in **Figure 9**, the number of inbound vehicles arriving on westbound E. Atherton Drive is approximately 1 vehicle in the AM peak hour and 6 vehicles in the PM peak hour. A maximum queue analysis was performed for the westbound left-turn movement at E. Atherton Drive/Project Driveway. Based on the inbound volume and the opposing volume on eastbound E. Atherton Drive, the maximum queue is estimated to be 1 vehicle. The recommended westbound left-turn pocket length is 50 feet plus taper.

It is important that the design of the site provide adequate throat depth for vehicular traffic. Without this, queueing may extend onto public streets, thereby adversely affecting traffic operations and creating potential safety hazards. The roundabout design feature at the main driveway on E. Atherton Drive would provide sufficient storage for both inbound and outbound vehicles. The vehicle gate should be designed with vehicle detection such that it remains continuously open if multiple vehicles are in queue to enter or exit the gate.

The City of Manteca ATP and PFIP identify the following planned improvements along the project frontage:

- Class II bike lane on S. Main Street between E. Atherton Drive and Anton Raymus Parkway.
- Sidewalk on S. Main Street along project frontage

The proposed site plan shows the sidewalk within the project site terminates at the exit-only vehicle gate on S. Main Street. To improve multi-modal access, it is recommended that a pedestrian gate be added

near the exit-only vehicle gate on S. Main Street, and the internal sidewalk be extended to connect with the planned sidewalk along S. Main Street.

With consideration to multi-modal safety, the exit-only driveway on S. Main Street shall be designed to minimize impact to the bike lane. The design of the driveway shall be reviewed and approved by the Director of Engineering.

A preliminary site plan review indicates adequate emergency access would be provided and there do not appear to be any geometric hazards. However, all project access intersections, internal intersections, and internal roadways should be carefully designed to ensure they can accommodate emergency vehicles. All intersections and street sections should be reviewed by the City of Manteca and designed to comply with typical City standards.

10. Conclusion

This chapter presents the conclusions of the transportation impact analysis for the proposed SOMA Apartments Project in the City of Manteca.

10.1 Transportation Impact Analysis

Consistent with SB 743, VMT is used as the primary metric for identifying significant transportation impacts. VMT impact for the proposed Project was analyzed using methodology and threshold identified in the City of Manteca draft TIA Guidelines.

Under both the Cumulative Current General Plan Buildout conditions and the Cumulative Proposed General Plan (Alternative D) Buildout conditions, the proposed Project would generate VMT per multi-family dwelling unit that is less than 85 percent of the established baseline. Therefore, the transportation impact is less-than-significant.

10.2 Intersection Operations Analysis

Results of the intersection operations analysis indicate that the S. Main Street/Eastbound SR 120 Ramps and the S. Main Street/E. Woodward Avenue intersections currently operates deficiently during the AM and/or PM peak hour. With the additional project traffic, these intersections would continue to operate deficiently. With intersection signal timing improvements at the S. Main Street/Eastbound SR 120 Ramps intersection and signalization at the S. Main Street/E. Woodward Avenue intersection, all study intersections would operate acceptably under Existing Plus Project conditions during the AM and PM peak hour.

Under Existing Plus Adjacent Entitled Projects conditions, minor modifications to the existing roadways are recommended to improve safety and access to two adjacent projects. With the recommended roadway improvements and signalization at the S. Main Street/E. Woodward Avenue intersection, all study intersections would operate acceptably during the AM and PM peak hour.

Under Cumulative No Project and Cumulative Plus Project conditions, with improvements identified in the PFIP and the SJCOG RTP/SCS, all study intersections would operate acceptably at LOS A through D during the AM and PM peak hour.

Recommended Conditions of Approval

The following conditions should be incorporated into the Conditions of Approval for the proposed Project:

- **Traffic COA #1 –** If the traffic signal at the S. Main Street/E. Woodward Avenue intersection has not already been constructed with the Griffin Park S. Main Street improvements, the SOMA project shall install the traffic signal at the S. Main Street/E. Woodward Avenue intersection. The

Estimate of Probable Cost for the traffic signal improvements is $575,000. The developer shall pay for the total cost for design and construction of the traffic signal improvements but will receive PFIP Transportation Credits in accordance with the PFIP procedures. Should the cost of the S. Main Street/E. Woodward Avenue traffic signal, when added to the reimbursable costs for the PFIP improvements identified in Traffic COAs #2 & #3 below (based on three competitive bids), exceed the total amount of PFIP credits available to the SOMA Project (based on the PFIP Transportation Fee in place at the time of building permit issuance x the number or multi-family residential units), the developer will be reimbursed by the PFIP Transportation fund for the amount the S. Main Street/E. Woodward Avenue traffic signal causes the PFIP Transportation Fee credits to be exceeded. If the Fee credits are exceeded, the SOMA developer is to be reimbursed soon after City Council acceptance of the S. Main Street/E. Woodward Avenue intersection traffic signal improvements. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.

- **Traffic COA #2 –** If the PFIP Improvements on the east side of S. Main Street, from Atherton Drive north to the State Route (SR) 120 eastbound access ramp have not been constructed by others, the developer shall construct the PFIP Improvements on the east side of S. Main Street, including the median/left turn pocket(s), as shown on the PFIP *Modified 6 Lane Street Section*, Plate E-2.10 H2 (south end) transitioning to Plate E2.10 H1 (north end), from Atherton Drive north to the SR 120 eastbound access ramp, including signal timing modifications at the S. Main Street/eastbound SR 120 ramp intersection. The Estimate of Probable Cost for the PFIP improvements, from Atherton Drive to the SR120 eastbound access ramp, is $733,000. The developer shall pay for the total cost for design and construction of the PFIP improvements but will receive PFIP Transportation Credits or be reimbursed by the City in accordance with PFIP procedures. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.

- **Traffic COA #3** – The developer shall construct the PFIP Improvements on the east side of S. Main Street, including the median/left turn pocket(s), as shown on the PFIP *6 Lane Street Section*, Plate E-2.10 H1, from Atherton Drive south along the SOMA project frontage. The Estimate of Probable Cost for the PFIP improvements, on the east side of S. Main Street along the SOMA project frontage, is $265,000. The developer shall pay for the total cost for design and construction of the PFIP improvements but will receive PFIP Transportation Credits or be reimbursed by the City in accordance with PFIP procedures. The design of the improvements shall be reviewed and accepted by the Director of Engineering/City Engineer.

- **Traffic COA #4** – The developer shall coordinate with the City to construct a Class II bike lane and sidewalk along the SOMA project frontage or preserve right-of-way along the SOMA project frontage for future installation of the bike lane. The exit-only driveway on S. Main Street shall be designed to minimize impact to the bike lane. The design of the driveway shall be reviewed and approved by the Director of Engineering/City Engineer.

In addition, the following modification is recommended for the Project's site plan:

- To improve multi-modal access, it is recommended that a pedestrian gate be added near the exit-only vehicle gate on S. Main Street, and the internal sidewalk be extended to connect with the planned sidewalk along S. Main Street.