Public Review Draft Initial Study/Mitigated Negative Declaration

Cornerstone Community Church: Conditional Use Permit 25-0054, Site Plan Review 25-0054, and Lot Line Adjustment 25-0054

prepared by
City of Manteca
Development Services Department
1215 W. Center Street, Ste. 201
Manteca, CA 95337

Prepared with the assistance of
J.B. Anderson Land Use Planning
139 S. Stockton Avenue
Ripon, California 95366

September 2026

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APPENDIX **106**

A. CalEEMod Detailed Report, dated April 17, 2026, prepared by J.B. Anderson Land Use Planning
B. Central California Information Center Records Search, dated January 19, 2026
C. Cornerstone Community Church VMT Screening, dated April 7, 2026, prepared by TJW Engineering, Inc.
D. Cornerstone Community Church Traffic Impact Analysis, dated September 2, 2026, prepared by TJW Engineering, Inc.

NEGATIVE DECLARATION

Lead Agency:
City of Manteca
1215 W. Center Street, Ste. 201
Manteca, CA 95337

PROJECT NAME:

Cornerstone Community Church: CUP 25-0054, SPR 25-0054, and LLA 25-0054

PROJECT PROPONENT AND LEAD AGENCY:

Project Proponent: Cornerstone Community Church
Mr. Scott Hoag
10948 South Airport Way
Manteca, CA 95336

Lead Agency: City of Manteca
1215 W. Center Street, Ste. 201
Manteca, CA 95337

PROJECT LOCATION:

The Proposed Project is located within the City of Manteca city limits, and specifically, at 499, 421, and 457 South Austin Road. The Proposed Project is located in the eastern portion of the City of Manteca, adjacent to the eastern city limit line, approximately 0.3 miles south of the Austin Road and Highway 120 intersection. Specifically, the Project site is bounded by vacant land to the north, single family homes and agricultural land to the south, single family homes to the east, and trucking service uses to the west.

The San Joaquin County Assessor's Office has assigned the Proposed Project parcels as APN No.'s 228-020-44, 228-020-45, 228-020-27.

PROJECT DESCRIPTION:

The Applicant, Cornerstone Community Church, is requesting approval of a Conditional Use Permit, Site Plan Review, and Lot Line Adjustment to allow for the development of a worship center and associated structures in two (2) phases on an 11.94-net acre site located at 499, 421, and 457 South Austin Road (APNs: 228-020-44, -45, -27).

The Proposed Project consists of the development of a 32,897 square foot community church with a worship center and support buildings, as shown in Figure 3. The proposed support buildings include a 1,500 square foot maintenance building as a part of Phase 1, and an 8,000 square foot kids building, 8,000 square foot youth building, and a 4,000 square foot chapel as a part of Phase 2. The total square footage of the buildings proposed is 54,397 square feet. The Proposed Project also includes outdoor recreation with a kid's play area, soccer field, and basketball court.

Church services will occur on Sundays at 8:00am, 9:30am, and 11:00am. Regular staff hours will be Tuesday through Thursday from 9:00am to 4:00pm, with eight (8) employees on-site at any given time. Three (3) employees will be on-site on Fridays from 9:00am to 12:00pm. Classrooms will be used for youth and children's ministry instruction and discipleship during the services times, aligning with the times the sanctuary will be used.

Site improvements include paving, pedestrian walkways, off-street parking, landscaping, lighting, and frontage improvements on South Austin Road. The Proposed Project includes 330 parking spaces, with 256 standard spaces, eight (8) accessible spaces, and sixty-six (66) EV charging and capable spaces. Twenty (20) short-term bike parking spaces will be provided in front of the worship center. A trash enclosure is proposed at the southern portion of the Project site.

A six-foot tall wood fence will be installed along the Project site's north, west, and south property line. A comprehensive landscape plan will enhance the streetscape with new trees planted along South Austin Road, as shown in Figure 12. Acer Rubrum and Cercis Canadensis Texensis accent trees will be added throughout the parking lot. Shrubs such as Grevillea, Myrtus Communis, and Dasyliron Wheeleri will be used to enhance visual interest and soften hardscape edges.

Access to the Project site is provided via South Austin Road with two (2) driveways. The first driveway is located at the north end of the Project site, while the second driveway is located south between the two (2) drainage basin areas.

The City of Manteca will provide water and sewer services to the Proposed Project via South Austin Road, as shown in Figure 5. The Proposed Project will install eight (8) inch water and sewer lines connections to the existing lines in South Austin Road. Storm water will be detained on-site via two (2) detention basins located in the eastern boundary of the Project site and will be discharged into the City's existing storm drain line in South Austin Road. Twelve (12) and eighteen (18) inch storm drainage lines will be installed throughout the project site and will connect to the two (2) proposed basins along South Austin Road.

As state above, the Proposed Project consists of the development of a community church. Churches and Places of Worship require a Conditional Use Permit in the R-1 Zoning District per the Manteca Municipal Code Section 17.22.020, Allowed Uses and Required Entitlements. The Conditional Use Permit would cover the church-related uses.

The Proposed Project will include the lot merging of the parcels located at 499, 421, and 457 South Austin Road and requires a Lot Line Merger, pursuant to Manteca Municipal Code Section 16.19, Lot Line Adjustments.

The Proposed Project requires a Site Plan Review per the Manteca Municipal Code Section 17.10.060, Site Plan and Design Review (Major and Minor), as Site Plan Reviews are required for new non-residential uses and structures.

ENVIRONMENTAL DETERMINATION:

The Lead Agency has prepared an Initial Study, following, which considers the potential environmental effects of the Proposed Project. The Initial Study shows that there is no substantial evidence, in light of the whole record before the Lead Agency, that the Proposed Project may have a potentially significant effect on the environment, provided that the following mitigation measures are included in the Proposed Project.

MITIGATION MEASURES:

BIO-1: *The project shall participate in and obtain coverage under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Prior to ground disturbance, the project applicant shall mitigate for the proportionate loss of potential wildlife habitat from the project site by implementing any Incidental Take Minimization Measures (ITMMs) prescribed by the San Joaquin Council of Governments (SJCOG). A biologist representing SJCOG shall visit the project site prior to the issuance of ITMMs to the City and to the project applicant.*

CUL-1: *In accordance with Section 15064.4(e) of the CEQA Guidelines, in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps shall be taken:*

- *There shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains until:*
    - *The coroner of the County in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required;*
    - *If the coroner determines the remains to be Native American:*
        - *The coroner shall contact the Native American Heritage Commission within 24 hours.*
        - *The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.*
        - *The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98.*

NOISE-1: *Construction equipment shall be well maintained to be as quiet as possible. The following measures, when applicable, shall be implemented to reduce noise from construction activities:*

- *All internal combustion engine-driven equipment shall be equipped with mufflers that are in good condition and appropriate for the equipment.*
- *"Quiet" models of air compressors and other stationary noise sources shall be used, where technology exists.*
- *Stationary noise-generating equipment shall be located as far as feasible from sensitive receptors (dwellings).*
- *Unnecessary idling of internal combustion engines shall be prohibited.*
- *Staging areas and construction material storage areas shall be located as far away as possible from adjacent sensitive land uses (dwellings).*
- *Construction-related traffic shall be routed along major roadways (Yosemite Avenue, Austin Road) and as far away as feasible from sensitive receptors (dwellings).*
- *Residences or noise-sensitive land uses adjacent to construction site(s) shall be notified of the construction schedule in writing. The construction contractor shall designate a "construction liaison" that would be responsible for responding to any local complaints (e.g., starting too early, bad muffler, etc.) and shall institute reasonable measures to correct the problem. The construction contractor shall conspicuously post a telephone number for the liaison at the construction site.*
- *The construction contractor shall hold a pre-construction meeting with the job inspectors and the general contractor/on-site manager to confirm that noise mitigation and practices (including construction hours, construction schedule, and construction liaison) are completed.*

All of the above measures shall be included in the contract specifications that shall be reviewed and approved by the City of Manteca Development Services Department prior to the start of construction. The above measures would reduce noise generated by the construction of the Proposed Project to the extent feasible for the project's size.

Jenge N. Mahungu

Ms. Nzuzi Mahungu, Assistant Planner

September 14, 2026

Date

INITIAL STUDY

1. PROJECT TITLE

Cornerstone Community Church: CUP 25-0054, SPR 25-0054, and LLA 25-0054

2. LEAD AGENCY NAME AND ADDRESS

City of Manteca
1215 W. Center Street, Ste. 201
Manteca, CA 95337

3. CONTACT PERSON AND PHONE NUMBER

Ms. Nzuzi Mahungu, Assistant Planner
ymahungu@manteca.gov
(209) 456-8565

4. PROJECT LOCATION

The Proposed Project is located within the City of Manteca city limits, and specifically, at 499, 421, and 457 South Austin Road, as detailed in Table 1 below (APNs: 228-020-44, -45, -27). The Proposed Project is located in the eastern portion of the City of Manteca, adjacent to the eastern city limit line, approximately 0.3 miles south of the Austin Road and Highway 120 intersection, as shown in Figure 1. Specifically, the Project site is bounded by vacant land to the north, single family homes and agricultural land to the south, single family homes to the east, and trucking service uses to the west.

Table 1: Project Parcels

Property Address	Assessor Parcel Number	Lot Size	Land Use
499 S. Austin Road	228-020-44	11.25	Vacant, with small water pump structure
421 S. Austin Road	228-020-45	0.69	Vacant
457 S. Austin Road	228-020-27	0.34	Vacant, with small water pump structure
	Total	**12.28 gross acres**	

5. PROJECT SPONSOR'S NAME AND ADDRESS

Community Church
Mr. Scott Hoag
10948 South Airport Way
Manteca, CA 95336

6. EXISTING SETTING

The Project site is vacant and undeveloped with the exception of two water pumps structures that will be removed as part of the development of the Proposed Project. Historically, 499 and 457 South Austin Road have contained single-family homes with accessory structures. These structures have been demolished, but two water pumps have remained on each parcel as noted above. 421 South Austin Road has been vacant in recent history. The Project site is relatively flat with no trees on-site, as shown in the photos below.







7. EXISTING GENERAL PLAN LAND USE DESIGNATION

The Project site is designated for Low Density Residential (LDR) land uses per the City's 2043 General Plan, dated February 2024, as shown in Figure 6.

8. EXISTING ZONING

The existing zoning of the Project site is R-1, One-Family Dwelling, as shown in Figure 7.

9. SURROUNDING LAND USES AND SETTING

Table 2, below, provides the Project site's surrounding land uses and setting:

Table 2 Surrounding Land Uses and Setting

	Existing Use	General Plan Land Use Designation	Zoning Classification
North	Vacant Land	Very Low Density Residential (VLDR) and Commercial (C)	Residential Estates (RE) and General Commercial (CG)
South	Single Family Homes and Agricultural Land	Commercial Mixed Use (CMU)	Commercial Mixed Use (CMU)
East	Single-Family Homes	Urban Reserve Low Density Residential (UR-LDR)	Agriculture-Urban Reserve (AU-20) (San Joaquin County)
West	Trucking Services	Industrial (I)	Light Industrial (M1)

10. DESCRIPTION OF THE PROJECT

The Applicant, Cornerstone Community Church, is requesting approval of a Conditional Use Permit, Site Plan Review, and Lot Line Adjustment to allow for the development of a worship center and associated structures in two (2) phases on an 11.94-net acre site located at 499, 421, and 457 South Austin Road (APNs: 228-020-44, -45, -27).

The Proposed Project consists of the development of a 32,897 square foot community church with a worship center and support buildings, as shown in Figure 3. The proposed support buildings include a 1,500 square foot maintenance building as a part of Phase 1, and an 8,000 square foot kids building, 8,000 square foot youth building, and a 4,000 square foot chapel as a part of Phase 2. The total square footage of the buildings proposed is 54,397 square feet. The Proposed Project also includes outdoor recreation with a kid's play area, soccer field, and basketball court.

Church services will occur on Sundays at 8:00am, 9:30am, and 11:00am. Regular staff hours will be Tuesday through Thursday from 9:00am to 4:00pm, with eight (8) employees on-site at any given time. Three (3) employees will be on-site on Fridays from 9:00am to 12:00pm. Classrooms will be used for youth and children's ministry instruction and discipleship during the services times, aligning with the times the sanctuary will be used.

Site improvements include paving, pedestrian walkways, off-street parking, landscaping, lighting, and frontage improvements on South Austin Road. Manteca Municipal Code Section 17.52.050 requires 1 parking space per 3 fixed seats or 1 space per 50 square feet of primary assembly area for assembly uses. The Proposed Project includes 600 seats in the worship center, which requires 200 parking spaces. Classrooms require 1.5 spaces per classroom. The Proposed Project includes 8 classrooms, requiring 12 parking spaces. The Proposed Project requires 29 spaces for the administration and maintenance buildings, per the City's Municipal Code. The future chapel will be 4,000 square feet, requiring 80 parking spaces. The future youth building will also be 8,000 square feet, requiring 12 parking spaces and the future kids building is proposed to be 4,00 square feet, requiring 15 stalls. The Proposed Project includes 330 parking spaces, with 256 standard spaces, eight (8) accessible spaces, and 66 EV charging and capable spaces. Twenty (20) short-term bike parking spaces will be provided in front of the worship center. A trash enclosure is proposed at the southern portion of the Project site.

A six-foot tall wood fence will be installed along the Project site's north, west, and south property line. A comprehensive landscape plan will enhance the streetscape with new trees planted along South Austin Road, as shown in Figure 12. Acer Rubrum and Cercis Canadensis Texensis accent trees will be added throughout the parking lot. Shrubs such as Grevillea, Myrtus Communis, and Dasyliron Wheeleri will be used to enhance visual interest and soften hardscape edges.

Access to the Project site is provided via South Austin Road with two (2) driveways. The first driveway is located at the north end of the Project site, while the second driveway is located south between the two (2) drainage basin areas. The southern driveway will serve as the main entry and exit, allowing for left and right turns, while exits from the northern driveway will be limited to right turns only.

The City of Manteca will provide water and sewer services to the Proposed Project via South Austin Road, as shown in Figure 5. The Proposed Project will install eight (8) inch water and sewer lines connections to the existing lines in South Austin Road. Storm water will be detained on-site via two (2) detention basins located in the eastern boundary of the Project site and will be discharged into the City's existing storm drain line in South Austin Road. Twelve (12) and eighteen (18) inch storm drainage lines will be installed throughout the project site and will connect to the two (2) proposed basins along South Austin Road.

As state above, the Proposed Project consists of the development of a community church. Churches and Places of Worship require a Conditional Use Permit in the R-1 Zoning District per

the Manteca Municipal Code Section 17.22.020, Allowed Uses and Required Entitlements. The Conditional Use Permit would cover the church-related uses.

The Proposed Project will include the lot merging of the parcels located at 499, 421, and 457 South Austin Road and requires a Lot Line Merger, pursuant to Manteca Municipal Code Section 16.19, Lot Line Adjustments.

The Proposed Project requires a Site Plan Review per the Manteca Municipal Code Section 17.10.060, Site Plan and Design Review (Major and Minor), as Site Plan Reviews are required for new non-residential uses and structures.

Project Phasing

The Proposed Project will be constructed in two (2) phases, as shown in Figure 4:

- Phase 1 consists of a single-story worship, administration, and classroom building totaling 32,897 square feet, a maintenance building, and the associated site improvements. Phase 1 will also include the development of a kids' play area as an outdoor recreation space.
    - The worship portion of the building will be 18,692 square feet and include the lobby with sitting areas, restrooms, and a café area with a kitchen, as well as the sanctuary with 600 seats, a stage, a media and sound room, two (2) green rooms, two (2) restrooms, and two (2) storage rooms.
    - The classroom portion will be 7,300 square feet and include two (2) elementary rooms, two (2) preschool rooms, one (1) crawlers' room, one (1) infant room, two (2) multi-purpose rooms, and six (6) restrooms.
    - The administration portion will be 6,905 square feet and include nine (9) offices, three (3) conference rooms, and five (5) restrooms.
    - The maintenance building will be 1,500 square feet and located south of the worship building along the southern property line.

- Phase 2 consists of an outdoor seating space with three (3) buildings, including a kid's building, youth building, and chapel.
    - The kids building will be 8,000 square feet and include educational classrooms for children.
    - The youth building will be 8,000 square feet and include educational classrooms for teenagers.
    - The chapel will be 4,000 square feet and will include seating and a small stage. It is intended to be used for special services.
    - Phase 2 will also include the development of outdoor recreation spaces including the soccer field and basketball court.
    - The soccer field and basketball court will be standard sizes for recreational fields and courts.

11. Other Public Agencies Whose Approval is Required

There are no other public agencies whose approval is required for the Proposed Project.

12. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1?

The City received a consultation request from the Confederated Villages of Lisjan Nation in accordance with Section 21080.3.1 of the Public Resources Code. Consultation requests were submitted to the following Native American Tribes:

- Amah Mutsun Tribal Band
- Confederated Villages of Lisjan Nation
- Muwekma Ohlone Tribe
- Northern Valley Yokut/Ohlone Tribe
- Tule River Indian Tribe
- Wilton Rancheria
- Wuksachi Indian Tribe/Eshom Valley Band

Tribal Notification Letters submitted to the Native American Tribes noted above are on file at the City of Manteca Development Services Department, 1215 W. Center Street, Ste. 201, Manteca, CA 95337.

Figure 1 – Vicinity Map

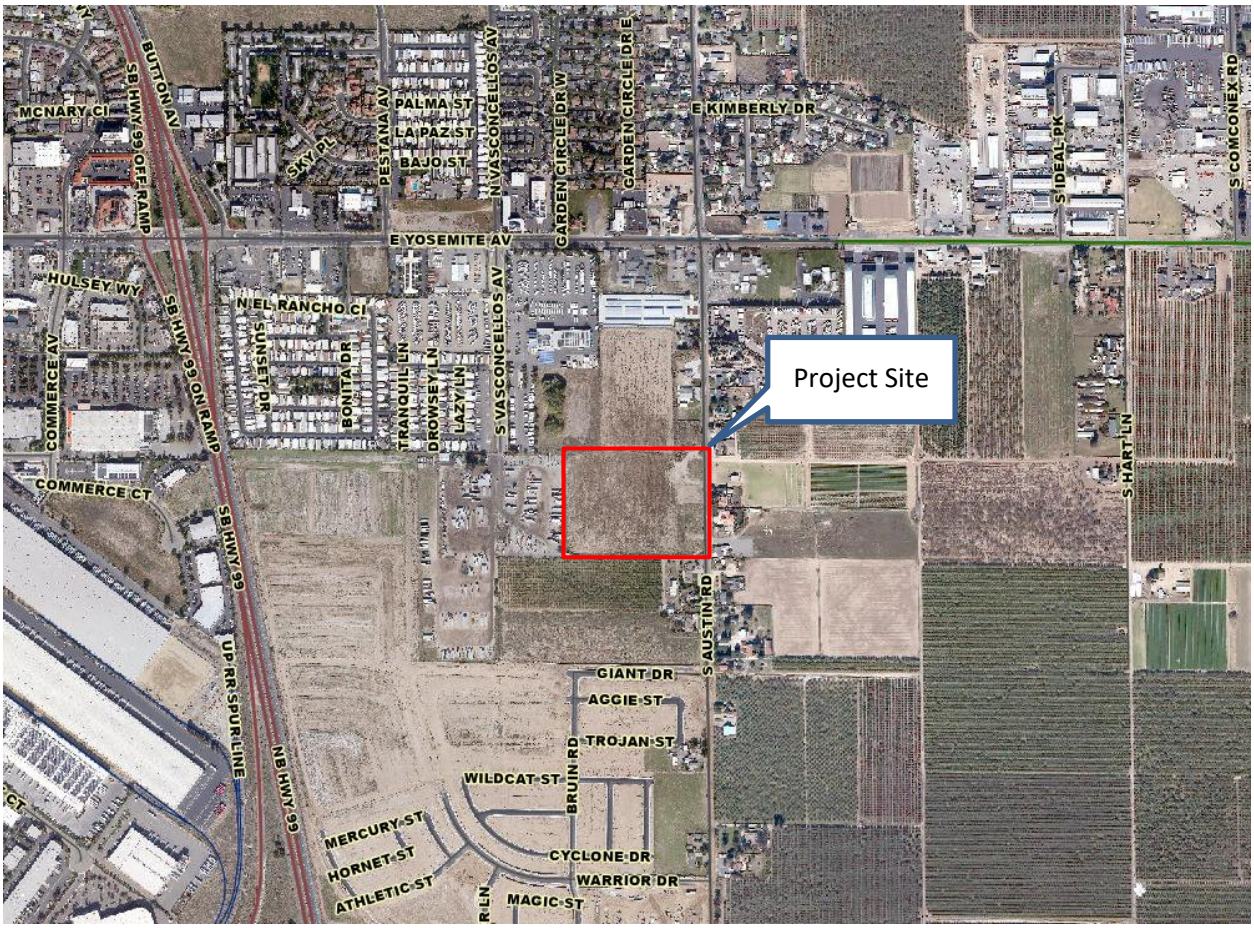


Figure 2 – Project Location



Figure 3 – Site Plan



Figure 4 – Phasing Plan

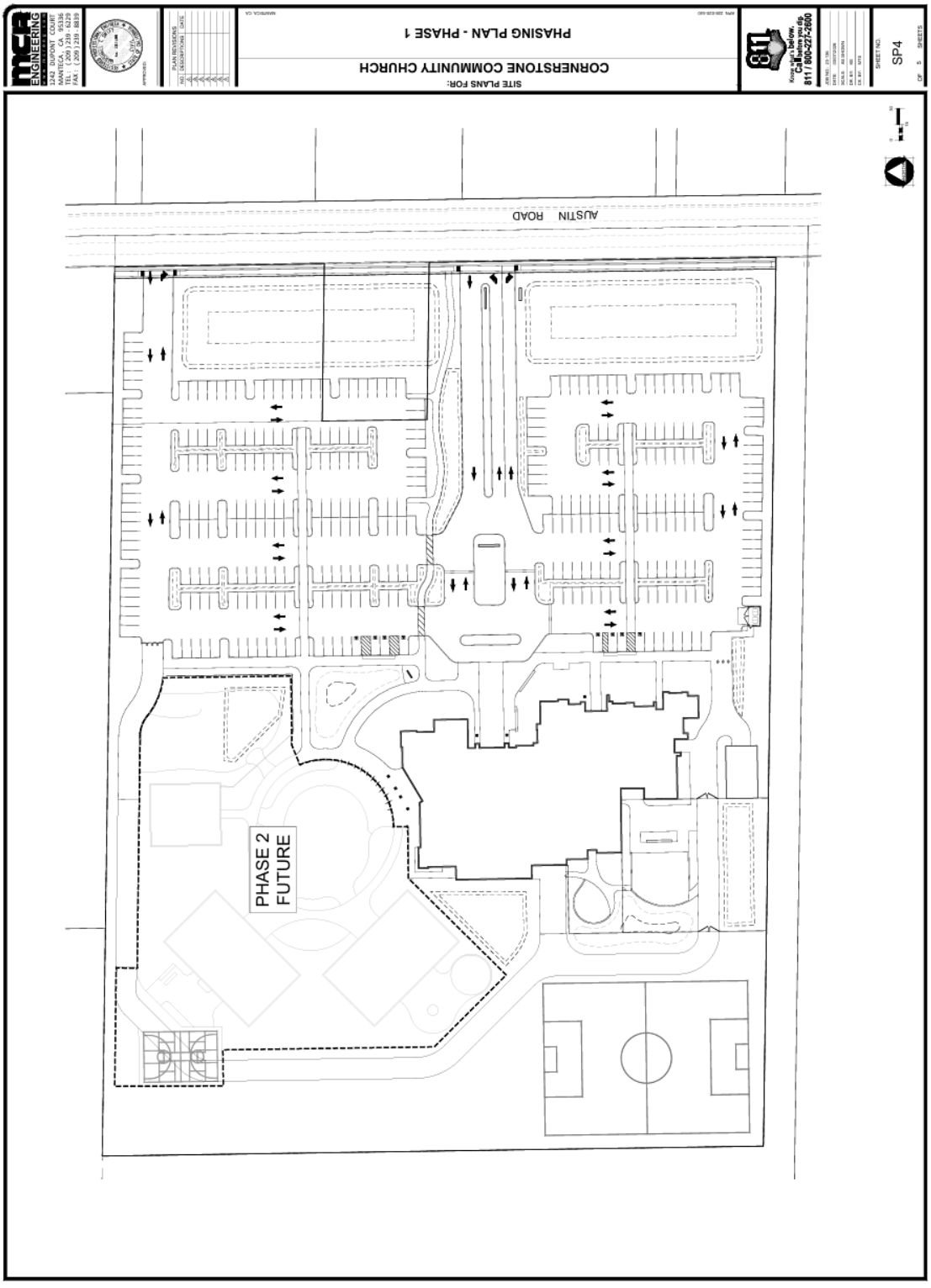


Figure 5 – Utility Plan

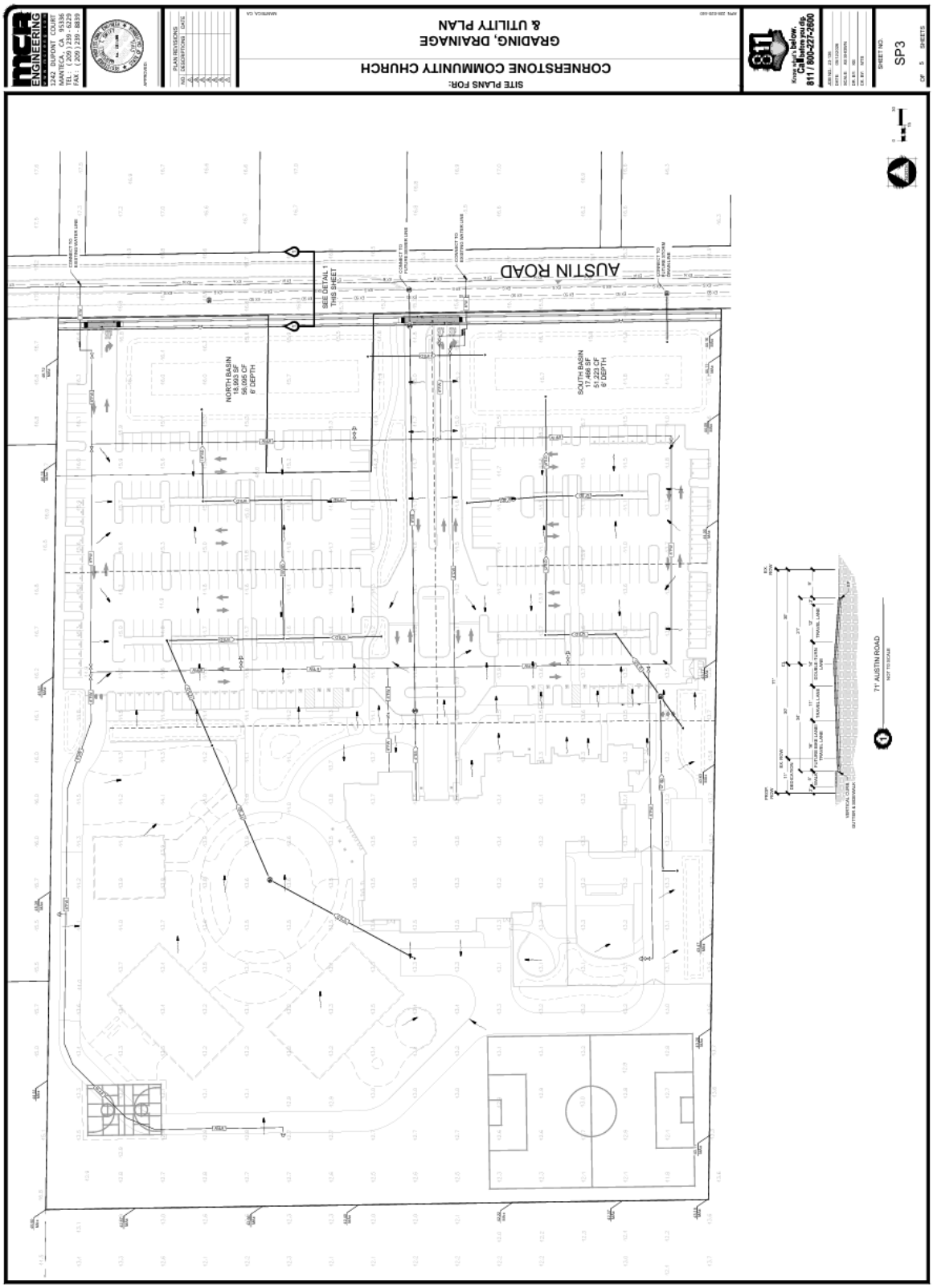


Figure 6 – Existing General Plan

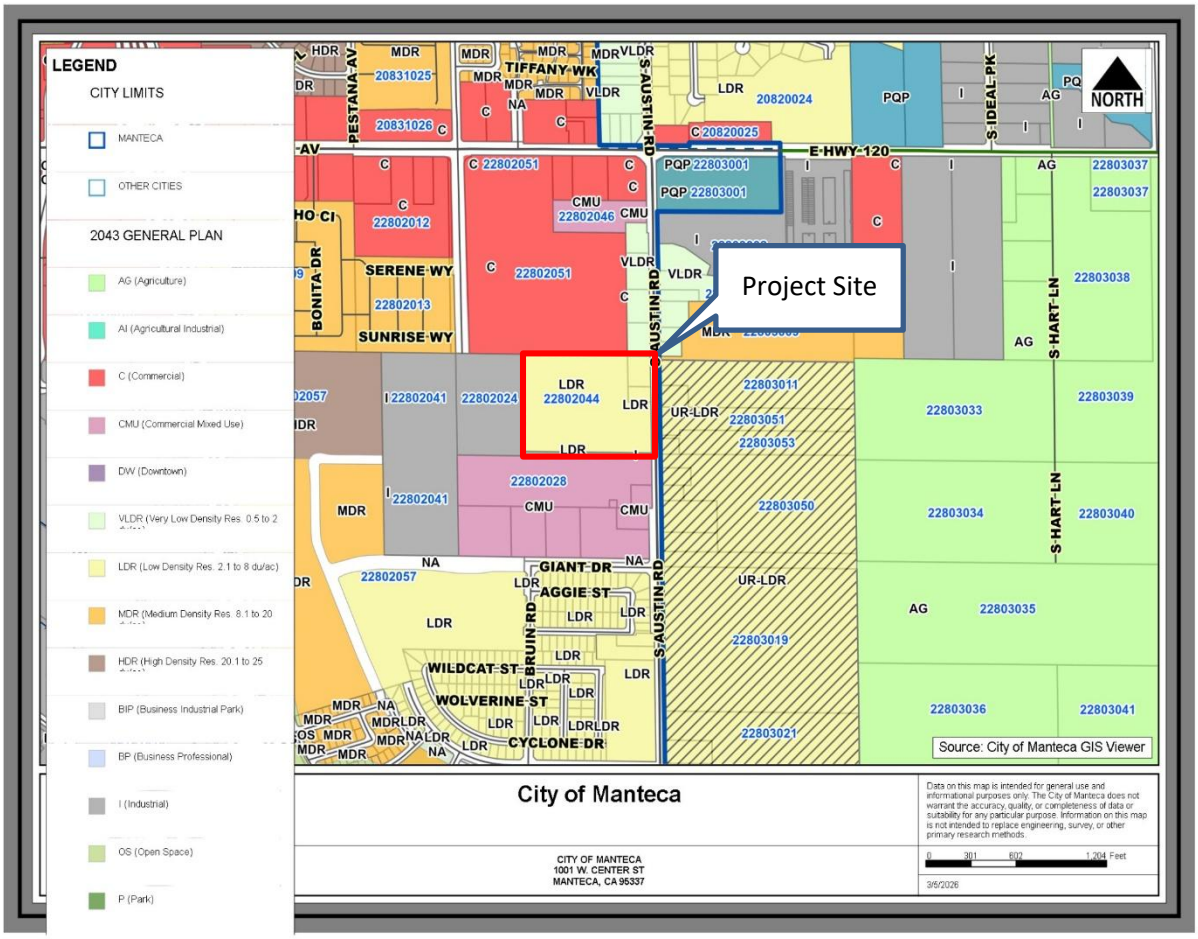


Figure 7 – Existing Zoning

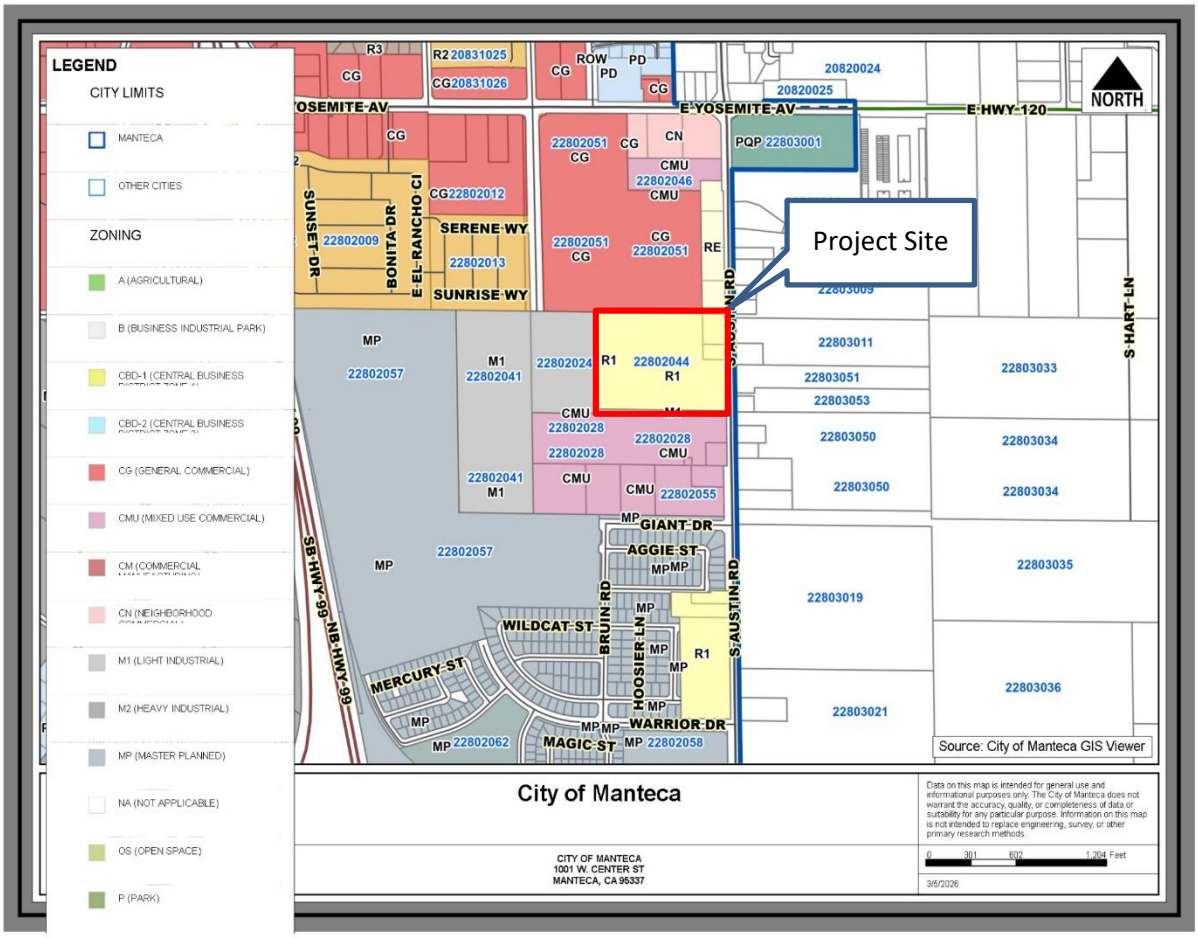


Figure 8 – USGS Topographic Map

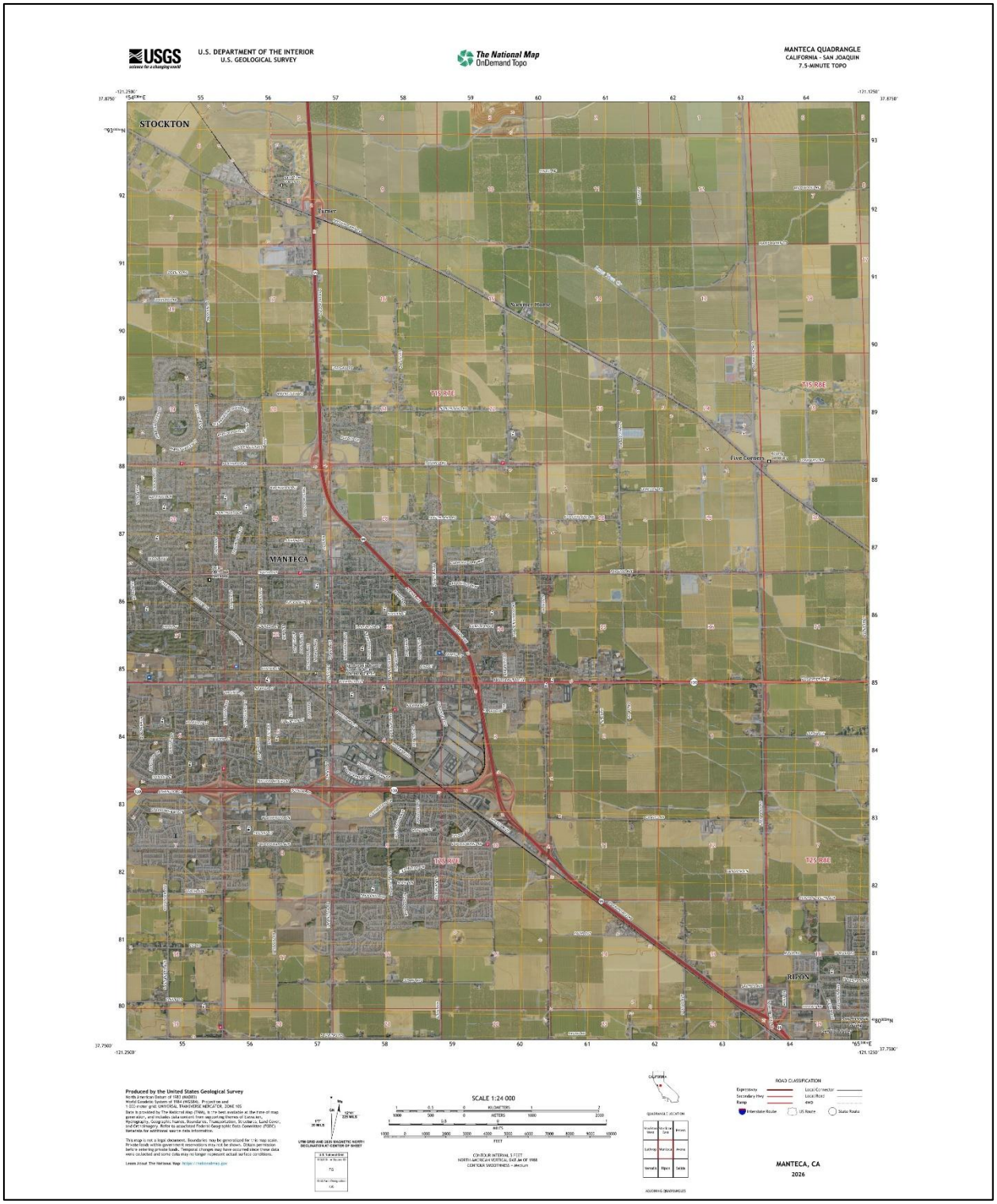


Figure 9 – North and East Exterior Elevations

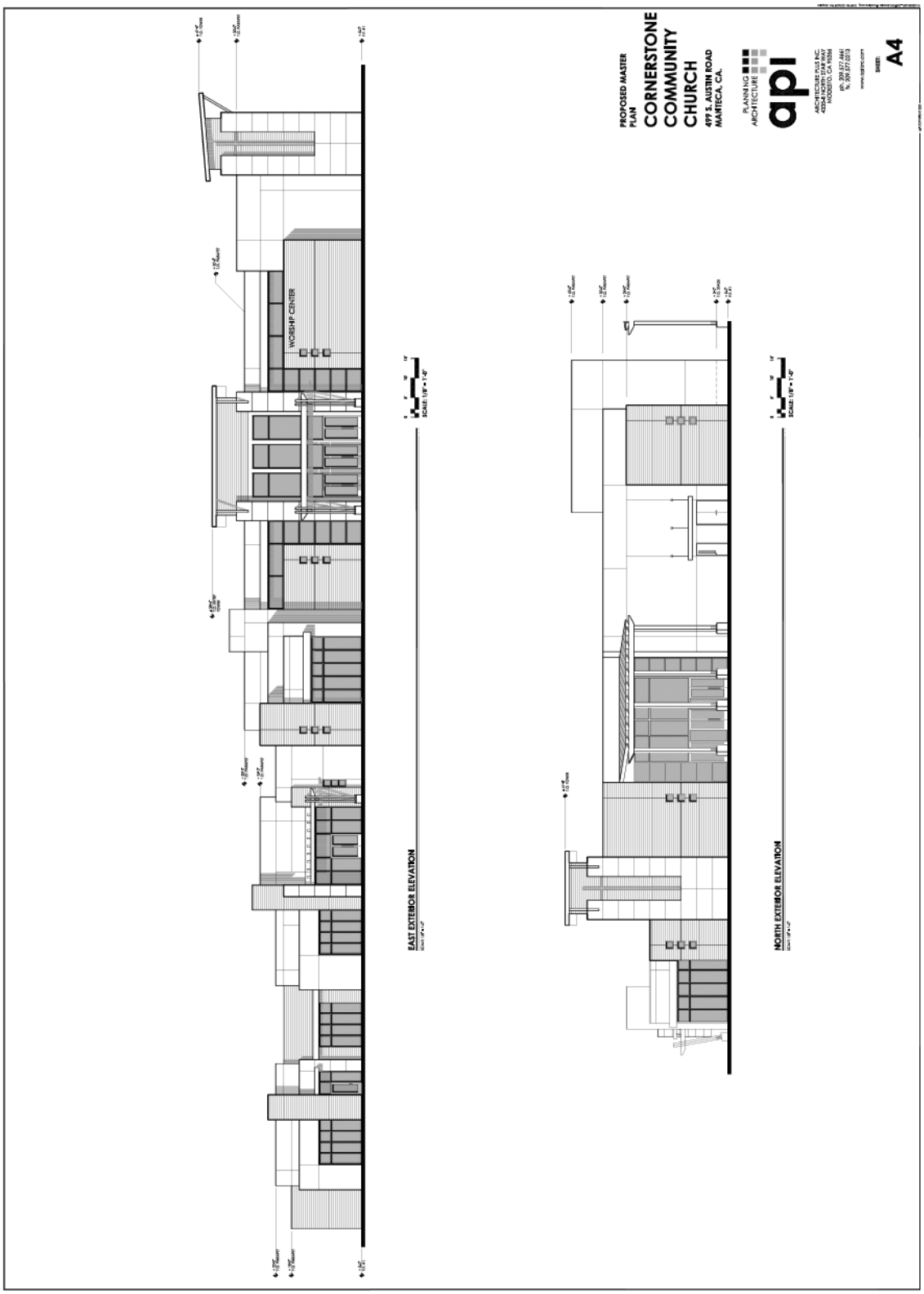


Figure 10 – West and South Exterior Elevations

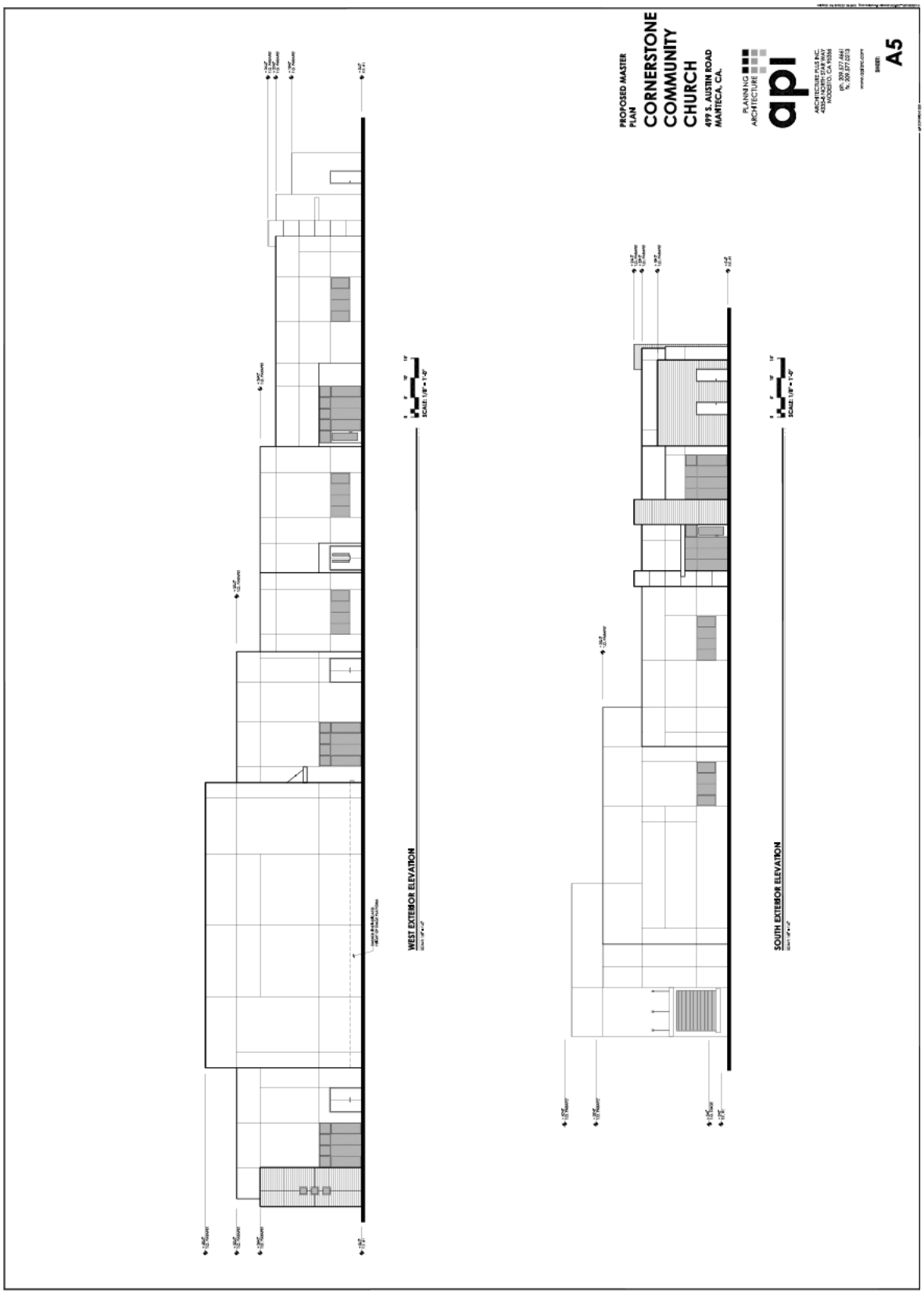


Figure 11 – Maintenance Building Elevations and Floor Plan

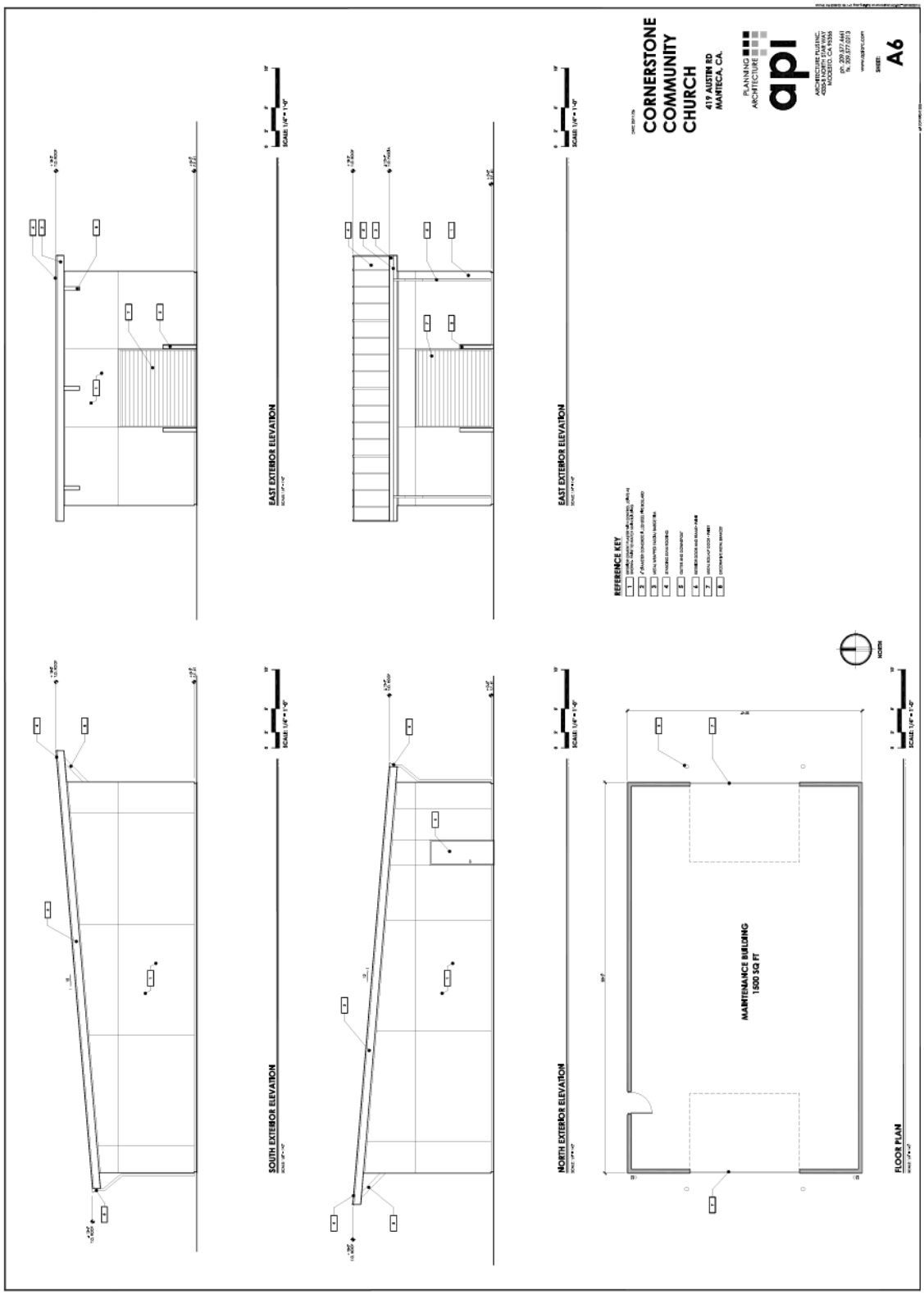


Figure 12 – Landscaping Plan



13. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

14. LEAD AGENCY 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.

Jenge N. Mahungu	September 14, 2026
Ms. Nzuzi Mahungu, Assistant Planner	**Date**

SECTION 2.0 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 significance.

INITIAL STUDY CHECKLIST

This section of the Initial Study incorporates the most current Appendix "G" Environmental Checklist Form, contained in the CEQA Guidelines.

1. 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 points.) 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	

IMPACT ANALYSIS

a. *Would the project have a substantial adverse effect on a scenic vista?*
b. *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a state scenic highway?*

Scenic vistas are generally interpreted as long-range views, while scenic corridors are comprised of short, middle-, and long-range views. Based on a review of the City of Manteca's General Plan and Environmental Impact Report (EIR), there are no officially designated scenic vistas in or near the Project Site. A scenic road is defined as a highway, road, driveway, or street that provides for the enjoyment of natural and human-made scenic resources, in addition to its transportation function. Scenic roads direct views to areas of exceptional beauty, natural resources or landmarks, or historic or cultural interest. The Project site is not near any of the designated State Scenic Highways per the California Department of Transportation's Statewide Scenic Highway Map. Therefore, the Proposed Project would have **Less Than Significant Impact**.

c. *Would the project, 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 points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The Project site is located adjacent to urban development and is zoned One-Family Dwelling (R-1), which allows single-family residential development and various institutional uses such as churches. The Proposed Project is compatible with the applicable zoning designation for the site and would not introduce structures that would contrast with existing development surrounding the Project site. The Proposed Project is subject to Site Plan and Design Review by the City, which is intended to promote harmony in appearance in neighborhoods and to reduce negative aesthetic impacts. The Proposed Project also would be required to comply with applicable landscaping standards, as specified in Chapter 17.48 of the City's Zoning Ordinance. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

d. *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

The Proposed Project will introduce typical lighting sources associated with churches such as exterior building lighting. These lighting sources are regulated by City standards to avoid excessive glare. The Proposed Project will be required to adhere to Chapter 17.50, Lighting, of the Manteca Municipal Code, as well as the following policies of the General Plan:

- LU 4.4: Ensure that all commercial and other non-residential development is compatible with adjacent land uses, particularly residential uses, based upon the location and scale of buildings, lighting, and in conformance with the noise standards of the Safety Element. When development is incompatible, require commercial uses to provide adequate buffers and/or architectural features to protect residential areas, developed or undeveloped, from intrusion of nonresidential activities that may degrade the quality of life in such residential areas.
- CD 2.10: Require that lighting and fixtures be integrated with the design and layout of a project and that they provide a desirable level of security and illumination.
- CD 2.11: Encourage the incorporation of lighting into signage design when appropriate in order to minimize glare and light spillage while accentuating the design of the signage.
- CD 8.4: For lighting in rural areas of the community, provide:
    - Minimal levels of street, parking, building, site and public area lighting to meet safety standards and provide direction;
    - Directional shielding for all exterior lighting to minimize the annoyance of direct or indirect glare;
    - Automatic shutoff or motion sensors for lighting features in newly developed areas.

The Proposed Project will be required to adhere to the policies listed above. All exterior lighting installed as a part of any future development of the site will be required to be designed in such a way as to minimize glare and light spill in order to preserve existing day-time/night-time views. In addition, the Proposed Project is adjacent to urban development with existing sources of light and glare. As such, the Proposed Project will have a **Less Than Significant Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

2. AGRICULTURE AND FORESTRY RESOURCES: WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:				
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 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104 (g))?				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	

IMPACT ANALYSIS

a. Would the project convert Prime Farmland, Unique Farmland, 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?

The California Important Farmland Map designates the viability of lands for farmland use, based on the physical and chemical properties of the soils. The maps categorize farmland, in decreasing order of soil quality, as "Prime Farmland," "Farmland of Statewide Importance," "Unique Farmland," and "Farmland of Local Importance." The first three (3) categories are defined as "Farmland" by CEQA Guidelines Appendix G. According to the Important Farmland Map (2022) issued by the California Department of Conservation, the Project site is classified as "Urban and Built-Up Land" and "Farmland of Statewide Importance". This is also represented in Figure 3.2-1, Important Farmlands in the Manteca General Plan EIR.

The Project site is currently vacant, but has been previous partially developed with single-family homes and accessory structures. The Project site is zoned as R-1, One-Family Dwelling and therefore is designated for urban development. Additionally, agricultural uses are not permitted in the R-1 Zoning District, per Chapter 17.22 of the City's Municipal Code.

The Proposed Project will be required to adhere to Chapter 13.42 of the Manteca Municipal Code. Chapter 13.42, Agricultural Mitigation Fee, requires the payment of an in-lieu fee for any discretionary land use entitlement that will permanently change over one (1) acre of agricultural land within the City's jurisdiction to any non-agricultural.

The Proposed Project will also have to adhere to the following policies and actions of the General Plan:

- RC-7.5: Minimize conflicts between agricultural and urban land uses.
- RC-7.6: Ensure that urban development near existing agricultural lands will not unnecessarily constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.
- RC-7.11: Require the development projects to reduce impacts on agricultural lands through the use of buffers, such as greenbelts, drainage features, parks, or other improved and maintained features, in order to separate residential and other sensitive land uses, such as schools and hospitals, from agricultural operations and from lands designated Agriculture and through payment of the Agricultural Mitigation Fee established by Municipal Code Chapter 13.42, as may be amended.
- RC-7e: Apply the following conditions of approval where urban development occurs next to farmland:
    - Require notifications in urban property deeds that agricultural operations are in the vicinity, in keeping with the City's right-to- farm ordinance.
    - Require adequate and secure fencing at the interface of urban and agricultural use.
    - Require phasing of new residential subdivisions; so as to include an interim buffer between residential and agricultural use.
    - Require a buffer, which may include a roadway and landscaped buffer, open space transition area, or low intensity uses, between urban uses and lands designated Agriculture on the Land Use Map.

The Proposed Project will be required to adhere to the policies listed above. Based on the analysis above, the Proposed Project will have a **Less Than Significant Impact**.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

The Williamson Act preserves agricultural land by means of a contract between the landowner and local government that keeps the contracted land in agricultural use in exchange for a lower property tax assessment. The Project site does not contain a Williamson Act Contract. The Project site is not zoned for forest land or timberland, and the Proposed Project does not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, the Proposed Project will have **No Impact**.

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

As stated in the Project Description, the Proposed Project includes the development of a community church with support buildings and site improvements. The Proposed Project will convert Farmland of Statewide Importance to non-agricultural uses. However, the Project site currently consists of vacant land, of which does not have a current use of agricultural production, and has a land use designation for urban uses as denoted in the General Plan. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

3. AIR QUALITY -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations. Would the project:				
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	

REGULATORY SETTING

Air Quality Regulatory Framework

The Proposed Project is located in the City of Manteca within the San Joaquin Valley Air Basin (SJVAB) and the boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, and season.

The National Ambient Air Quality Standards (NAAQS) establish the level of an air pollutant above which detrimental effects to public health or welfare may result. The NAAQS are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be equaled or exceeded more than once per year or in some cases as a percentile of observations. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants (i.e., California Ambient Air Quality Standards [CAAQS]). California has also established CAAQS for sulfates, hydrogen sulfide, and vinyl chloride; however, air emissions are not expected to occur under the project and, thus, these pollutants are not addressed further.

If a pollutant concentration in an area is lower than the established standards, the area is classified as being in “attainment” for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as “nonattainment” area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified.”

The State attainment status for San Joaquin Valley is currently nonattainment/severe for 1-hour ozone standards, nonattainment for 8-hour ozone standards, nonattainment for 24-hour and annual arithmetic mean for PM_{10} standards, and nonattainment for annual arithmetic mean for $PM_{2.5}$ standards. The national attainment status for San Joaquin Valley is currently nonattainment/extreme for 8-hour ozone standards and nonattainment for 24-hour and annual arithmetic mean for $PM_{2.5}$ standards. State and national standards of all the other criteria pollutants are classified as attainment and/or unclassified.

The SJVAPCD is responsible for controlling emissions primarily from stationary sources within the San Joaquin Valley. The SJVAPCD, in coordination with eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the SJVAB. The SJVAPCD also has roles under the California Environmental Quality Act.

The SJVAPCD attains and maintains air quality conditions in the SJVAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean area strategy of the SJVAPCD includes preparation of plans for attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollutants. The SJVAPCD also inspects stationary sources of air pollution and responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the federal Clean Air Act (CAA) and California Clean Air Act (CCAA).

The SJVAPCD has developed the following plans to attain and maintain the State and federal standards:

- The 2024 Plan for the 2012 $PM_{2.5}$ Standard.
- The 2018 Plan for the 1997, 2006, and 2021 $PM_{2.5}$ Standard.
- The 2016 Plan for the 2008 8-hour Ozone Standard.
- The 2013 Plan for the Revoked 1-hour Ozone Standard.
- The 2004 Revisions to the Carbon Monoxide Maintenance Plan.

In addition to regulating criteria pollutants for attainment of State and federal standards, the California Air Resources Board (ARB) and SJVAPCD regulate and control emissions of toxic air contaminants (TACs) to further protect human health. TACs are a class of pollutants that include hundreds of chemicals hazardous to human health. Long-term exposure of TACs may cause more severe health effects, such as neurological damage, hormone disruption, developmental defects, and cancer. TAC emissions are highly localized and are emitted from mobile sources such as cars, trucks, and marine and rail sources as well as stationary and area sources. The ARB and SJVAPCD address emissions via mobile sources strategies, stationary source permitting requirements, and health risk thresholds for new development under review in the CEQA process.

Particulate matter poses significant health risks, both as fine particulate matter ($PM_{2.5}$) and as diesel PM, a toxic air contaminant. Studies indicate that diesel particulate matter (DPM) poses the greatest health risk among airborne TACs. The ARB conducted a 10-year research program which demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic long-term health risk. Although DPM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operation conditions, fuel composition, lubricating oil, and whether an emission control system is present. This has serious adverse health impacts because $PM_{2.5}$ can travel deep into lungs and enter the bloodstream. Fine PM originates from a variety of sources, including fossil fuel combustion, residential wood-burning, cooking, wildfires, and dust. Researchers established long ago that exposure to $PM_{2.5}$ has negative effects on the respiratory system, such as triggering asthma attacks, aggravating bronchitis, and diminishing lung function. More recent studies have found that $PM_{2.5}$ can also harm the cardiovascular system, and studies have found a clear correlation between $PM_{2.5}$ levels, exposure, and mortality. Studies also indicate that exposure to $PM_{2.5}$ may be related to other negative health effects, including impacts on the brain, such as reduced cognitive function, as well as increased risk of diabetes.

Thresholds of Significance

Per Appendix G of the CEQA Guidelines and SJVAPCD Guidance, a significant impact would occur if the Proposed Project would:

a) Conflict or obstruct implementation of the applicable air quality plan.
b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is nonattainment under an applicable federal or State Ambient Air Quality Standard.
c) Expose sensitive receptors to substantial pollutant concentrations.
d) Create objectionable odors affecting a substantial number of people.

The final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines; however, the SJVAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. The SJVAPCD's quantitative air pollution significance thresholds are the following:

Table 3: San Joaquin Valley Air Pollution Control District Significance Thresholds

Pollutant/Precursor	**Construction Emissions**	**Operational Emissions**	
		Permitted Equipment and Activities	**Non-Permitted Equipment and Activities**
	Emissions (tpy)	*Emissions (tpy)*	*Emissions (tpy)*
ROG	10	10	10
NOx	10	10	10
CO	100	100	100
SOx	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15
Notes:			

CO = carbon monoxide
NOx = oxides of nitrogen
PM_{10} = particulate matter with aerodynamic diameter less than 2.5 microns
$PM_{2.5}$ = particulate matter with aerodynamic diameter less than 10 microns
ROG = reactive organic gases
SOx = sulfur oxides
TPY = tons per year

Source:
San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guide for Assessing and Mitigating Air Quality Impacts

Projects that do not generate emissions in excess of these thresholds are considered to have less than significant air quality impacts. SJVAPCD also provides thresholds for localized significance and that project-related impacts on air quality may be significant when on-site emission increases from construction activities or operational activities exceed the 100 pounds per day screening level of any criteria pollutant after implementing all enforceable mitigation measures. Impacts from projects with on-site criteria pollutant emissions below these levels are not expected to result in concentrations exceeding the Ambient Air Quality Standards (AAQS) and considered to be less than significant. Projects with emissions above these thresholds would be required to conduct an Ambient Air Quality Analysis to demonstrate that the emissions of criteria pollutants would not cause localized impacts or concentrations exceeding AAQS.

IMPACT ANALYSIS

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The Proposed Project will not interfere with the applicable Air Quality Plan (AQP) if it were consistent with growth assumptions used to form the applicable AQP and if the project implements all reasonable available and feasible air quality control measures.

Implementation of the Proposed Project will generate both temporary (construction) and long-term (operational) emissions, which could conflict with or obstruct with the SJVAPCD's adopted AQP for ozone and PM_{10}. The SJVAPCD is required to submit a "Rate of Progress" document to the ARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The CCAA requires air pollution control districts with severe or extreme air quality problems to provide for a 5 percent reduction in nonattainment emissions per year. The AQP prepared for the San Joaquin Valley by SJVAPCD complies with this requirement. The ARB reviewers approve or amend the document and forward the plan to the United States Environmental Protection Agency (EPA) for final review and approval within the State Implementation Plan.

This document proposes the following criteria for determining project consistency with the current AQPs:

- **Criterion 1:** Will the project support the primary goals of the AQP?
- **Criterion 2:** Will the project comply with applicable control measures in the AQP?
- **Criterion 3:** Will the project disrupt or hinder implementation of any AQP control measures?

Air Quality Plan Evaluation Guidelines

The CEQA Guidelines and CAA (Sections 176 and 316) contain specific references regarding the need to evaluate consistencies between the Proposed Project and the applicable AQP for the projects. To accomplish this, the ARB has developed a three-step approach to determine project conformity with the applicable AQP:

1. *Determination that an AQP is being implemented in the area where the project is being proposed.* SJVAPCD's most recently adopted Air Quality Management Plan is its current, modified 2016 8-hour AQP that is approved by the ARB and EPA for the 2008 8-hour O_3 standard.

2. *The project must be consistent with the growth assumptions of the applicable AQP.* San Joaquin Council of Governments (SJCOG) growth modeling for the 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) provides for future employment/population factors.

3. *The project must contain in its design all reasonably available and feasible air quality control measures.* The Proposed Project incorporates Regulation VIII dust measures and would comply with Rule 9510.

As noted above, implementation of the Proposed Project will generate both temporary and long-term operational emissions, which could conflict with or obstruct air quality attainment and maintenance efforts. Consistency with AQPs is typically conducted based on a comparison of project-generated growth in employment, population, and VMT within the region, which is used for development of the emissions inventories contained in the AQPs. In addition, projects that exceed applicable project-level CEQA significance thresholds would also be considered to have a potentially significant cumulative impact to regional air quality, which could interfere with regional air quality attainment and planning efforts.

The Proposed Project is consistent with current zoning and general plan land use designations. In addition, as noted below, project-generated emissions will not exceed SJVAPCD's project-level significance thresholds and impacts would be less than significant.

Construction

The Proposed Project would comply with all applicable SJVAPCD rules and regulations. The Proposed Project would not exceed any SJVAPCD Significance Thresholds on an annual basis, as shown in Table 2. Moreover, emissions would be further reduced with the required compliance of the Proposed Project with SJVAPCD's Rule 9510 (Indirect Source Review [ISR]), which requires projects to reduce NOx emissions by 20 percent. Therefore, the Proposed Project would not result in emissions of a magnitude that would obstruct the air quality planning goals set forth by the SJVAPCD and will have a **Less Than Significant Impact.** During construction, the Proposed Project will be consistent with District Rule 8021 related to implementation of all required dust control measures and where required, provide a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standards. This is also consistent with Implementation Measure RC-5f of the City of Manteca General Plan.

Overall, based on the above, any impacts to criteria pollutants designated as nonattainment with the SJVAPCD will be reduced and construction of the Proposed Project will not result in a conflict with or obstruct implementation of applicable AQPs. Therefore, the impacts from construction would be **Less Than Significant**.

Operation

The Proposed Project is consistent with the existing land use designation in the City of Manteca General Plan and would not require a zoning change. In addition, as shown in Table 4, the Proposed Project would not exceed the SJVAPCD's regional operational threshold for any criteria air pollutant. Therefore, emissions are presumed to be below levels that would result in localized exceedances of the AAQS and a project-specific AAQA was not required. Therefore, impacts will be **Less Than Significant.**

b. Would the project 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?

Regional Emissions

Air pollutant emissions have regional effects and localized effects. This section assesses the regional effects of the Proposed Project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction and long-term operation of the Proposed Project.

The primary pollutants of concern during construction and operation are ROG, NOx, PM_{10} and $PM_{2.5}$. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for CO, NOx, ROG, SOx, PM_{10}, and $PM_{2.5}$.

Ozone is the secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NOx emissions in the presence of sunlight. Therefore, ROG and NOx are termed ozone precursors. The SJVAB often exceeds the State and national ozone standards. Therefore, if the Proposed Project emits a substantial quantity of ozone precursors, the Proposed Project may contribute to an exceedance of the ozone standard. The SJVAB also exceeds air quality standards for PM_{10} and $PM_{2.5}$; therefore, substantial project emissions may contribute to an exceedance for these pollutants.

The Proposed Project does not contain sources that would produce substantial quantities of SO_2 emissions during construction and operation.

Construction

The Proposed Project construction would last approximately 17 months, beginning January 2027 and ending July 2028. The modeling results presented in this section represent a conservative estimate of actual emissions. The proposed construction schedule and equipment assignment are based on CalEEMod defaults and are presented in Appendix A of this Initial study.

Emissions from construction activities are relatively short-term. However, on a regional level, even short-term activities can have significant impacts on air quality. Construction emissions consist mainly of exhaust emissions (NO_x, ROG, and PM) from construction equipment and other mobile sources, and fugitive dust (PM) emissions from earthmoving activities. Construction activities also result in area source emissions such as emissions from paving and architectural coatings.

Table 4 shows that criteria pollutant emissions will not exceed any of the SJVAPCD's regional thresholds of significance during construction of the Proposed Project. It should be noted that unmitigated construction emissions incorporate the basic dust control measures required under SJVAPCD Rule 8201, which requires that vehicle speeds on unpaved roads and surfaces be reduced to no more than 15 miles per hour and exposed construction areas be watered during earthmoving activities. The emissions do not include Rule 9510 ISR Clean Fleet Commitments for the Proposed Project, which would reduce NO_x emission by an additional 20 percent and total PM_{10} emissions by another 45 percent.

Table 4: Construction Emissions by Construction Activity

Construction Activity	Year	Criteria Pollutant Emissions (tons)					
		ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2027 Annual		0.19	1.69	2.13	0.004	0.19	0.11
2028 Annual		0.19	0.55	0.001	0.001	0.03	0.02
SJVAPCD Annual Thresholds		**10**	**10**	**100**	**27**	**15**	**15**
Do Construction Emissions Exceed Regional Thresholds?		**No**	**No**	**No**	**No**	**No**	**No**

Notes:
CO = carbon monoxide
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases
SO_X = sulfur oxides

Source: CalEEMod Output files are contained in Appendix A.

Operational Emissions

Emissions from the operation of the Proposed Project will be from area sources of emissions at the project site itself, stationary sources, and mobile sources (i.e., passenger cars and trucks) associated with the operation of the Proposed Project.

Area sources refer to volatile organic compound (VOC) emissions from use of consumer products by employees (cosmetic and personal care products) and also include emissions from cleaning products including detergents, cleaning compounds, polishes, and floor finishes. Emissions from exhaust of any gasoline-fueled landscape equipment also contribute to, and are included in, the area source emissions.

The Proposed Project will generate both employee and visitor passenger vehicle trips. Trip generation represents the amount of traffic, both inbound and outbound, produced by a development. Per the Traffic Impact Analysis, dated April 15, 2026, prepared by TJW Engineering, Inc. (Appendix D), the Proposed Project's PM Peak Hour (Wednesday) is 300 passenger vehicle trips and AM Peak Hour (Sunday) is 268 passenger vehicle trips. The CalEEMod estimates are conservatively based on CalEEMod defaults for VMT trip length for passenger vehicles.

Operational emissions were calculated using CalEEMod (https://www.caleemod.com/). For detailed assumptions used to estimate emissions, see the Detailed CalEEMod Report as Appendix A. All emissions are below SJVAPCD thresholds of significance.

Table 5: Operational Emissions

Emission Source	Annual Criteria Pollutant Emissions (tons)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Proposed Project						
Area	0.26	0.002	0.21	0.00001	0.0004	0.0003
Mobile	2.77	2.95	22.59	0.06	5.68	1.48
Energy	0.006	0.11	0.09	0.0007	0.008	0.008
Total Proposed Project	**3.04**	**3.05**	**22.89**	**0.06**	**5.68**	**1.49**
SJVAPCD Annual Thresholds	**10**	**10**	**100**	**27**	**15**	**15**
Exceed Threshold	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
CO = carbon monoxide
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
ROG = reactive organic gases
SO_X = sulfur oxides

Source: CalEEMod Output files are contained in Appendix A.

In summary, the Proposed Project will have a **Less Than Significant Impact** related to a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are particular to air pollution because they are persons that are ill, elderly, or have lungs that are not fully developed. Locations where such persons reside, spend considerable amount of time, or engage in strenuous activities are also referred to as sensitive receptors. Typical sensitive receptors include inhabitants of long-term healthcare facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers, and athletic fields. There are residential properties approximately 65 feet to the south of the Project site and across Austin Road to the east. In addition, the nearest school is Calla High School, located approximately 1,000 feet to the north from the Project site.

As indicated in Table 3 and 4 above, the Proposed Project will not emit pollutants at levels that would exceed SJVAPCD significance thresholds. These significance thresholds were established in part to ensure consistency with the objectives of the air quality plans adopted by the SJVAPCD, which were prepared in part to meet federal air quality standards designed to protect human health. As such, Proposed Project air quality impacts on sensitive receptors would be **Less Than Significant**.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Odor impacts on residential areas and other sensitive receptors, such as hospitals, daycare centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

While offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often resulting in citizen complaints to local governments. Odor can cause a variety of responses. The impact of an odor is dependent on interacting factors such as frequency (how often), intensity (strength), duration (in time), offensiveness (unpleasantness), location, and sensory perception.

According to the SJVACPD, analysis of odor impacts should be conducted for the following two (2) situations:

> **Generators:** projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate; and
>
> **Receivers:** residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources.

The SJVAPCD provides a suggested screening distance for a variety of odor-generating land uses and operations. Those distances are used as a guide to assess whether nearby facilities could be sources of significant odors. Projects that would site a new sensitive receptor farther than the applicable screening distances from an existing odor source are not likely to have a significant impact. These screening distances by type of odor generator are listed in Table 6.

Table 6: Screening Levels for Potential Odor Sources

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Facility	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile
Source: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). February 19.	

The Proposed Project is not in a category of generator sources listed in Table 4 and workshop centers/churches are not known sources of odorous emissions. The Proposed Project would include attracting people to gather during service times, events, and other church-related activities. However, there are no land uses listed in Table 4 that are in close proximity to the Project site. The closest 'generator' of potentially offensive odors is the truck parking facility located to the west.

Neither construction nor long-term operations of the Proposed Project are anticipated to generate any significant objectionable odors that affect a substantial number of people. Considering the low intensity of potential odor emissions (vehicle emissions), the Proposed Project's operational activities would not expose receptors to objectional odor emissions. This impact would be **Less Than Significant.**

MITIGATION MEASURES:

Mitigation is not required for this topic.

4. 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 U.S. Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			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	

IMPACT ANALYSIS

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Special-status species include plant and/or wildlife that are legally protected under the federal Endangered Species Act, the California Endangered Species Act, or other laws and regulations, or are considered rare enough by the scientific community and trustee agencies to warrant special consideration. According to the City's General Plan EIR, there have been no documented occurrences of special status plant or animal species on the Project site. Additionally, the Proposed Project will be required to adhere to the policies listed below.

- RC-6.2: Undeveloped land that is designated for urban uses may be developed if needed to support economic development, improve the City's housing stock and range of housing types, and if the proposed development is consistent with the General Plan Land Use Map.
- RC-7.2: Provide an orderly and phased development pattern, encouraging the development of vacant lands within City boundaries prior to conversion of agricultural lands, so that farmland is not subjected to premature development pressure.
- RC-8.10: Continue to support and implement the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (County Habitat Plan).

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) is a comprehensive program for assessing and mitigating the biological impacts of converting open space or biologically sensitive lands to urban development in San Joaquin County, including the City of Manteca. The San Joaquin Council of Governments (SJCOG) implements the SJMSCP on a project-by-project basis.

For the conversion of open space to non-open space uses that affect covered plant, fish, and wildlife species, the SJMSCP provides three compensation methods: preservation of existing sensitive lands, creation of new comparable habitat on the project site, or payment of fees that would be used to secure lands outside the project site. In addition to fee payments, the SJMSCP identifies and requires that applicants to abide by Incidental Take Minimization Measures (ITMMs), which are protection measures that avoid direct impacts of development on special-status species. The Project site is in the Category B – Other Open Spaces Pay Zone A and is classified as "Urban." The project is subject to SJMSCP fees and may obtain coverage under the SJMSCP for potential biological impacts.

As required by City Policy (Implementation RC-8a), the Proposed Project would be required to participate in the SJMSCP and specified in the Mitigation Measure below. Implementation of Mitigation Measure BIO-1 would reduce project impacts on special-status species to a level that would be less than significant.

Based on the analysis above, the Proposed Project will have a **Less Than Significant Impact with Mitigation Incorporated**.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or Federal agencies. There are no streams or surface waters on or near the Project site; therefore, there is no riparian habitat in the Project vicinity. There are no sensitive natural community on or near the Project site. As noted above and in the Project Description, the Project site has been previously developed with residential development and is adjacent to existing residential and industrial development. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

c. *Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Waters of the U.S. include navigable waterways, their tributaries, and adjacent wetlands. More specifically, Waters of the U.S. encompass territorial seas, tidal waters, and non-tidal waters, along with perennial and intermittent creeks and drainages; lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. Under Section 404 of the Clean Water Act, a permit issued by the U.S. Army Corps of Engineers must be secured prior to the discharge of dredged or fill materials into these waters. Waters of the State, subject to oversight by the State Water Resources Control Board (SWRCB) and by RWQCB with jurisdiction over the affected water, include isolated wetlands not covered by federal regulations.

Based on a review of the City's General Plan and EIR, there are no wetlands, streams, or other surface waters on or near the Project site. The nearest river to the Project site is the San Joaquin River, which is approximately seven (7) miles to the west. It is not anticipated that the Proposed Project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native residents or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Wildlife corridors refer to contiguous tracts of habitat that connect larger areas of habitat and facilitate genetic exchange within a population or between subpopulations by allowing for movement within or between habitat patches. As noted above, there are no streams on or near the Project site and the site is not part of a designated wildlife movement corridor. The Project site is located approximately seven (7) miles to the San Joaquin River. As noted in the Manteca General Plan EIR, development projects will be required to comply with the General Plan and adopted Federal, State, and local regulations for the protection of movement corridors. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

e. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

The General Plan contains implementation policies aimed at the preservation of biological resources. These policies include:

- RC-8a: Continue to require projects to comply with the requirements of the County Habitat Plan when reviewing proposed public and private land use changes.
- RC-8h: Utilize existing regulations and procedures, including but not limited to, the Zoning Ordinance and the environmental review process, in order to address impacts to special-status species and conserve sensitive habitats, including wetlands and riparian habitats.
- RC-8i: Consult with State and Federal agencies during the development review process to help identify wetland and riparian habitat that has candidacy for restoration, conservation, and/or mitigation. Focus restoration and/or conservation efforts on areas that would maximize multiple beneficial uses for such habitat.

The Proposed Project will be required to adhere to the policies listed above. Chapter 17.48.060 of the City's Zoning Code contains regulations for tree maintenance and removal. There are no trees present on the Project site and therefore the Proposed Project will not conflict with these regulations in regard to existing trees. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

As stated in the Manteca General Plan EIR, the City of Manteca is a participant in the San Joaquin Multi-Species Conservation Plan (SJMSCP). The Proposed Project does not re-designate any land designated for open space or habitat protection and therefore is consistent with the adopted SJMSCP. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

MITIGATION MEASURES:

The following Mitigation Measure(s) shall be incorporated into the Proposed Project in order to mitigate any potential impacts to a less than significant level:

> ***BIO-1:*** *The project shall participate in and obtain coverage under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Prior to ground disturbance, the project applicant shall mitigate for the proportionate loss of potential wildlife habitat from the project site by implementing any Incidental Take Minimization Measures (ITMMs) prescribed by the San Joaquin Council of Governments (SJCOG). A biologist representing SJCOG shall visit the project site prior to the issuance of ITMMs to the City and to the project applicant.*

5. 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 as defined in '15064.5?			X	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?			X	
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

IMPACT ANALYSIS

a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Research of potential onsite cultural resources was conducted by the Central California Information Center at California State University, Stanislaus. A report on the results of the research is available in Appendix B of this document. The Central California Information Center (CCIC) found no formal record of any historic archaeological resources or historic buildings or structures on the project site. The project site is currently vacant and had ground disturbance associated with the historic use of single-family residences. Therefore, it is unlikely that historical resources are on the project site. Therefore, the Proposed Project will have a **Less Than Significant Impact** on historical resources.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?

The CCIC report (Appendix B) states that no prehistoric archaeological resources have been recorded on the project site. The CCIC did not recommend further survey or archaeological study on the site. Given historical use and disturbance, the project site is not expected to contain any intact archaeological resources. Additionally, based on a review of the City's General Plan, the Project site is not known to contain historical or archaeological resources. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

It is not anticipated that the Proposed Project will disturb any human remains. However, future development and construction of the Project site, human remains may be identified, particularly during activities requiring ground disturbance (i.e., grading, trench digging, etc.). As such, the Proposed Project shall incorporate Mitigation Measure CUL-1, specified below, in accordance with Section 15064.5(e) of the CEQA Guidelines, to reduce any potentially significant impacts to a level of **Less Than Significant with Mitigation Incorporated**. Refer to Mitigation Measure CUL-1, below.

MITIGATION MEASURES:

The following Mitigation Measure shall be incorporated into the Proposed Project in order to mitigate any potential impacts to a less than significant level:

CUL-1: *In accordance with Section 15064.4(e) of the CEQA Guidelines, in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps shall be taken:*

- *There shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains until:*
    - *The coroner of the County in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required;*
    - *If the coroner determines the remains to be Native American:*
        - *The coroner shall contact the Native American Heritage Commission within 24 hours.*
        - *The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.*
        - *The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98.*

6. 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	

IMPACT ANALYSIS

The following discussion is an analysis for criteria (a) and (b):

a. *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*
b. *Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?*

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations (Title 24), was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three (3) years, and the 2025 California Building Standards Code went into effect on January 1, 2026.

The California Green Buildings Standards Code (CAL Green) establishes mandatory green building standards for buildings in California. CAL Green was developed to reduce Greenhouse Gas (GHG) emissions from buildings, promote environmentally responsible and healthier places to live and work, reduce energy, and water consumption, and respond to environmental directives. The most recent update to CAL Green went into effect on January 1, 2026, and covers five (5) categories: planning and design, energy efficiency, water efficiency and conservation, material and resource efficiency, and indoor environmental quality.

The amount of energy used at the Project site would directly correlate to the energy consumption (including fuel) used by vehicle trips generated during project construction, fuel used by off-road construction vehicles during construction, fuel used by vehicles during project operation, and electricity usage during project operation.

The Proposed Project would comply with all existing energy standards, including those established by the City of Manteca. The City of Manteca includes Sustainable Design Policies to maintain and enhance Manteca's commitment to sustainable design by minimizing environmental impacts and utilizing resources efficiently. These Policies include but are not limited to:

CD-7.1: Design buildings to allow the sun to reach adjoining and nearby sidewalks and plazas in the winter and protect pedestrians from the sun and rain.

CD-7.2: Encourage passive solar design and energy-efficient concepts, including, but not limited to natural heating and/or cooling, sun and wind exposure and orientation, and other solar energy opportunities.

CD-7.3: Orient solar collectors away from public view or design the features as an integral element of the roof structure.

CD-7.4: Encourage architectural elements that contribute to a building's character, aid in climate control, and enhance pedestrian scale. The elements include, but are not limited to canopies, roof overhangs, projections or recessions of stories, balconies, reveals, and awnings.

RC-4.5: Require private development to incorporate non-traditional non-polluting renewable energy sources such as co-generation, wind, and solar, where feasible, to reduce dependence on fossil fuels and meet climate goals.

RC-4.6: Require all new public and privately constructed buildings to exceed, where feasible, and comply with construction and design standards that promote energy conservation, including the most current "green" development standards in the California Green Building Standards Code.

RC-4.7: Require expanded innovative and green building best practices where feasible, including, but not limited to, LEED certification for all new development and retrofitting existing uses, and encourage public and private projects to exceed the most current "green" development standards in the California Green Building Standards Code.

RC-4.10: Encourage measures, including building siting and shading and use of shade trees, to reduce urban heat island effects.

The amount of energy used by the Proposed Project during operation would include the amount of energy used during project building and outdoor lighting, the fuel used by vehicle trips generated during operation, and fuel used by project maintenance services during project operation. Overall, the Proposed Project would not violate any state or federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy efficiencies, 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. Therefore, the Proposed Project would not be expected to cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the thresholds as described by Appendix G of the CEQA Guidelines. Therefore, this is a **Less Than Significant** impact.

MITIGATION MEASURES:

Mitigation is not required for this topic.

7. 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:				
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 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	

IMPACT ANALYSIS

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42*
ii. *Strong seismic ground shaking?*
iii. *Seismic-related ground failure, including liquefaction?*
iv. *Landslides?*

Faults are classified as active, potentially active, or inactive. According to the Manteca General Plan EIR, the closest known faults classified as active include an unnamed fault east of the City of Tracy, the San Joaquin Fault, the Midway fault, the Corral Hollow-Carnegie fault, the Greenville fault, the Antioch fault, and the Los Positas fault. A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e., earthquake) or slow (i.e., fault creep). The construction of the Proposed Project is required to adhere to the California Building Code (CBC) including provisions related to seismic ground shaking. The City of Manteca and the Project site is not within an Alquist-Priolo Special Study Zone. According to the NRCS Web Soil Survey, the majority of the Project site is of Tinnin loamy sand, which is a well-drained soil. Based on the site location and relatively low intensity of ground shaking, chance for liquefaction is considered low. The Project site is relatively flat in topography and is surrounded by development. Therefore, the Proposed Project will have a **Less Than Significant Impact.**

b. Would the project result in substantial soil erosion or the loss of topsoil?

The existing topography of the Project site is relatively flat, with little to no slope. The Proposed Project will require grading activities as part of the development and construction process, and these grading activities will be based upon a Grading Plan that will be reviewed and approved by the City prior to any grading activities. This review process ensures that the Proposed Project will not result in substantial soil erosion or loss of topsoil. The Proposed Project will be required to comply with Chapter 17.48.070 of the City's Municipal Code related to grading plan design. Compliance ensures that the Proposed Project will not result in substantial soil erosion or loss of topsoil. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

c. Would the project be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as geological conditions, drainage, slope, and vegetation directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e., cut and fill). As such, it is unlikely that the construction or operation of the Proposed Project will result in a landslide. Lateral spreading is generally where blocks of intact, non-liquefied soil move down slope on a liquefied substrate of large areal extent. Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground.

It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events.

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. The California Geological Survey (CGS) has designated certain areas in California as potential liquefaction hazard zones. The Project site is not designated as a liquefaction hazard zone by the CGS. Therefore, the Proposed Project would be **Less Than Significant**.

d. Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?

According to the US Department of Agriculture's Web Soil Survey, the majority of the Project site is of Tinnin loamy sand, which is a well-drained soil with slow runoff and rapid permeability. These soils are very deep, and form in alluvium derived from granitic rock sources. According to the General Plan EIR, the Project site has soils with a low potential for expansion. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The Proposed Project will connect to City services, including domestic wastewater. The Proposed Project will not utilize the use of septic tanks or alternative wastewater disposal systems. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Based on a review of Section 3.6 of the General Plan EIR, there are no known unique geologic features within the Project site. However, geologic formations within the Project site have the potential to contain unique paleontological resources. The Proposed Project is required to comply with the federal Paleontological Resources Preservation Act, which limits the collection of vertebrae fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the applicable state and/or federal agency. Ground disturbance activities associated with the Proposed Project such as grading and excavating could uncover fossilized remains that have not been recorded.

In these cases, implementation protocols of the Society of Vertebrae Paleontology standards will ensure the protection of unique paleontological resources during construction of the Proposed Project. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

8. GREENHOUSE GAS EMISSIONS -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation*	*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 gases?			X	

ENVIRONMENTAL SETTING:

GHG Background

Greenhouse gases (GHGs) are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth's atmosphere. GHGs are both naturally occurring and are emitted by human activity. GHGs include carbon monoxide, the most abundant GHG, as well as methane, nitrous oxide, and other gases. Potential climate change impacts occurring in the San Joaquin Valley include higher temperatures, longer and more severe droughts, more intense precipitation events, and more frequent and extensive wildfires.

GHGs are not generally thought of as traditional air pollutants because their impacts are global in nature, while air pollutants mainly affect the general region of their release to the atmosphere (SJVAPCD 2015). Nevertheless, the U.S. Environmental Protection Agency (EPA) has found that GHG emissions endanger both the public health and public welfare under Section 202(a) of the Clean Air Act due to their impacts associated with climate change (EPA 2009).

Measurements of GHG emissions are commonly expressed in carbon dioxide equivalent (CO2e), in which emissions of all other GHGs are converted to equivalent carbon dioxide emissions. GHG emissions in California in 2021, the most recent year for which data is available, were estimated at approximately 381.3 million metric tons CO2e – a decrease of approximately 21.5% from the peak level in 2004 but an increase of approximately 3% from the 2020 emissions. Transportation was the largest contributor to GHG emissions in California, with 39% of total emissions. Other significant sources include industrial activities, with approximately 22% of total emissions, and electric power generation, both in-state and imported, with approximately 16% of total emissions (ARB 2023).

In 2025, the City updated the Climate Action Plan to support the sustainable development of the City and continued economic prosperity of the region by reducing GHG emissions in an attempt to curtail the anticipated impacts resulting from climate change. The previous Climate Action Plan was adopted in 2013 which used a 2005 GHG inventory was used to generate forecasted emissions. Since the 2013 Climate Action Plan, the City recognized the need for up-to-date and accurate emissions data. The 2025 Climate Action Plan relied on a 2020 GHG inventory which relied on the most up-to-date methodology provided by the Statewide Energy Efficiency Collaborative (SEEC). SEEC is an alliance of private companies, public utility companies, and non-governmental organizations that provide information and technical assistance to California cities and counties to aid in the reduction of GHG emissions and increase in energy efficiency.

REGULATORY SETTING:

California Air Resources Board (CARB) is responsible for the coordination and oversight of state and local air pollution control programs in California. California has numerous regulations aimed at reducing the State's GHG emissions. These initiatives are summarized below:

Assembly Bill 1943

Assembly Bill (AB) 1943 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, U.S. EPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction from 2009 levels by 2012 and 30 percent by 2016. The Advanced Clean Cars program coordinates the goals of the Low Emission Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, when rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels.

Executive Order S-3-05

In 2005, the governor issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent below 1990 levels (California Environmental Protection Agency [CalEPA]). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, etc. In April 2015, the governor issued EO B-30-15, calling for a new target of 40 percent below 1990 levels by 2030.

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels; the same requirement as under S-3-05) and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. California is on track to meet or exceed the current target of reducing GHG emission to 1990 levels by 2020, as established by AB 32.

Senate Bill 97

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

CARB Resolution 07-54

CARB Resolution 07-54 establishes 25,000 MT of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold is just over 0.005 percent of California's total inventory of GHG emissions for 2004.

Senate Bill 375

Senate Bill (SB) 375, signed into law in September 2008, builds on AB 32 by requiring CARB to develop regional GHG reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035; these regional targets will help achieve the goals of AB 32 and the Scoping Plan through changed land use patterns and improved transportation systems. The Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) adopted a Sustainable Community Strategies in July 2013 that meets greenhouse gas reduction targets. The *Plan Bay Area* is the SCS document for the Bay Area, which is an integrated long-range plan that discusses climate protection, housing, healthy and safe communities, open space and agricultural preservation, equitable access, economic vitality, and transportation system effectiveness within the San Francisco Bay Area. The document is updated every four years and most recently, the update, *Plan Bay Area 2040,* was adopted on July 26, 2017.

Executive Order S-13-08

Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of tis population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the "…first statewide, multi-sector, region-specific, and information-based climate change adaption strategy in the United States." Objectives include analyzing risks of climate change in California, identifying, and exploring strategies to adapt to climate change, and specifying a direction for future research.

Senate Bill 2X

In April 2011, the governor signed SB2X requiring California to generate 33 percent of its electricity from renewable energy by 2020.

Senate Bill 32

On September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, which requires the State to further reduce GHGs to 40 percent below 1990 levels by 2030. SB 32 is an extension of AB 32. The other provisions of AB 32 remain unchanged. CARB adopted the 2017 Climate Change Scoping Plan Update on December 14, 2017, for achieving California's 2030 greenhouse gas target.

SJVAPCD's Guidance for Addressing GHG Emissions Impacts under CEQA

Under its mandate to provide local agencies with assistance in complying with CEQA in climate change matters, the SJVAPCD developed its *Guidance for Valley Land-Use Agencies in Addressing GHG Emissions Impacts for New Projects Under CEQA*. As a general principal to be applied in determining whether a Proposed Project would be deemed to have a less than significant impact on global climate change, a project must be in compliance with an approved GHG emission reduction plan that is supported by a CEQA-compliant environmental document or be determined to have reduced or mitigated GHG emissions by 29 percent relative to Business-As-Usual conditions, consistent with GHG emission reduction targets established by CARB's Scoping Plan for AB 32 implementation. The SVJAPCD guidance is intended to streamline the process of determining if project specific GHG emissions would have a significant effect.

The proposed approach relies on the use of performance-based standards and their associated pre-qualified GHG emission reduction effectiveness (Best Performance Standards, or BPS). Establishing BPS is intended to help protect proponents, lead agencies, and the public by proactively identifying effective, feasible mitigation measures. Emission reductions achieved through implementation of BPS would be pre-qualified, thus reducing the need for project specific quantification of GHG emissions. For land use development projects, BPS would include emissions reduction credits for project features such as bicycle racks and pedestrian access to public transit. Projects implementing a sufficient level of BPS would be determined to have a less than significant individual and cumulative impact on global climate change and would not require project specific quantification of GHG emissions. For all projects for which the lead agency has determined that an Environmental Impact is required, quantification of GHG emissions would be required whether or not the project incorporates BPS. SJVAPCD's guidance document does not constitute a rule or regulation but is intended for use by other agencies in their assessment of the significance of project impacts to global climate change under CEQA.

City of Manteca 2025 Climate Action Plan

As noted above, the City updated the 2013 Climate Action Plan in 2025. As part of the update of its Climate Action Plan, the City conducted a 2020 GHG inventory update which included the City of Manteca resulted in a total of 730,202 metric tons of carbon dioxide equivalent ($MTCO2_e$) in 2020. Projected future emissions for Manteca were created through data collected on estimated population growth, sector related emissions, and emission rate factors. Current federal, state, and local regulations and policies were accounted for and incorporated into the projections for 2030 and 2045.

The City of Manteca has set the following GHG emission reduction goals in alignment with the State's climate goals, using the 2020 GHG Inventory as the baseline. The following targets were established by SB 32, AB 32, and various executive orders (discussed above):

- Reduce GHG emissions by 40 percent below 1990 levels by 2030; and
- Aim to achieve carbon neutrality by 2045.

IMPACT ANALYSIS

The following discussion is an analysis for criteria (a) and (b):

a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*
b. *Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

Implementation of the Proposed Project will contribute to global climate change through direct emissions of GHG from on-site area sources and vehicle trips generated by the Proposed Project, and indirectly through off-site energy production required for on-site activities, water use, and waste disposal. GHGs associated with the Proposed Project would be CO2, CH4, and N2O, and would be emitted from on-road vehicles and equipment used during construction and from vehicles used during routine operational activities. The estimated GHG emissions from construction and operational activities associated with the Proposed Project are shown below.

Table 7 provides the estimate GHG emission that would be generated during project construction and operation. As shown in Table 7, the Proposed Project would generate approximately 7,608.53 $CO2_e$ per year.

Table 7: Project Unmitigated Construction and Operational GHG Emissions (metric tons/year)

Year	$CO2_e$
Construction	
2027	406.31
2028	148.06
Operation	
Annual	7,608.53
Source: CalEEMod Output files are contained in Appendix A.	

Project Consistency with 2022 Scoping Plan

The 2022 Scoping Plan, prepared by the California Air Resources Board pursuant to Assembly Bill 32, identifies three priority areas where emissions reductions are targeted to achieve its long-term goal of carbon neutrality. Those priority areas include transportation electrification; VMT reduction; and building decarbonization.

- **Building decarbonization:** The Proposed Project would demonstrate consistency with this key priority area with consistency with the most recent Building Codes, including Title 24 and CalGreen requirements.
- **VMT Impact.** According to the VMT Screening Memorandum provided by TJW Engineering, Inc. dated April 7, 2026, the Proposed Project would not have a significant VMT impact. Therefore, the Proposed Project is consistent with this design element.
- **Transportation Electrification.** Most of the vehicles driven as a result of the Proposed Project are conservatively assumed to be private vehicles owned by future visitors and workers. Regulation of private vehicles is not within the control of any individual project applicant or lead agency.

However, the Proposed Project would comply with the California Energy Code EV parking requirement. Therefore, the Proposed Project would further the State goal of transportation electrification and is consistent with this design element.

Overall, the Proposed Project will not conflict with the 2022 Scoping Plan. The Proposed Project will be developed according to the latest State and federal regulatory requirements, including those associated with operational building energy efficiency. Therefore, the Proposed Project will be considered consistent with the 2022 Scoping Plan.

Project Consistency with the Manteca CAP

Table 8, below provides a consistency analysis of the relevant Manteca CAP policies in comparison to the Proposed Project.

Table 8: Project Consistency with the Manteca CAP

No.	Strategy	Consistency Determination
TR.3.3	Establish/enforce minimum standards for bicycle parking.	**Consistent.** The Proposed Project includes bicycle parking consistent with City of Manteca requirements.
TR.8.2	To the extent feasible, projects subject to Site Plan and Design Review shall be required to include outdoor electrical outlets that allow for the use of electrically powered landscaping equipment.	**Consistent.** The Proposed Project will be required to adhere to this requirement as part of the Building Permit plan check process.
TR.8.6	The City shall require all construction sites to connect to existing grid power to support construction activities, where feasible.	**Consistent.** The Proposed Project construction will connect to the existing power grid.
TR.9.3	Require new development proposals within areas designated as Safe Routes to School to show pedestrian and bicycle improvements within development plans sufficient to provide students with a safe means of walking or bicycling to school.	**Consistent.** The Proposed Project includes frontage improvements to S. Austin Road, including but not limited to curb, gutter, and sidewalk improvements.
EG.5.1	All building plan checks shall include consistency checks to ensure new development is constructed in compliance with CalGreen Code effective at the time of plan check	**Consistent.** The Proposed Project will be required to conduct building plan check to confirm consistency with CalGreen Code requirements.
EG.8.1	Require use of LED streetlights and other outdoor light fixtures for future development projects within the City.	**Consistent.** Lighting plans will be submitted to the City for review and approval as part of the building permit process.
Source: City of Manteca 2025 Climate Action Plan		

Project's Consistency with SJCOG's RTP/SCS

The SJCOG's Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) includes eight policies with corresponding implementation strategies for conserving energy, maximizing mobility and accessibility, increasing safety and security, preserving the transportation system, supporting economic development, promoting interagency cooperation and public participation, maximizing cost effectiveness, and improving quality of life of residents. These strategies include similar measures to the 2022 Scoping Plan, such as supporting energy and water efficiency.

Table 9: Project Consistency with SJCOG RTP/SCS

Policy	Project Consistency
Enhance the Environment for Existing and Future Generations and Conserve Energy	**Consistent.** The Proposed Project would utilize electricity provided by PG&E which is required to meet the future year renewable portfolio performance standards. In addition, future development associated with project implementation would be required to meet the applicable requirements of the current Title 24 Building Energy Efficiency Standards, which includes requirements for rooftop solar photovoltaics (PV) as well as energy efficiency requirements for the project buildings and appliances.
Maximize Mobility and Accessibility	**Consistent.** Although this Proposed Project is not a transportation improvement project, the Proposed Project would include many project features that improve mobility and accessibility, including providing pedestrian facilities.
Increase Safety and Security	**Consistent.** The Proposed Project would be developed using the latest State and local requirements relating to safety and security. Development of the project site would include public utility infrastructure, public and private roadways, curb/gutters/sidewalks, other pedestrian facilities, private parking, street lighting, and street signage, which would enhance the safety and security of the site and its surroundings, by connecting to existing development.
Preserve the Efficiency of the Existing Transportation System	**Not applicable.** This is not a transportation improvement project and is therefore not applicable. However, roadway improvements within the vicinity of the project site are proposed, which would increase the efficiency of the local transportation system. Moreover, the Proposed Project would not interfere with the efficiency of any existing transportation system.
Promote Interagency Coordination and Public Participation for Transportation Decision-Making and Planning Efforts	**No Conflict.** The Proposed Project would engage in the required interagency coordination and public participation efforts, as applicable.
Maximize Cost Effectiveness	**Consistent.** The Proposed Project would be developed based on market demand. Therefore, implementation of the proposed project would be consistent with this policy.
Improve the Quality of Life for Residents	**Consistent.** The Proposed Project would create local jobs and ancillary local economic activity (including generating

	more local tax revenue), thereby improving the quality of life for the local community.
Source: SJCOG 2022 RTP/SCS	

As shown in Table 9, above, the Proposed Project will not conflict with any of the GHG emissions reduction strategies contained in SJCOG's 2022 RTP/SCS. Therefore, the Proposed Project is considered to be consistent with SJCOG's 2022 RTP/SCS.

CalGreen Code

The Proposed Project would be required to comply with the most recent update to the CalGreen Code that aims to achieve energy savings and GHG reductions beyond the State's minimum requirements.

Overall, the Proposed Project would be consistent with the ARB Scoping Plan, City of Manteca 2025 Climate Action Plan, SJCOG's 2022 RTP/SCS, and CalGreen Code. Impacts would be **Less Than Significant.**

9. 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 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	

REGULATORY SETTING:

Federal

The Federal Toxic Substances Control Act and the Resource Conservation Recovery Act

These Acts, signed in 1976, established a program administered by the United State Environmental Protection Agency (EPA) for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. The Resources Conservation and Recovery Act (RCRA) was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Among other things, the use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

The Comprehensive Environmental Response, Compensation and Liability Act

This Act was enacted in 1980 and amended by the Superfund Amendments and Reauthorization Act (SARA) in 1986. This law provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

Among other things, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) established requirements for concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled revision to the National Contingency Plan (NCP), which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List (NPL).

Hazardous Materials Transportation Act

The Secretary of the U.S. Department of Transportation (DOT) receives the authority to regulate the transportation of hazardous materials from the Hazardous Materials Transportation Act (HMTA). This act administers container designs, labeling, shipper and carrier responsibilities, training requirements, and incident reporting requirements. These regulations are contained in Title 49 – Transportation, Code of Federal Regulations, Parts 100 to 180 and includes all modes of transportation – air, highway, rail, and water (Federal Motor Carrier Safety Administration (FMSCA) 2014).

State

The Department of Toxic Substances Control (DTSC)

This Department of the California Environmental Protection Agency is the primary agency in California that regulates hazardous waste, cleans up contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law (HWCL) to regulate hazardous wastes. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Government Code Section 65962.5 requires the DTSC, the State Department of Health Services, the SWRCB, and CalRecycle to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the State. The Secretary of Environmental Protection consolidates the information submitted by these agencies and distributes it to each City and County where the sites on the lists are located. Before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the site at issue is included.

If any soil is excavated from a site containing hazardous materials, it would be considered a hazardous waste if it exceeded specific criteria in Title 22 of the California Code of Regulations. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed; it may also be required if certain other activities are proposed. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking lead jurisdiction.

California Code of Regulations

Title 26 of the CCR is a medley of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Fire Hazards

Fuel Rank

Per the City of Manteca 2043 Recirculated Draft Environmental Impact Report (EEIR), Fuel Rank is a ranking system developed by the California Department of Forestry Protection (CalFire) that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index. The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. The ladder index is a reflection of the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index is a reflection of the quantity of leafy vegetation present within individual specimens of given species. The surface rank, ladder index, and crown index for a given area are combined in order to establish fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely. The City of Manteca contains areas within “moderate” and “non-wildland fuel” ranks.

Fire Hazard Severity Zones

The state has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards.

According to the City of Manteca 2043 Recirculated DEIR, the entire Planning Area is located within a Local Responsibility Area (LRA). The City of Manteca is not categorized as a "Very High" FHSZ by CalFire and no cities or communities within San Joaquin County are categorized as a "Very High" FHSZ by CalFire.

Regional

Regional Water Quality Control Board (RWQCB)

Central Valley RWQCB regulates discharges and releases to surface and groundwater in the project area. The RWQCB generally oversees cases involving groundwater contamination. Within the Central Valley RWQCB, the San Joaquin County Environmental Health Department handles most leaking underground storage tank (UST) cases, so the RWQCB may oversee cases involving other groundwater contaminants; i.e., Spills, Leaks, Incidents, and Clean-up (CLIC) cases. In the case of spills at a project site, the responsible party would notify San Joaquin County and then a lead regulatory (County, RWQCB, or DTSC) would be determined.

Local

San Joaquin County

Hazardous waste programs are managed and implemented locally through the County of San Joaquin CUPA. The County hosts a variety of hazardous waste collection events throughout the County in an effort to deter improper disposal of hazardous wastes.

Household Hazardous Waste (HHW) Collection Facilities receive hazardous waste that comes from homes and, in some cases, from small business hazardous waste generators. Household wastes includes pesticides, batteries, old paint, solvents, used oil, antifreeze, and other chemicals that should not go into a regular municipal landfill.

San Joaquin County Public Health Services monitors the possible groundwater and soil contamination from underground tanks. Its funding mechanism is a billing contract with the State Water Quality Control Board. Public Health Services clean-up enforcement falls under Title 23, California Code of Regulations. Case workers monitor site-specific development and must be contacted prior to development.

City of Manteca

City of Manteca General Plan

The City of Manteca General Plan sets forth Hazardous Materials Goals and Policies for the City. The Safety Element (Chapter 9) identifies the potential hazards in the community that must be considered when planning the location, type, and intensity of development. The primary goal (Goal S-4) is to "Protect the health, safety, natural resources, and property of the community through regulation of use, storage, transport, and disposal of hazardous materials." Policy S-4.3 requires that as part of the development review process, the City is to consider the potential for the production, use, storage, transport, and/or disposal of hazardous materials and provide for appropriate controls on such hazardous materials consistent with federal, state, and local standards.

City of Manteca Municipal Code

Section 8.17.030, Hazardous Substances or wastes, notes that "it is unlawful and a public nuisance for any person owning, leasing, occupying or having charge or possession of any premises or property in the city to permit any hazardous substances which because of their quantity, concentration or physical, chemical or infectious characteristics may either cause or substantially contribute to an increase in mortality or serious illness or pose a significant present or potential hazard to human health or the environment if improperly managed, or if hazardous waste to be unlawfully released, discharged, placed or deposited upon any premises or onto any city property."

Section 15.30.050, Hazard Abatement of Historic Buildings or Structures, outlines the notification requirements and standards should a potential hazard to the health or safety of the public occur or be found within a historic building or structure.

Section 17.58.040, Hazardous Materials, of the City's Municipal Code includes standards intended to ensure that the use, handling, storage, and transportation of hazardous materials comply with all applicable state laws (Government Code Section 65850.2 and Health and Safety Code Section 25505, et seq.) and that appropriate information is reported to the Fire Department as the regulatory authority. This section of the code outlines reporting requirements, underground storage of hazardous materials, aboveground storage of hazardous materials, new development standards, and notification requirements.

IMPACT ANALYSIS

a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
b. *Would the project 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?*

The development and construction of a new religious facility and associated structures do not typically involve the transport, use or disposal of hazardous materials. Construction of the Proposed Project may involve equipment or construction activities that use hazardous materials (e.g., coatings, solvents, fuels, and diesel-fueled equipment), and potentially the transportation of excavated soil. However, construction would be temporary in nature and subject to all local, state, and federal regulations related to the use, storage, and transportation of materials such as paints, solvents, and petroleum products. The operation of the Proposed Project as a worship center is not anticipated to involve the routine transport, use, or disposal of hazardous materials. As such, the Proposed Project will have a **Less Than Significant Impact** on these issues.

c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

A significant impact would be one that emits hazardous emissions or results in the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The Project site is located approximately 1,320 feet (0.25 miles) from Calla High School, which is located at the southeast corner of E. Yosemite Avenue (Highway 120) and Austin Road (130 S. Austin Road). Although Calla High School is located within 0.25 miles from the Project site, the Proposed Project is not anticipated to involve the routine transport, use, or disposal of hazardous materials. As noted above, construction of the Proposed Project may involve equipment or construction activities that use hazardous materials, such as coatings, solvents, fuels, and diesel-fueled equipment. However, construction would be subject to all local, state, and federal regulations related to the use, storage, and transportation of materials such as paints, solvents, and petroleum products. Additionally, construction of the Proposed Project is temporary in nature, including construction of Phase 1 and Phase 2. As such, the Proposed Project will have a **Less Than Significant Impact**.

d. *Would the project be located on a site 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?*

The California Department of Toxic Substances Control (DTSC) maintains a database containing information on properties in California where hazardous substances have been released, or where the potential for a release exists. This database is known as EnviroStor and is one of a number of lists that comprise the "Cortese List" (a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5). Per the City of Manteca General Plan EIR, there are no hazardous materials release sites on a list compiled pursuant to Government Code Section 65962.5 located in Manteca. As such, the Proposed Project will have **No Impact**.

e. For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

A significant impact would be one that results in a safety hazard for people residing or working in the vicinity of a public airport or public use airport. The closest public airport to the Project Site is the Stockton Metropolitan Airport, located approximately 6.64 miles to the northwest of the Project site. The Proposed Project is not located within the Airport Influence Area, according to the Airport Land Use Compatibility Plan, dated May 2016 (Amended February 2018) for the Stockton Metropolitan Airport. As such, the Proposed Project will have **No Impact**.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

A significant impact would be one that impairs the implementation of or interferes with an emergency response or evacuation plan. The City of Manteca General Plan includes Goals and Policies to ensure that City emergency procedures, critical facilities, and energy systems are adequate in the event of potential or man-made disasters. The General Plan ensures that the City's emergency access routes, emergency contact lists, and public information regarding designated facilities and routes are regularly reviewed to ensure that up to date information is available to the City and the public in the event of an emergency. The Proposed Project's construction and operation would not impede the City's Emergency Plan, or access to emergency access routes. As such, the Proposed Project will have a **Less Than Significant Impact**.

g. Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

A significant impact would be one that exposes people or structures to a significant risk of wildland fires. According to the City of Manteca General Plan EIR, the City of Manteca is not categorized as a "Very High" FHSZ and no cities or communities within San Joaquin County are categorized as "Very High" FHSZ by CalFire. The majority of the City is not located within a LRA and categorized as Urban Unzoned or Non-Wildland/Non-Urban. Per Figure 3.8-4, *Fire Threat to People* in the City of Manteca General Plan EIR, the Project site is not located within an area that has a "Threat Class" of Low to Extreme. As such, the Proposed Project will have a **Less Than Significant Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

10. 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 groundwater 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:			X	
i) Result in substantial on- or offsite erosion or siltation;			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	

IMPACT ANALYSIS

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

The Proposed Project will be required to comply with the City's Storm Water Management and Discharges (Chapter 13.28 of Title 13 of the City's Municipal Code). The Proposed Project will also require a National Pollutant Discharge Elimination System (NPDES) permit, issued by the Regional Water Quality Control Board (RWQCB), and compliance with Best Management Practices during construction and operation of the Proposed Project. The Proposed Project will require a Storm Water Pollution Prevention Plan (SWPPP) that includes best management practices (BMPs) for grading and preservation of topsoil. Final storm drainage plans will be required to comply with City standards and will be reviewed and approved by the City' Public Works Department. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The City's primary source of groundwater comes from sixteen (16) portable wells. According to the City's 2025 Urban Water Management Plan (UWMP), the City's has 8,165 acre-feet (AF) of groundwater available annually. The UWMP details the City's current and projected water demands for different land use types. The Proposed Project would be considered an institutional/governmental use for the purposes of the UWMP. The UWMP states that institutional uses had a water demand of 556 AF in 2025. The UWMP projects institutional water use to be 556 AF in 2030 and 556 AF in 2040. It is not anticipated that the Proposed Project will contribute significantly to the projected water use of the City's institutional uses. The Manteca Municipal Services Review (MSR) states that the City's estimated available water supply will be sufficient to meet projected water demands through 2040. The Proposed Project will not substantially decrease the existing groundwater supplies in the City. Therefore, the Proposed Project will have a **Less than Significant Impact**.

c. Would the project 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 on- or offsite erosion or siltation;
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
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
iv. Impede or redirect flood flows?

There are no rivers or streams located on the Project site. The nearest river to the Project site is the San Joaquin River, which is approximately seven (7) miles to the west. The Proposed Project will include the addition of impervious surfaces. However, it is not anticipated that this will substantially alter the existing drainage pattern of the Project site. The Project site was previously partially developed with residential homes and does not have any known drainage or flooding issues. The Project site is not located within a 100-year floodplain, as indicated by the Federal Emergency Management Agency (FEMA). Therefore, the Proposed Project will have a **Less than Significant Impact**.

d. Would the project be located in flood hazard, tsunami, or seiche zones, or risk release of pollutants due to project inundation?

The Project site is not located within a 100-year flood hazard area, a floodway or otherwise placed in an area that would interfere with flood flows. The project site is located 7 miles east of the San Joaquin River. No enclosed surface water bodies, which might be subject to potential seiches, are located in the project site vicinity. Based on its location, inland from coastal areas, the project site would not be subject to tsunami effects. The project site is not located in an area susceptible to mudflows. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Proposed Project will not conflict with or obstruct implementation of a water quality control or sustainability groundwater management plan. As stated above, the Proposed Project will be required to comply with the City's Storm Water Management and Discharges Ordinance. The Project site also is located within the jurisdiction of the Eastern San Joaquin Groundwater Authority and is therefore subject to the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan (ESJGS-GSP) amended in 2024. The Eastern San Joaquin Subbasin is currently designated as critically over drafted by the Department of Water Resources and ESJGS-GSP contains approaches to conserve and protect groundwater resources. The City's General Plan includes policies and actions to conserve groundwater that consistent with the ESJGS-GSP, including:

- CF-6.10: Consider the effect of incremental increases in the demands on groundwater supply and water quality when reviewing development applications.
- RC-1.10: Where feasible, encourage and support multipurpose detention basins that provide water quality protection, storm water detention, groundwater recharge, open space amenities, and recreational amenities.
- RC-2.5: Conserve groundwater recharge features, encourage new groundwater recharge opportunities, and protect aquifers from degradation of water quality and reduction of recharge.
- RC-2.6: Promote the use of permeable surface materials and provide for ample areas of open space, including agricultural land, parks and greenways, and naturalized land, in order to decrease surface runoff and promote groundwater recharge.

- RC-2.7: Continue to encourage and support federal, state, and local research on and monitoring of local groundwater conditions, aquifer recharge, watersheds, and streams where needed to assess groundwater quantity and quality.
- RC-2a: Participate in regional groundwater management efforts with the Eastern San Joaquin County Groundwater Basin Authority and other local agencies to implement the Integrated Regional Water Management Plan and to review and update the plan as necessary to meet the federal and state requirements.
- RC-2c: Continue to monitor City wells to track local groundwater levels and monitor water quality. Share data with state and regional agencies and the public to ensure that regional groundwater sustainability planning efforts include the most complete and comprehensive data available.

The Proposed Project does not conflict with the policies listed above. As stated in the Project Description, the Project site will connect to the water lines in South Austin Road and the existing water pumps will be removed during construction. Additionally, two (2) detention basins will be installed on the Project site, consistent with Policy RC-1.10. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

11. 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	

IMPACT ANALYSIS

a. Would the project physically divide an established community?

Per the City's General Plan EIR, the General Plan land use designations provide opportunities for new growth adjacent to existing urban areas while not creating physical division within the community. The Proposed Project is consistent with the General Plan land use designation for the Project site and therefore will not physically divide the community.

As stated in the Project Description, the Proposed Project is located in the eastern portion of the City of Manteca, adjacent to the eastern city limit line, approximately 0.3 miles south of the Austin Road and Highway 120 intersection. The Project site is bounded by vacant land to the north, single family homes and agricultural land to the south, single family homes to the east, and trucking service uses to the west. Therefore, the Proposed Project would have a **Less Than Significant Impact.**

b. Would the project 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?

As stated in the Project Description, the Project site has a Land Use Designation of Low Density Residential (LDR) per the City's 2043 General Plan and is located in the corresponding R-1, One-Family Dwelling Zoning District. The Proposed Project includes the development of a community church with the approval of the associated Conditional Use Permit, Site Plan Review, and Lot Line Adjustment. Approval of the Conditional Use Permit would allow for the community church on the Project Site, as Churches and Places of Worship require a Conditional Use Permit in the R-1 Zoning District per the Manteca Municipal Code.

The Proposed Project is consistent with the City's 2043 General Plan. Specifically, the General Plan Land Use Policies listed below:

- Policy LU-1.2: Promote land use compatibility through use restrictions, development standards, environmental review, and design considerations.

- Policy LU-4.4: Ensure that all commercial and other non-residential development is compatible with adjacent land uses, particularly residential uses, based upon the location and scale of buildings, lighting, and in conformance with the noise standards of the Safety Element. When development is incompatible, require commercial uses to provide adequate buffers and/or architectural features to protect residential areas, developed or undeveloped, from intrusion of nonresidential activities that may degrade the quality of life in such residential areas
- Policy LU-10.5: Provide new opportunities for community gathering and social interaction through park facilities, community centers, and cultural/art facilities.

Based on the analysis above, the Proposed Project will have a **Less Than Significant Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

12. MINERAL RESOURCES -- WOULD THE PROJECT RESULT IN:

	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

IMPACT ANALYSIS

The following discussion is an analysis for criteria (a) and (b):

a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
b. *Would the project 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?*

The mineral resource zone (MRZ) system, overseen by the California State Mining and Geology Board, characterizes both the location and known/presumed economic value of underlying mineral resources. The mineral resource classification system uses four main MRZs: MRZ-1, MRZ-2, MRZ-3, and MRZ-4. The MRZ-2 classification is described as "areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence" per the General Plan EIR. According to Figure 3.11-1 in the City's General Plan EIR, the Project site is not located within the MRZ-2 classification zone. The Project site is not located in an area known to contain mineral resources of value to the state, region, or City of Manteca. Therefore, the Proposed Project will have **No Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

13. NOISE -- WOULD THE PROJECT RESULT IN:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*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 other 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

REGULATORY SETTING:

Background

Noise is defined as sound that is loud, unpleasant, unexpected, or undesired. Three components make up sound: source, path, and receiver. All three components must be present for sound to exist. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. The perception of sound and noise is determined by its effects on receptors. Examples of sensitive noise receptors are facilities or areas, including residential areas, hospitals, and schools, where excessive noise levels would be considered an annoyance. The "A-weighted" noise scale (measured in A-weighted decibels (dBa)) was developed because it corresponds closer to people's subjective judgement of sound levels.

Community reaction to noise is assessed on a scale that averages varying noise exposures over time and quantifies the results in terms of a single value. The Community Noise Equivalent Level (CNEL) is an average A-weighted scale measured over a 24-hour period and adjusted to account for increased sensitivity to noise levels during evening and nighttime hours. A CNEL noise measurement is obtained from adding 5 decibels to sound levels occurring during the evening from 7:00 pm to 10:00 pm and 10 decibels to sound occurring during the nighttime from 10:00 pm to 7:00 am. The major sources of noise in Manteca are roadway traffic, railroad noise, and industrial activities. The quest areas of Manteca are those removed from major transportation-related noise sources and local industrial or other stationary noise sources.

Vibration is sound radiated through the ground. Typical sources of ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads, which can create vibration waves that propagate through the soil to the foundations of nearby buildings. Ground-borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction. The rumbling sound caused by the vibration of room surfaces is called ground-borne noise, which is usually characterized with the A-weighted sound level. Ground-borne noise is perceived as louder than the same broadband noise because the human ear perceives sound dominated by low-frequency components as louder than broadband sounds that have the same A-weighted level. The background vibration is not usually significant unless the vibration exceeds 70 VdB. For most people, a vibration-velocity level of 75 VdB is the approximately dividing line between perceptible and distinctly perceptible levels.[1]

City of Manteca General Plan

The City of Manteca 2043 General Plan Safety Element (Chapter 9) contains goals, policies, and implementation measures for assessing noise impacts within the City. Table S-1, *Maximum Allowable Noise Exposure from Mobile Noise Sources*. Table 10, *Performance Standards for Stationary Noise Sources, Including Affected Projects* provides noise standards/thresholds for stationary sources, such as HVAC systems, pump stations, lift stations, emergency generators, etc. Both tables are reproduced below.

Table 10: 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
Playgounds, 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 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 common areas where people generally

1 U.S. Department of Transportation, Federal Transit Authority, Office of Planning and Environment, 2006. Transit Noise and Vibration Impact Assessment. May 2006.

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 standards with using practical application of best noise-reduction technology, an increase of up to 5 Ldn over the standard will be allowed provided the 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 11: 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

Section 17.58.050, *Noise Standards,* of the Manteca Municipal Code establishes noise standards, including maximum sound level generated by any use or activity as measured at the point of measurement as defined. The Maximum Permissible Sound Pressure Levels, as defined in Table 17.58.050-1 for Multiple-Family, Public Institution, and Neighborhood Commercial is 55 Ldn/CNEL, dB from 10 pm to 7 am and 60 Ldn/CNEL, dB from 7am to 10 pm.

IMPACT ANALYSIS

a. Would the project result in the 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?

The Proposed Project consists of the development of a 32,897 sq. ft. community church with a worship center and support buildings. The proposed support buildings include a 1,500 sq. ft. maintenance building as part of Phase 1, an 8,000 sq. ft. kids building, 8,000 sq. ft. youth building, and a 4,000 sq. ft. chapel as part of Phase 2. The total square footage of the buildings proposed is 54,397 sq. ft. The Proposed Project also includes outdoor recreation with a kid's play area, soccer field, and basketball court. As noted in the Project Description, church services will occur on Sundays at 8:00 am, 9:30 am, and 11:00 am and regular staff hours will be Tuesday through Thursday from 9:00 am to 4:00 pm.

Construction

Construction of the Proposed Project will likely result in temporary noise levels from construction vehicles, equipment, etc. Noise impacts resulting from construction activities would depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors. Construction noise impacts primarily result when construction activities occur during noise-sensitive time of day (early morning, evening, or nighttime hours), when the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time. The loudest expected phase of construction is grading and earthwork, which would likely include the use of dozers, backhoes, and graders.

The Proposed Project is bounded by vacant land to the north, single-family residences to the east and south, and existing industrial uses to the west (currently business of AC Trucking). Construction activities are required to adhere to Section 17.58.050(E)(1) of the Manteca Municipal Code, which limits the operation, or causing the operation, of tools or equipment on private property in alteration, construction, demolition, drilling, or repair work daily between the hours of 7:00 pm and 7:00 am. Implementation Measure S-6c requires the City to update the Noise Ordinance (Chapter 9.52) to restrict construction activities to the hours of 7:00 am to 7:00 pm on Monday through Friday, and 8:00 am to 6:00 pm 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. In order to ensure that project construction noise levels remain at a level as to not become a nuisance to sensitive receptors within the vicinity (residential uses), Mitigation Measure NOISE-1 will be incorporated. Mitigation Measure NOISE-1 requires implementation of measures to ensure construction related noise levels do not exceed City of Manteca standards. Implementation of Mitigation Measure NOISE-1 will result in a **Less Than Significant Impact with Mitigation Incorporated** related to construction noise.

Operation

As noted, the Proposed Project includes the development of a worship center and associated structures in two (2) phases on a 11.94-net acre site located on S. Austin Road. Operation of the community church would include scheduled church services, ministry services (children's ministry instruction and discipleship), and outdoor activities that are anticipated to produce noise. Use of the church during heavily attended services has the potential to generate higher noise levels, compared to existing conditions. Typical daytime operational activities after construction would include church services and after service youth activities. The noise generated by church service would be primarily due to musical/singing periods, however, these events would be periodical and occur indoors. The nearest adjacent properties are residences located approximately 65 feet to the south and east (across Austin Road). The distance to these properties to the worship center and outdoor play areas is more than 300 feet (measured from the building to the nearest property). As such, it is anticipated that operational noise generated by the Proposed Project would not exceed City of Manteca standard for Churches of 60 dB. Although some services may occur during nighttime hours for special services, no noise would be generated during the most sensitive noise period of a 24-hour day.

The City of Manteca General Plan EIR predicted traffic related noise of Austin Road, south of Yosemite Avenue to be 66.0 Ldn, dB at the nearest sensitive receptor (Table 3.12-15, *Existing (2019) Plus Approved vs. Proposed General Plan Traffic Noise Levels*). According to the Traffic Impact Analysis, dated April 15, 2026, prepared by TJW Engineering, Inc., the Proposed Project is expected to generate 300 additional Wednesday AM peak hour trips and 268 Sunday AM peak hour trips. These trips are anticipated to contribute to traffic noise levels identified in the City of Manteca General Plan EIR. However, the increase in Project-related traffic noise is consistent with what was analyzed in the City of Manteca EIR.

As such, operation of the Proposed Project will have a **Less Than Significant Impact** on this issue.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Groundborne vibration is typically associated with construction activities. As noted in the City of Manteca General Plan EIR, heavy tracked vehicles (e.g., bulldozers or excavators) can generate distinctly perceptible groundborne vibration levels when this equipment operates within approximately 25 feet of sensitive land uses. Impact pile drivers can generate distinctly perceptible groundborne vibration levels at distances up to about 100 feet and may exceed building damage thresholds within 25 feet of any building, and within 50-100 feet of a historical building, or building in poor condition. Other construction activities, such as caisson drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may also potentially generate substantial vibrations in the immediate vicinity.

The Proposed Project would only cause elevated vibration levels during construction, as the Proposed Project would not involve any uses or operations that would generate substantial groundborne vibration. Although noise and vibration associated with construction of the project would add to the noise and vibration environment in the immediate project vicinity, construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours, as required by City of Manteca Policy. Because the Proposed Project would not cause continuous, long-term vibrations, the project would not be expected to result in extended annoyance to nearby sensitive receptors.

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of the construction. As noted above, the nearest off-site sensitive uses are the residential structures to the south and east of the project site, located at least 50 feet from construction activities. At a distance of at least 50 feet, the groundborne vibration produced by construction equipment would be substantially diminished. Furthermore, construction is temporary and construction equipment would operate intermittently throughout the course of the day, would be restricted to daytime hours as required by the City of Manteca, and would likely only occur over portions of the improvement area at a time. Additionally, implementation of Mitigation Measure NOISE-1 ensures that sensitive uses adjacent to the Proposed Project are notified of the construction schedule and that a construction liaison is established to respond to any local complaints. As such, the Proposed Project will have a **Less Than Significant Impact** on this issue.

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?*

As discussed in the Hazards and Hazardous Materials Section, the closest public airport to the Project Site is the Stockton Metropolitan Airport, located approximately 6.64-miles to the northwest of the Project Site. The Proposed Project is not located within the Airport Influence Area, according to the Airport Land Use Compatibility Plan, dated May 2016 (Amended February 2018) for the Stockton Metropolitan Airport. Additionally, the Proposed Project is not located within the vicinity of a private airstrip. As such, the Proposed Project will have **No Impact**.

MITIGATION MEASURES:

The following Mitigation Measure(s) shall be incorporated into the Proposed Project in order to mitigate any potential impacts to a less than significant level:

> ***NOISE-1:*** *Construction equipment shall be well maintained to be as quiet as possible. The following measures, when applicable, shall be implemented to reduce noise from construction activities:*
>
> - *All internal combustion engine-driven equipment shall be equipped with mufflers that are in good condition and appropriate for the equipment.*

- *"Quiet" models of air compressors and other stationary noise sources shall be used, where technology exists.*
- *Stationary noise-generating equipment shall be located as far as feasible from sensitive receptors (dwellings).*
- *Unnecessary idling of internal combustion engines shall be prohibited.*
- *Staging areas and construction material storage areas shall be located as far away as possible from adjacent sensitive land uses (dwellings).*
- *Construction-related traffic shall be routed along major roadways (Yosemite Avenue, Austin Road) and as far away as feasible from sensitive receptors (dwellings).*
- *Residences or noise-sensitive land uses adjacent to construction site(s) shall be notified of the construction schedule in writing. The construction contractor shall designate a "construction liaison" that would be responsible for responding to any local complaints (e.g., starting too early, bad muffler, etc.) and shall institute reasonable measures to correct the problem. The construction contractor shall conspicuously post a telephone number for the liaison at the construction site.*
- *The construction contractor shall hold a pre-construction meeting with the job inspectors and the general contractor/on-site manager to confirm that noise mitigation and practices (including construction hours, construction schedule, and construction liaison) are completed.*

All of the above measures shall be included in the contract specifications that shall be reviewed and approved by the City of Manteca Development Services Department prior to the start of construction. The above measures would reduce noise generated by the construction of the Proposed Project to the extent feasible for the project's size.

14. POPULATION AND HOUSING -- Would the project:

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

IMPACT ANALYSIS

a. Would the project induce substantial population in one area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The Proposed Project includes the development of a community church. The Proposed Project will serve the existing population in Manteca and would not induce substantial unplanned population growth in the area. The Proposed Project will not extend or construct any infrastructure outside of the Project site. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

As stated in the Project Description, the Project site is currently vacant and therefore will not displace a substantial number of people or housing and will not necessitate the construction of replacement housing. Therefore, the Proposed Project will have **No Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

15. 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, or the 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:				
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?			X	
d) Parks?			X	
e) Other public facilities?			X	

IMPACT ANALYSIS

a. Fire Protection

b. Police Protection

Fire protection services for the Proposed Project will be provided by the City of Manteca Fire Department (MFD). The MFD has five (5) fire stations located within the City limits with the closest to the Project site being Station 1 located at 290 S. Powers Avenue, approximately 1.23 miles west of the Project site. The MFD is also responsible for providing emergency medical services to customers. Medically related responses account for nearly 60 percent of all requests for service. Police protection is provided to the City by the Manteca Police Department (MPD). The MPD is a full-service municipal law enforcement agency with specialized assignments and recognized specialties.

Future development from buildout of the General Plan may increase demand for public services and facilities. However, the City would be required to provide additional public safety, fire protection, and emergency services to accommodate such growth. Additionally, the Proposed Project would be required to pay Impact Fees pursuant to the Mitigation Fee Act, including fees related to police and fire.

To provide adequate fire protection and suppression services to the Project site, the MFD must have access to adequate onsite hydrants with adequate fire-flow pressure available to meet the needs of fire suppression units. The final site plans and development specifications developed for the Proposed Project will indicate the location and design specifications of the fire hydrants that will be required within the Project site. The preliminary locations of fire hydrants are located on the Grading, Drainage, & Utility Plan (Figure 5). These locations will be finalized in the final Site Plan and improvement plans submitted to the City of Manteca and MFD.

The Proposed Project would comply with all applicable General Plan policies related to reducing fire risks. As noted, Project plans would be reviewed by MFD to ensure that the Project site is acceptable for fire safety purposes. Because the Proposed Project is consistent with the Project site's General Plan Land Use Designation, potential increases in demand for fire and police protection services associated with the buildout of the site have been anticipated by the City and analyzed in the General Plan EIR. Therefore, impacts related to fire and police protection is **Less Than Significant.**

c. Schools

The City of Manteca is served by the Manteca Unified School District (MUSD), which operates schools ranging from Kindergarten through High School; educational facilities include twenty (20) elementary schools, five (5) High Schools, one (1) community day school, one (1) adult education school, and two (2) continuation High Schools. 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 improvements associated with school services. The Proposed Project is not a residential project and thus, would not generate an increase demand for school facilities in the surrounding area. As such, the Proposed Project will have a **Less Than Significant Impact**.

d. Parks

According to the City of Manteca General Plan, the City currently manages more than 483 acres of parks, facilities, trails, and recreation lands, including 405 acres of community, neighborhood, and special use parks and the 101-acre Manteca Golf Course. The City currently has 251.85-acres of Neighborhood Park land which exceeds the City's goal of 3 acres per 1,000 population. In the category of Community Park acreage, the current quantity of 78.46-acres exceeds the City's goal of one (1) acre per 1,000 population. In the category of Special Use Facility/Parks, the City's 90.94-acres of park lands for special uses exceeds the City's goal of one (1) acre per 1,000 population. The Proposed Project would not generate an increase in demand for park facilities in the surrounding area. The General Plan contains policies and actions that would support parkland goals. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

e. Other Public Facilities

The Proposed Project is within the scope of projected growth under the General Plan and the anticipated uses on the Project site are assumed in the General Plan EIR. The Proposed Project is not anticipated to result in the need for additional public facilities. Thus, the Proposed Project will have a **Less Than Significant Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

16. 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	

IMPACT ANALYSIS

The following discussion is an analysis for criteria (a) and (b):

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 accelerated?

The nearest publicly owned neighborhood park to the Project site is McGinnis Park. McGinnis Park is located two (2) miles west of the Project site on Bernt Avenue. The Proposed Project does not include the development of new homes and would not generate population growth, which typically result in the need for additional park and recreation facilities. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

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?

As stated in the Project Description, the Proposed Project includes outdoor recreation facilities with a kid's play area, soccer field, and basketball court. The Proposed Project will not result in physical environmental impacts to other recreational facilities. The construction of the Project site will not have an adverse physical effect on the environment, as discussed throughout this environmental analysis. Therefore, the Proposed Project will have a **Less Than Significant Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

17. TRANSPORTATION/TRAFFIC -- 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) 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	

ENVIRONMENTAL SETTING:

Existing Transportation Facilities

The main transportation mode in the project vicinity is motor vehicles and trucks, which use existing roads in the area. The project site is served by the existing roadway system, including S. Austin Road on which the site has direct frontage. The main regional roads in the project vicinity are SR 120 and SR 99. California State Route 99 is a major north-south highway serving the Central Valley, connecting from Interstate 5 near Wheeler Ridge to its northern end at SR 36 near Red Bluff. California State Route 120 is an east-west highway connecting the Central Valley to the Sierra Nevada and Yosemite National Park, ending at US 6 near Mono Lake.

The analysis in this Section relies mainly on the Traffic Impact Analysis prepared by TJW Engineering, Inc. dated September 2, 2026, and the Cornerstone Community Church VMT Screening Memorandum prepared by TJW Engineering, Inc. dated April 7, 2026. Both the Cornerstone Community Church VMT Screening Memorandum and Traffic Impact Analysis are attached as Appendix C and D, respectively.

IMPACT ANALYSIS

a. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

The Traffic Impact Analysis analyzed traffic operations in the vicinity under existing and cumulative conditions. The Study focused mainly on intersections on or near S. Austin Road and Vasconcellos Avenue, including the S. Austin Road / SR 120 and Vasconcellos / SR 120 intersections and the project driveways and S. Austin Road. The conclusion was that intersection operations would maintain acceptable LOS during AM and PM peak hours with the exception of the S. Austin Road / Grave Road intersection under the Existing Plus Project Conditions. Under the Cumulative Condition (Full Build with Project), the study intersections continue to operate at acceptable LOS during AM and PM peak hours with the exception of the S. Austin Road / Graves Road and S. Austin Road / SR 120 intersections. The Traffic Impact Analysis recommends the following improvements to the S. Austin Road / Graves Road and S. Austin Road / SR 120 intersections:

- **Intersection 1: Austin Road / Graves Road –** Add right turn pocket in the westbound direction, widen southbound lane to have one thru lane and one thru-right lane.
- **Intersection 3: Austin Road / SR 120 –** Convert right turn lane in the eastbound direction to a shared thru right turn lane; Change the northbound and southbound left turn-lane from split to protected.

With these improvements, it is expected that project traffic would not adversely affect LOS on nearby intersections, thereby being consistent with LOS standards established in the City's General Plan, specifically Policy C-1.2. The project is also not expected to adversely affect traffic on SR 99 and SR 120, which are part of the Regional Congestion Management Program Network.

The Proposed Project would not adversely affect transit routes or use, as no fixed routes are located in the area. Bicycle parking is required to be provided pursuant to Section 17.52.110, *Required Bicycle Parking*, of the City of Manteca Municipal Code and the City of Manteca General Plan. Specifically, bicycle parking is required based on the number of total parking spaces, as shown in Table 17.52-110-1, *Bicycle Parking Requirement by Land Use*. The City of Manteca General Plan also includes Policies to promote Bikeway and Pedestrian Facilities, including Policy C-4.1 though C-4.6.

In summary, the Proposed Project would not substantially conflict with applicable plans or policies related to transportation, either for motor vehicles or for alternative modes of transportation. As such, Project impacts related to transportation programs and plans would be **Less Than Significant.**

b. *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

Senate Bill (SB) 743 was adopted in 2013 requiring the Governor's Office of Planning and Research (OPR) (now named the Governor's Office of Land Use and Climate Innovation (LCI)) to identify new metrics for identifying and mitigating transportation impacts within the California Environmental Quality Act (CEQA). For land use projects, LCI has identified Vehicle Miles Traveled (VMT) as the new metric for transportation analysis under CEQA. The regulatory changes to the CEQA Guidelines that implement SB 743 were approved on December 28, 2018, with an implementation date of July 1, 2020, as the new metric.

The City of Manteca adopted the SB 743 Implementation Policy in July 2022, and it outlines screening criteria and requirements for VMT assessment of land use projects. The Guidelines identify screening criteria including small projects, affordable housing, local-serving retail, and public/quasi-public land uses. Projects that support community health, safety, and welfare may be classified as Public/Quasi-Public (PQP) land use. The PQP developments are typically built to aid nearby land uses such as residential. The Proposed project is a place of religious assembly that is typically used by the local community as a place of gathering. Therefore, the Proposed Project can also be considered local serving and is under 50,000 sq. ft. Per the City's SB 743 Implementation Policy, the Proposed Project fulfills the "Public/Quasi-Public Land Use Screening Criteria" and therefore, can be presumed to have a **Less Than Significant Impact** on VMT.

c. *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

The Proposed Project proposes two (2) driveways off S. Austin Road to provide access to vehicle traffic. No access from other roads would be provided. The driveways would be installed in accordance with City standard plans and specifications, which are intended to facilitate traffic movement. Compliance with the standard specifications would avoid traffic hazards on S. Austin Road. Internal circulation within the project site would consist primarily of passenger vehicles. Driveways and off-street parking spaces are required to adhere to City standards specifications, including design standards as specified in Section 17.52.090, *Parking and Driveway Design and Development Standards* of the Manteca Municipal Code. As such, Project impacts regarding hazards would be **Less Than Significant.**

d. *Would the project result in inadequate emergency access?*

There is potential for traffic disruption associated with project infrastructure work within S. Austin Road. However, all such work will be required to comply with the encroachment permit issued by the City, including compliance with the general law regulating travel over a public street. After project completion, the two (2) driveways would provide adequate access to the project site for emergency vehicles. A twenty (20) foot wide emergency access lane is provided around the project site, behind the proposed building and Phase 2 improvement area. As such, project impacts regarding emergency access would be **Less Than Significant.**

MITIGATION MEASURES:

Mitigation is not required for this topic.

18. TRIBAL CULTURAL RESOURCES -- WOULD THE PROJECT:

	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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?			X	

Effective July 1, 2015, Assembly Bill 52 (AB 52) amended CEQA to mandate consultation with California Native American tribes during the CEQA process to determine whether or not the Proposed Project may have a significant impact on a Tribal Cultural Resource. Section 21073 of the Public Resources Code defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-federally recognized tribes. Section 21074(a) of the Public Resource Code defines Tribal Cultural Resources for the purpose of CEQA as:

1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

a. included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or
b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or

c. 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria A and B also meet the definition of a Historical Resource under CEQA (see Section 5 of this document), a Tribal Cultural Resource may also require additional (and separate) consideration as a Historical Resource. Tribal Cultural Resources may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their Tribal Cultural Resources and heritage, AB 52 requires that CEQA lead agencies carry out consultation with tribes at the commencement of the CEQA process to identify Tribal Cultural Resources. Furthermore, because a significant effect on a Tribal Cultural Resource is considered a significant impact on the environment under CEQA, consultation is required to develop appropriate avoidance, impact minimization, and mitigation measures. Consultation is concluded when either the lead agency and tribes agree to appropriate mitigation measures to mitigate or avoid a significant effect, if a significant effect exists, or when a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached, whereby the lead agency uses its best judgement in requiring mitigation measures that avoid or minimize impact to the greatest extent feasible.

IMPACT ANALYSIS

a. Would the project cause a significant 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:

1. *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)?*
2. *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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

Based on a review of City's General Plan EIR, the Project site is not listed on the California Register of Historical Places, or a local register of resources as defined in Public Resources Code Section 5020.1 (k).

In accordance with AB 52, the City, acting as the Lead Agency, distributed consultation request letters to the following Native American Tribes: Amah Mutsun Tribal Band, Confederated Villages of Lisjan Nation, Muwekma Ohlone Tribe of the SF Bay Area, Northern Valley Yokut/Ohlone Tribe, Tule River Indian Tribe, Wilton Rancheria, and Wuksachi Indian Tribe/Eshom Valley Band. The City received a consultation request from the Confederated Villages of Lisjan Nation. The City provided the CCIC Records Search (Appendix B) to the Confederated Villages of Lisjan Nation. No other requests were made by the Tribe. As such, the Proposed Project will have a **Less Than Significant Impact** related to Tribal Cultural Resources.

MITIGATION MEASURES:

Mitigation is not required for this topic.

19. 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 treatment or stormwater drainage, electric power, natural gas, or telecommunication 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 that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's 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	

IMPACT ANALYSIS

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?

As stated in the Project Description, the Proposed Project will connect to the existing utilities in the City. The Proposed Project can be accommodated by the existing or soon to be constructed utility facilities and does not require the relocation or construction of new or expanded facilities. Therefore, the Proposed Project will have a **Less than Significant Impact**.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The City provides potable water services to residents, as well as commercial, institutional, industrial, and public facilities. The City's 2020 Urban Water Management Plan (UWMP) details the City's current and projected water demands for these land use types. The Proposed Project would be considered an institutional/governmental use for the purposes of the UWMP. The UWMP states that institutional uses are reported within the commercial uses, which had a water demand of 1,540 acre-feet (AF) in 2020. The UWMP projects commercial/institutional water use to be 1,899 AF in 2030 and 2,258 AF in 2040. It is not anticipated that the Proposed Project will contribute significantly to the projected water use of the City's institutional uses. The Manteca Municipal Services Review (MSR) states that the City's estimated available water supply will be sufficient to meet projected water demands through 2040. The City is expected to have adequate water supplies during normal years to meet its projected demands through 2045 and it is not anticipated that a single dry year period will reduce the availability of water supply to the City. Water supplies are sufficient to meet all demands through year 2045 even under drought conditions. The Proposed Project can be adequately served by the existing water supplies in the City. Therefore, the Proposed Project will have a **Less than Significant Impact**.

c. Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

Wastewater services within the City are provided by the City of Manteca Public Works Department via the Manteca Water Quality Control Facility (WQCF). The City's most recently prepared Wastewater Master Plan describes the City's wastewater capacity 8.42 million gallons per day (mgd). The WQCF has a capacity of 9.87 mgd, however 1.45 mgd is contracted to the City of Lathrop. Current flows through the City's wastewater system are approximately 6 mgd based on information provided in the City's Municipal Services Review (MSR), leaving the WQCF with current capacity of 3.87 mgd. It is not anticipated that the Proposed Project will generate a significant amount of wastewater that would exceed the current capacity of the WQCF. The Proposed Project can be adequately served by the existing wastewater treatment provider in the City. Therefore, the Proposed Project will have a **Less than Significant Impact**.

The following discussion is an analysis for criteria (d) and (e):

d. Would the project 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?

e. Would the project comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?

Solid waste in the City is managed by the City's Solid Waste Division. The Proposed Project is not anticipated to generate solid waste that is in excess of waste typically generated church projects and the capacity of local infrastructure. The Proposed Project will be required to comply with Federal, State, and Local regulations related to solid waste. Therefore, the Proposed Project will have a **Less than Significant Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

20. 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 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

IMPACT ANALYSIS

The following discussion is an analysis for criteria (a), (b), (c), and (d):

a. *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*
b. *Would the project 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?*
c. *Would the project require the installation 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?*
d. *Would the project 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?*

Appendix G of the CEQA Guidelines states that a project would have significant impacts if it is located in or near State responsibility areas (SRAs) or lands classified as very high fire hazard severity zones (VHFHSZ) and impacts an adopted emergency response plan, exacerbate wildfire risks, require the installation/maintenance of associated infrastructure, or expose people or structures to significant risks. The identification of SRAs and VHFHSZ zones are the responsibility of California Department of Forestry and Fire Protection. Based on a review of Section 3.16 Wildfire of the General Plan EIR, the Project site is not located in or near any SRAs or lands classified as VHFHSZ. Therefore, the Proposed Project will have **No Impact**.

MITIGATION MEASURES:

Mitigation is not required for this topic.

21. 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 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?		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		

IMPACT ANALYSIS

a. Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, 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?

Finding (a) is checked as "Less Than Significant Impact with Mitigation Incorporation" on the basis of the Proposed Project's potential impacts on biological resources, as described in Section 3.0-IV of this Initial Study. The analysis contained in this Initial Study determined the impact to Biological Resources was **Less Than Significant with Mitigation Incorporation**.

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 the connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

As described in this Initial Study, the potential environmental effects of the Proposed Project will either be less than significant or will have no impact at all. Where the Proposed Project involves potentially significant impacts, these impacts would have a **Less Than Significant Impact** with mitigation measures incorporated.

The potential environmental impacts identified in this Initial Study have been considered in conjunction with each other as to their potential to generate other potentially significant impacts. The various potential environmental impacts of the Proposed Project will not combine to generate any potentially significant cumulative impacts.

The City of Manteca General Plan and EIR comprehensively account for ongoing and foreseeable urban development within the City's "Planning Area" and the cumulative environmental impacts of planned development. Future urban development in the City of Manteca includes the provision of roads, utilities, schools, and recreational facilities needed to serve City residents and visitors as their demands for urban services increase over time.

The potential environmental impacts associated with the Proposed Project represent a portion of the environmental consequences of the planned growth and development permitted by the General Plan. The Proposed Project will not result in any substantial contribution to any of the significant cumulative impacts identified in the General Plan EIR.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

This Initial Study has considered the potential environmental impacts of the Proposed Project in the discrete issue areas outlined in the CEQA Environmental Checklist. During the environmental analysis, the potential for the Proposed Project to result in substantial impacts on human beings in these issue areas, as well as the potential for substantial impacts on human beings to occur outside of these issue areas, was considered, but they were identified to be **Less Than Significant with Mitigation Incorporation**.

REFERENCES

In accordance with Section 15063(a)(3) of the CEQA Guidelines, the following expert opinion, technical studies, and substantial evidence has been referenced and/or cited in the discussion included in the Initial Study Checklist:

- California Department of Conservation. California Important Farmlands Finder. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/.
- California Department of Conservation. Williamson Act/Land Conservation Act. Available at: https://www.conservation.ca.gov/dlrp/lca.
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- California Energy Commission. 2026. California Greenhouse Gas Emission Inventory – 2023 Edition. Available at: https://ww2.arb.ca.gov/ghg-inventory-data.
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- City of Manteca, 2026. City of Manteca Zoning Ordinance (Title 17). Available at: https://ecode360.com/MA4966.
- City of Manteca, 2025. City of Manteca Letter dated, August 14, 2025.
- City of Manteca, 2025. City of Manteca Climate Action Plan Update dated, July 2025.
- City of Manteca, 2022. City of Manteca SB 743 Implementation Policy, dated September 15, 2022. Assessed at: https://www.manteca.gov/departments/development-services/planning-beta/long-range-planning-documents.
- City of Manteca, Geographic Information Systems. Assessed in April 2026. Available at: https://mantecagisweb.ci.manteca.ca.us/Html5Viewer/Index.html?viewer=publicviewer#
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- TJW Engineering, Inc. Cornerstone Community Church VMT Screening. April 7, 2026.
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- San Joaquin Council of Governments, Airport Land Use Commission. July 2009, Amended January 2018. Airport Land Use Compatibility Plan Update, San Joaquin County Aviation System, San Joaquin County, California.
- San Joaquin County, Geographic Information Systems. Assessed in April 2026. Available at: https://sjmap.org/.
- San Joaquin Valley Air Pollution Control District. March 19, 2015. Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI).

- San Joaquin Valley Air Pollution Control District. Small Project Analysis Level (SPAL). November 13, 2020. Available at: https://archive.valleyair.org/transportation/ceqaanalysislevels.htm.
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS), Assessed April 2026.

APPENDICES

Appendix A

CalEEMod Detailed Report, dated April 17, 2026, prepared by J.B. Anderson Land Use Planning

Cornerstone Community Church Detailed Report

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7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

8.1. Justifications

8.3. Land Use

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Cornerstone Community Church
Construction Start Date	1/1/2027
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40000
Precipitation (days)	9.00000
Location	37.79317153493025, -121.18093737441615
County	San Joaquin
City	Manteca
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2132
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.43

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Place of Worship	600.000	Seat	11.9400	54,397.0	150,052	56,985.0	—	Main Building

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-2	Require Energy Efficient Appliances
Area Sources	LL-3*	Electric Yard Equipment Compatibility

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.7565	12.7336	9.72805	14.0572	0.02519	0.34015	0.25998	0.60014	0.31323	0.06379	0.37702	—	2,843.40	2,843.40	0.10553	0.06429	1.17345	2,866.37
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.69342	3.11180	28.0226	28.8961	0.06093	1.17173	7.81325	8.98498	1.07799	3.97441	5.05241	—	6,759.26	6,759.26	0.27206	0.06480	0.03037	6,784.12
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.26295	1.06423	9.27056	11.6879	0.02183	0.34650	0.67053	1.01703	0.31894	0.26538	0.58431	—	2,438.57	2,438.57	0.09370	0.04341	0.31098	2,454.16
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.23049	0.19422	1.69188	2.13303	0.00398	0.06324	0.12237	0.18561	0.05821	0.04843	0.10664	—	403.733	403.733	0.01551	0.00719	0.05149	406.314

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.33632	1.12259	9.72805	14.0572	0.02518	0.34015	0.25998	0.60014	0.31323	0.06379	0.37702	—	2,843.40	2,843.40	0.10552	0.06429	1.17345	2,866.37
2028	12.7565	12.7336	9.25074	13.9799	0.02519	0.30382	0.25998	0.56380	0.27980	0.06379	0.34359	—	2,833.96	2,833.96	0.10553	0.06231	1.03674	2,856.20
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.69342	3.11180	28.0226	28.8961	0.06093	1.17173	7.81325	8.98498	1.07799	3.97441	5.05241	—	6,759.26	6,759.26	0.27206	0.06480	0.03037	6,784.12
2028	1.27213	1.06719	9.27739	13.7838	0.02519	0.30382	0.25998	0.56380	0.27980	0.06379	0.34359	—	2,815.08	2,815.08	0.10654	0.06301	0.02686	2,836.55
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.26295	1.06423	9.27056	11.6879	0.02183	0.34650	0.67053	1.01703	0.31894	0.26538	0.58431	—	2,438.57	2,438.57	0.09370	0.04341	0.31098	2,454.16
2028	1.10246	1.03642	3.00408	4.50120	0.00791	0.09986	0.08131	0.18117	0.09196	0.01985	0.11180	—	887.802	887.802	0.03352	0.01852	0.13671	894.296
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.23049	0.19422	1.69188	2.13303	0.00398	0.06324	0.12237	0.18561	0.05821	0.04843	0.10664	—	403.733	403.733	0.01551	0.00719	0.05149	406.314
2028	0.20120	0.18915	0.54824	0.82147	0.00144	0.01823	0.01484	0.03306	0.01678	0.00362	0.02040	—	146.986	146.986	0.00555	0.00307	0.02263	148.061

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	0.00000	0.33657	0.30965	0.00000	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	0.00000	2,405.30
2028	12.7400	12.7174	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2027	3.63178	3.05170	27.9724	28.2794	0.06093	1.17173	7.66623	8.83797	1.07799	3.93995	5.01795	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.20179	1.00734	9.06824	11.0766	0.02086	0.34455	0.50522	0.84977	0.31699	0.22509	0.54208	—	2,179.31	2,179.31	0.08840	0.01768	0.00000	2,186.79
2028	1.07433	1.01184	2.90502	4.22413	0.00741	0.09886	0.00000	0.09886	0.09095	0.00000	0.09095	—	761.025	761.025	0.03087	0.00617	0.00000	763.636
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.21933	0.18384	1.65495	2.02148	0.00381	0.06288	0.09220	0.15508	0.05785	0.04108	0.09893	—	360.810	360.810	0.01464	0.00293	0.00000	362.049
2028	0.19606	0.18466	0.53017	0.77090	0.00135	0.01804	0.00000	0.01804	0.01660	0.00000	0.01660	—	125.996	125.996	0.00511	0.00102	0.00000	126.429

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.10556	0.09272	0.33712	1.11927	0.00179	0.00358	0.25998	0.26356	0.00358	0.06379	0.06737	—	446.326	446.326	0.00828	0.04485	1.17345	461.071
2028	0.09356	0.08869	0.32579	1.04463	0.00179	0.00358	0.25998	0.26356	0.00358	0.06379	0.06737	—	436.504	436.504	0.00828	0.04286	1.03674	450.520
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.09314	0.08597	0.37154	0.90546	0.00179	0.00358	0.25998	0.26356	0.00358	0.06379	0.06737	—	427.027	427.027	0.00979	0.04535	0.03037	440.816
2028	0.08732	0.07576	0.35244	0.84855	0.00179	0.00358	0.25998	0.26356	0.00358	0.06379	0.06737	—	417.627	417.627	0.00929	0.04356	0.02686	430.867
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.06116	0.05689	0.20231	0.61125	0.00097	0.00195	0.16531	0.16726	0.00195	0.04029	0.04224	—	259.257	259.257	0.00530	0.02573	0.31098	267.368
2028	0.02813	0.02458	0.09905	0.27707	0.00050	0.00100	0.08131	0.08231	0.00100	0.01985	0.02085	—	126.778	126.778	0.00265	0.01235	0.13671	130.660
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.01116	0.01038	0.03692	0.11155	0.00018	0.00036	0.03017	0.03052	0.00036	0.00735	0.00771	—	42.9229	42.9229	0.00088	0.00426	0.05149	44.2659
2028	0.00513	0.00449	0.01808	0.05056	0.00009	0.00018	0.01484	0.01502	0.00018	0.00362	0.00381	—	20.9895	20.9895	0.00044	0.00204	0.02263	21.6322

2.2.4. Total Construction Emissions by Year, Mitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.33632	1.12259	9.72805	14.0572	0.02518	0.34015	0.25998	0.60014	0.31323	0.06379	0.37702	—	2,843.40	2,843.40	0.10552	0.06429	1.17345	2,866.37
2028	12.7565	12.7336	9.25074	13.9799	0.02519	0.30382	0.25998	0.56380	0.27980	0.06379	0.34359	—	2,833.96	2,833.96	0.10553	0.06231	1.03674	2,856.20
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.69342	3.11180	28.0226	28.8961	0.06093	1.17173	7.81325	8.98498	1.07799	3.97441	5.05241	—	6,759.26	6,759.26	0.27206	0.06480	0.03037	6,784.12
2028	1.27213	1.06719	9.27739	13.7838	0.02519	0.30382	0.25998	0.56380	0.27980	0.06379	0.34359	—	2,815.08	2,815.08	0.10654	0.06301	0.02686	2,836.55
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.26295	1.06423	9.27056	11.6879	0.02183	0.34650	0.67053	1.01703	0.31894	0.26538	0.58431	—	2,438.57	2,438.57	0.09370	0.04341	0.31098	2,454.16
2028	1.10246	1.03642	3.00408	4.50120	0.00791	0.09986	0.08131	0.18117	0.09196	0.01985	0.11180	—	887.802	887.802	0.03352	0.01852	0.13671	894.296
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.23049	0.19422	1.69188	2.13303	0.00398	0.06324	0.12237	0.18561	0.05821	0.04843	0.10664	—	403.733	403.733	0.01551	0.00719	0.05149	406.314
2028	0.20120	0.18915	0.54824	0.82147	0.00144	0.01823	0.01484	0.03306	0.01678	0.00362	0.02040	—	146.986	146.986	0.00555	0.00307	0.02263	148.061

2.2.5. Onsite Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	0.00000	0.33657	0.30965	0.00000	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	0.00000	2,405.30
2028	12.7400	12.7174	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.63178	3.05170	27.9724	28.2794	0.06093	1.17173	7.66623	8.83797	1.07799	3.93995	5.01795	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.20179	1.00734	9.06824	11.0766	0.02086	0.34455	0.50522	0.84977	0.31699	0.22509	0.54208	—	2,179.31	2,179.31	0.08840	0.01768	0.00000	2,186.79
2028	1.07433	1.01184	2.90502	4.22413	0.00741	0.09886	0.00000	0.09886	0.09095	0.00000	0.09095	—	761.025	761.025	0.03087	0.00617	0.00000	763.636
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.21933	0.18384	1.65495	2.02148	0.00381	0.06288	0.09220	0.15508	0.05785	0.04108	0.09893	—	360.810	360.810	0.01464	0.00293	0.00000	362.049
2028	0.19606	0.18466	0.53017	0.77090	0.00135	0.01804	0.00000	0.01804	0.01660	0.00000	0.01660	—	125.996	125.996	0.00511	0.00102	0.00000	126.429

2.2.6. Offsite Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.10556	0.09272	0.33712	1.11927	0.00179	0.00358	0.25998	0.26356	0.00358	0.06379	0.06737	—	446.326	446.326	0.00828	0.04485	1.17345	461.071
2028	0.09356	0.08869	0.32579	1.04463	0.00179	0.00358	0.25998	0.26356	0.00358	0.06379	0.06737	—	436.504	436.504	0.00828	0.04286	1.03674	450.520
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.09314	0.08597	0.37154	0.90546	0.00179	0.00358	0.25998	0.26356	0.00358	0.06379	0.06737	—	427.027	427.027	0.00979	0.04535	0.03037	440.816
2028	0.08732	0.07576	0.35244	0.84855	0.00179	0.00358	0.25998	0.26356	0.00358	0.06379	0.06737	—	417.627	417.627	0.00929	0.04356	0.02686	430.867
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.06116	0.05689	0.20231	0.61125	0.00097	0.00195	0.16531	0.16726	0.00195	0.04029	0.04224	—	259.257	259.257	0.00530	0.02573	0.31098	267.368
2028	0.02813	0.02458	0.09905	0.27707	0.00050	0.00100	0.08131	0.08231	0.00100	0.01985	0.02085	—	126.778	126.778	0.00265	0.01235	0.13671	130.660
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2027	0.01116	0.01038	0.03692	0.11155	0.00018	0.00036	0.03017	0.03052	0.00036	0.00735	0.00771	—	42.9229	42.9229	0.00088	0.00426	0.05149	44.2659
2028	0.00513	0.00449	0.01808	0.05056	0.00009	0.00018	0.01484	0.01502	0.00018	0.00362	0.00381	—	20.9895	20.9895	0.00044	0.00204	0.02263	21.6322

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	28.5156	26.4192	22.9850	218.449	0.52918	0.44835	46.7978	47.2462	0.43303	11.9009	12.3339	2,912.09	55,677.6	58,589.7	293.131	2.39164	157.608	66,788.3
Mit.	28.5156	26.4192	22.9850	218.449	0.52918	0.44835	46.7978	47.2462	0.43303	11.9009	12.3339	2,912.09	55,677.6	58,589.7	293.131	2.39164	157.608	66,788.3
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	26.3098	24.1579	26.4029	186.957	0.48991	0.44441	46.7978	47.2422	0.43010	11.9009	12.3310	2,912.09	51,710.1	54,622.2	293.376	2.58243	4.29132	62,730.5
Mit.	26.3098	24.1579	26.4029	186.957	0.48991	0.44441	46.7978	47.2422	0.43010	11.9009	12.3310	2,912.09	51,710.1	54,622.2	293.376	2.58243	4.29132	62,730.5
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.0777	16.6590	16.7173	125.442	0.32818	0.30693	30.8207	31.1276	0.30059	7.83849	8.13908	2,912.09	35,191.0	38,103.1	292.551	1.65698	45.2357	45,955.9
Mit.	18.0777	16.6590	16.7173	125.442	0.32818	0.30693	30.8207	31.1276	0.30059	7.83849	8.13908	2,912.09	35,191.0	38,103.1	292.551	1.65698	45.2357	45,955.9
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.29918	3.04027	3.05091	22.8932	0.05989	0.05601	5.62477	5.68079	0.05486	1.43052	1.48538	482.129	5,826.28	6,308.40	48.4352	0.27433	7.48929	7,608.53
Mit.	3.29918	3.04027	3.05091	22.8932	0.05989	0.05601	5.62477	5.68079	0.05486	1.43052	1.48538	482.129	5,826.28	6,308.40	48.4352	0.27433	7.48929	7,608.53

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	26.7947	24.7656	22.4015	215.574	0.53656	0.41293	46.8126	47.2256	0.38786	11.9049	12.2928	—	54,738.7	54,738.7	1.95821	2.37952	157.398	55,654.2
Area	1.65428	1.62181	0.01991	2.36583	0.00014	0.00420	—	0.00420	0.00318	—	0.00318	—	9.72872	9.72872	0.00041	0.00008	—	9.76380
Energy	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	1,036.80	1,036.80	0.11477	0.00752	—	1,041.91
Water	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Waste	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Vegetation	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Total	28.5156	26.4192	22.9850	218.449	0.52918	0.44835	46.7978	47.2462	0.43303	11.9009	12.3339	2,912.09	55,677.6	58,589.7	293.131	2.39164	157.608	66,788.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.0100	22.8929	25.8393	186.448	0.49743	0.41319	46.8126	47.2258	0.38811	11.9049	12.2930	—	50,781.0	50,781.0	2.20318	2.57039	4.08119	51,606.1
Area	1.23319	1.23319	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	1,036.80	1,036.80	0.11477	0.00752	—	1,041.91
Water	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Waste	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Vegetation	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Total	26.3098	24.1579	26.4029	186.957	0.48991	0.44441	46.7978	47.2422	0.43010	11.9009	12.3310	2,912.09	51,710.1	54,622.2	293.376	2.58243	4.29132	62,730.5

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.5702	15.2023	16.1440	123.767	0.33562	0.27364	30.8355	31.1091	0.25702	7.84253	8.09955	—	34,257.1	34,257.1	1.37842	1.64490	45.0256	34,826.8
Area	1.44085	1.42484	0.00982	1.16671	0.00007	0.00207	—	0.00207	0.00157	—	0.00157	—	4.79773	4.79773	0.00020	0.00004	—	4.81502
Energy	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	1,036.80	1,036.80	0.11477	0.00752	—	1,041.91
Water	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Waste	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Vegetation	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Total	18.0777	16.6590	16.7173	125.442	0.32818	0.30693	30.8207	31.1276	0.30059	7.83849	8.13908	2,912.09	35,191.0	38,103.1	292.551	1.65698	45.2357	45,955.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.02407	2.77443	2.94628	22.5874	0.06125	0.04994	5.62748	5.67742	0.04691	1.43126	1.47817	—	5,671.65	5,671.65	0.22821	0.27233	7.45450	5,765.97
Area	0.26296	0.26003	0.00179	0.21292	0.00001	0.00038	—	0.00038	0.00029	—	0.00029	—	0.79432	0.79432	0.00003	0.00001	—	0.79718
Energy	0.01216	0.00608	0.11055	0.09286	0.00066	0.00840	—	0.00840	0.00840	—	0.00840	—	171.654	171.654	0.01900	0.00124	—	172.500
Water	—	—	—	—	—	—	—	—	—	—	—	0.30080	0.78267	1.08347	0.03097	0.00075	—	2.08070
Waste	—	—	—	—	—	—	—	—	—	—	—	481.828	0.00000	481.828	48.1570	0.00000	—	1,685.75
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03479	0.03479
Vegetation	—	-0.00027	-0.00770	—	-0.00203	-0.00271	-0.00271	-0.00541	-0.00074	-0.00074	-0.00147	—	-18.6093	-18.6093	—	—	—	-18.6093
Total	3.29918	3.04027	3.05091	22.8932	0.05989	0.05601	5.62477	5.68079	0.05486	1.43052	1.48538	482.129	5,826.28	6,308.40	48.4352	0.27433	7.48929	7,608.53

2.5. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	26.7947	24.7656	22.4015	215.574	0.53656	0.41293	46.8126	47.2256	0.38786	11.9049	12.2928	—	54,738.7	54,738.7	1.95821	2.37952	157.398	55,654.2
Area	1.65428	1.62181	0.01991	2.36583	0.00014	0.00420	—	0.00420	0.00318	—	0.00318	—	9.72872	9.72872	0.00041	0.00008	—	9.76380

Energy	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	1,036.80	1,036.80	0.11477	0.00752	—	1,041.91
Water	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Waste	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Vegetation	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Total	28.5156	26.4192	22.9850	218.449	0.52918	0.44835	46.7978	47.2462	0.43303	11.9009	12.3339	2,912.09	55,677.6	58,589.7	293.131	2.39164	157.608	66,788.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.0100	22.8929	25.8393	186.448	0.49743	0.41319	46.8126	47.2258	0.38811	11.9049	12.2930	—	50,781.0	50,781.0	2.20318	2.57039	4.08119	51,606.1
Area	1.23319	1.23319	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	1,036.80	1,036.80	0.11477	0.00752	—	1,041.91
Water	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Waste	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Vegetation	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Total	26.3098	24.1579	26.4029	186.957	0.48991	0.44441	46.7978	47.2422	0.43010	11.9009	12.3310	2,912.09	51,710.1	54,622.2	293.376	2.58243	4.29132	62,730.5
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16.5702	15.2023	16.1440	123.767	0.33562	0.27364	30.8355	31.1091	0.25702	7.84253	8.09955	—	34,257.1	34,257.1	1.37842	1.64490	45.0256	34,826.8
Area	1.44085	1.42484	0.00982	1.16671	0.00007	0.00207	—	0.00207	0.00157	—	0.00157	—	4.79773	4.79773	0.00020	0.00004	—	4.81502
Energy	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	1,036.80	1,036.80	0.11477	0.00752	—	1,041.91
Water	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Waste	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Vegetation	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Total	18.0777	16.6590	16.7173	125.442	0.32818	0.30693	30.8207	31.1276	0.30059	7.83849	8.13908	2,912.09	35,191.0	38,103.1	292.551	1.65698	45.2357	45,955.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	3.02407	2.77443	2.94628	22.5874	0.06125	0.04994	5.62748	5.67742	0.04691	1.43126	1.47817	—	5,671.65	5,671.65	0.22821	0.27233	7.45450	5,765.97
Area	0.26296	0.26003	0.00179	0.21292	0.00001	0.00038	—	0.00038	0.00029	—	0.00029	—	0.79432	0.79432	0.00003	0.00001	—	0.79718
Energy	0.01216	0.00608	0.11055	0.09286	0.00066	0.00840	—	0.00840	0.00840	—	0.00840	—	171.654	171.654	0.01900	0.00124	—	172.500
Water	—	—	—	—	—	—	—	—	—	—	—	0.30080	0.78267	1.08347	0.03097	0.00075	—	2.08070
Waste	—	—	—	—	—	—	—	—	—	—	—	481.828	0.00000	481.828	48.1570	0.00000	—	1,685.75
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03479	0.03479
Vegetation	—	-0.00027	-0.00770	—	-0.00203	-0.00271	-0.00271	-0.00541	-0.00074	-0.00074	-0.00147	—	-18.6093	-18.6093	—	—	—	-18.6093
Total	3.29918	3.04027	3.05091	22.8932	0.05989	0.05601	5.62477	5.68079	0.05486	1.43052	1.48538	482.129	5,826.28	6,308.40	48.4352	0.27433	7.48929	7,608.53

3. Construction Emissions Details

3.1. Demolition (2027)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.63907	2.21478	19.9005	18.6307	0.03253	0.79594	—	0.79594	0.73226	—	0.73226	—	3,426.90	3,426.90	0.13901	0.02780	—	3,438.66
Demolition	—	—	—	—	—	—	0.00307	0.00307	—	0.00046	0.00046	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14461	0.12136	1.09044	1.02086	0.00178	0.04361	—	0.04361	0.04012	—	0.04012	—	187.775	187.775	0.00762	0.00152	—	188.420
Demolition	—	—	—	—	—	—	0.00017	0.00017	—	0.00003	0.00003	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02639	0.02215	0.19901	0.18631	0.00033	0.00796	—	0.00796	0.00732	—	0.00732	—	31.0883	31.0883	0.00126	0.00025	—	31.1950
Demolition	—	—	—	—	—	—	0.00003	0.00003	—	< 0.000005	< 0.000005	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05284	0.05152	0.04303	0.52867	0.00000	0.00000	0.12601	0.12601	0.00000	0.02954	0.02954	—	120.887	120.887	0.00331	0.00525	0.01085	122.546
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00013	0.00006	0.00423	0.00098	0.00002	0.00007	0.00093	0.00099	0.00007	0.00025	0.00032	—	3.35323	3.35323	0.00005	0.00052	0.00019	3.50982
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00290	0.00282	0.00209	0.02982	0.00000	0.00000	0.00686	0.00686	0.00000	0.00161	0.00161	—	6.78917	6.78917	0.00014	0.00029	0.00992	6.88852
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00001	< 0.000005	0.00023	0.00005	< 0.000005	< 0.000005	0.00005	0.00005	< 0.000005	0.00001	0.00002	—	0.18367	0.18367	< 0.000005	0.00003	0.00017	0.19242
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00053	0.00052	0.00038	0.00544	0.00000	0.00000	0.00125	0.00125	0.00000	0.00029	0.00029	—	1.12402	1.12402	0.00002	0.00005	0.00164	1.14047
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	< 0.000005	< 0.000005	0.00004	0.00001	< 0.000005	< 0.000005	0.00001	0.00001	< 0.000005	< 0.000005	< 0.000005	—	0.03041	0.03041	< 0.000005	< 0.000005	0.00003	0.03186

3.1.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.63907	2.21478	19.9005	18.6307	0.03253	0.79594	—	0.79594	0.73226	—	0.73226	—	3,426.90	3,426.90	0.13901	0.02780	—	3,438.66
Demolition	—	—	—	—	—	—	0.00307	0.00307	—	0.00046	0.00046	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14461	0.12136	1.09044	1.02086	0.00178	0.04361	—	0.04361	0.04012	—	0.04012	—	187.775	187.775	0.00762	0.00152	—	188.420

Demolition	—	—	—	—	—	—	0.00017	0.00017	—	0.00003	0.00003	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02639	0.02215	0.19901	0.18631	0.00033	0.00796	—	0.00796	0.00732	—	0.00732	—	31.0883	31.0883	0.00126	0.00025	—	31.1950
Demolition	—	—	—	—	—	—	0.00003	0.00003	—	< 0.000005	< 0.000005	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05284	0.05152	0.04303	0.52867	0.00000	0.00000	0.12601	0.12601	0.00000	0.02954	0.02954	—	120.887	120.887	0.00331	0.00525	0.01085	122.546
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00013	0.00006	0.00423	0.00098	0.00002	0.00007	0.00093	0.00099	0.00007	0.00025	0.00032	—	3.35323	3.35323	0.00005	0.00052	0.00019	3.50982
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00290	0.00282	0.00209	0.02982	0.00000	0.00000	0.00686	0.00686	0.00000	0.00161	0.00161	—	6.78917	6.78917	0.00014	0.00029	0.00992	6.88852
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00001	< 0.000005	0.00023	0.00005	< 0.000005	< 0.000005	0.00005	0.00005	< 0.000005	0.00001	0.00002	—	0.18367	0.18367	< 0.000005	0.00003	0.00017	0.19242
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00053	0.00052	0.00038	0.00544	0.00000	0.00000	0.00125	0.00125	0.00000	0.00029	0.00029	—	1.12402	1.12402	0.00002	0.00005	0.00164	1.14047
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	< 0.000005	< 0.000005	0.00004	0.00001	< 0.000005	< 0.000005	0.00001	0.00001	< 0.000005	< 0.000005	< 0.000005	—	0.03041	0.03041	< 0.000005	< 0.000005	0.00003	0.03186

3.2. Site Preparation (2027)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63178	3.05170	27.9724	28.2794	0.04891	1.17173	—	1.17173	1.07799	—	1.07799	—	5,297.82	5,297.82	0.21490	0.04298	—	5,316.00
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09950	0.08361	0.76637	0.77478	0.00134	0.03210	—	0.03210	0.02953	—	0.02953	—	145.146	145.146	0.00589	0.00118	—	145.644

Dust From Material Movement	—	—	—	—	—	—	0.21003	0.21003	—	0.10794	0.10794	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01816	0.01526	0.13986	0.14140	0.00024	0.00586	—	0.00586	0.00539	—	0.00539	—	24.0305	24.0305	0.00097	0.00019	—	24.1130
Dust From Material Movement	—	—	—	—	—	—	0.03833	0.03833	—	0.01970	0.01970	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06164	0.06010	0.05020	0.61678	0.00000	0.00000	0.14701	0.14701	0.00000	0.03446	0.03446	—	141.034	141.034	0.00386	0.00613	0.01266	142.970
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00169	0.00165	0.00122	0.01739	0.00000	0.00000	0.00400	0.00400	0.00000	0.00094	0.00094	—	3.96035	3.96035	0.00008	0.00017	0.00579	4.01830
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00031	0.00030	0.00022	0.00317	0.00000	0.00000	0.00073	0.00073	0.00000	0.00017	0.00017	—	0.65568	0.65568	0.00001	0.00003	0.00096	0.66528
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63178	3.05170	27.9724	28.2794	0.04891	1.17173	—	1.17173	1.07799	—	1.07799	—	5,297.82	5,297.82	0.21490	0.04298	—	5,316.00
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09950	0.08361	0.76637	0.77478	0.00134	0.03210	—	0.03210	0.02953	—	0.02953	—	145.146	145.146	0.00589	0.00118	—	145.644
Dust From Material Movement	—	—	—	—	—	—	0.21003	0.21003	—	0.10794	0.10794	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01816	0.01526	0.13986	0.14140	0.00024	0.00586	—	0.00586	0.00539	—	0.00539	—	24.0305	24.0305	0.00097	0.00019	—	24.1130
Dust From Material Movement	—	—	—	—	—	—	0.03833	0.03833	—	0.01970	0.01970	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06164	0.06010	0.05020	0.61678	0.00000	0.00000	0.14701	0.14701	0.00000	0.03446	0.03446	—	141.034	141.034	0.00386	0.00613	0.01266	142.970
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00169	0.00165	0.00122	0.01739	0.00000	0.00000	0.00400	0.00400	0.00000	0.00094	0.00094	—	3.96035	3.96035	0.00008	0.00017	0.00579	4.01830
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00031	0.00030	0.00022	0.00317	0.00000	0.00000	0.00073	0.00073	0.00000	0.00017	0.00017	—	0.65568	0.65568	0.00001	0.00003	0.00096	0.66528

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Grading (2027)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	3.58940	3.58940	—	1.42496	1.42496	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28811	0.24209	2.10247	2.24233	0.00501	0.08573	—	0.08573	0.07887	—	0.07887	—	542.308	542.308	0.02200	0.00440	—	544.169
Dust From Material Movement	—	—	—	—	—	—	0.29502	0.29502	—	0.11712	0.11712	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05258	0.04418	0.38370	0.40922	0.00091	0.01565	—	0.01565	0.01439	—	0.01439	—	89.7852	89.7852	0.00364	0.00073	—	90.0934
Dust From Material Movement	—	—	—	—	—	—	0.05384	0.05384	—	0.02137	0.02137	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07045	0.06869	0.05737	0.70489	0.00000	0.00000	0.16801	0.16801	0.00000	0.03938	0.03938	—	161.182	161.182	0.00441	0.00701	0.01447	163.395
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00579	0.00565	0.00418	0.05963	0.00000	0.00000	0.01373	0.01373	0.00000	0.00322	0.00322	—	13.5783	13.5783	0.00029	0.00058	0.01984	13.7770
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00106	0.00103	0.00076	0.01088	0.00000	0.00000	0.00251	0.00251	0.00000	0.00059	0.00059	—	2.24805	2.24805	0.00005	0.00010	0.00328	2.28094

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	3.58940	3.58940	—	1.42496	1.42496	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28811	0.24209	2.10247	2.24233	0.00501	0.08573	—	0.08573	0.07887	—	0.07887	—	542.308	542.308	0.02200	0.00440	—	544.169
Dust From Material Movement	—	—	—	—	—	—	0.29502	0.29502	—	0.11712	0.11712	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.05258	0.04418	0.38370	0.40922	0.00091	0.01565	—	0.01565	0.01439	—	0.01439	—	89.7852	89.7852	0.00364	0.00073	—	90.0934
Dust From Material Movement	—	—	—	—	—	—	0.05384	0.05384	—	0.02137	0.02137	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07045	0.06869	0.05737	0.70489	0.00000	0.00000	0.16801	0.16801	0.00000	0.03938	0.03938	—	161.182	161.182	0.00441	0.00701	0.01447	163.395
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00579	0.00565	0.00418	0.05963	0.00000	0.00000	0.01373	0.01373	0.00000	0.00322	0.00322	—	13.5783	13.5783	0.00029	0.00058	0.01984	13.7770
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00106	0.00103	0.00076	0.01088	0.00000	0.00000	0.00251	0.00251	0.00000	0.00059	0.00059	—	2.24805	2.24805	0.00005	0.00010	0.00328	2.28094
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Building Construction (2027)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66957	0.56029	5.10896	7.03865	0.01273	0.18311	—	0.18311	0.16846	—	0.16846	—	1,304.09	1,304.09	0.05290	0.01058	—	1,308.56
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12220	0.10225	0.93239	1.28455	0.00232	0.03342	—	0.03342	0.03074	—	0.03074	—	215.906	215.906	0.00876	0.00175	—	216.647

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09251	0.08501	0.05054	1.02256	0.00000	0.00000	0.19193	0.19193	0.00000	0.04499	0.04499	—	203.644	203.644	0.00353	0.00750	0.63887	206.606
Vendor	0.01305	0.00771	0.28658	0.09671	0.00179	0.00358	0.06806	0.07163	0.00358	0.01880	0.02238	—	242.682	242.682	0.00476	0.03735	0.53458	254.465
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08048	0.07846	0.06554	0.80522	0.00000	0.00000	0.19193	0.19193	0.00000	0.04499	0.04499	—	184.124	184.124	0.00504	0.00800	0.01653	186.652
Vendor	0.01266	0.00751	0.30600	0.10024	0.00179	0.00358	0.06806	0.07163	0.00358	0.01880	0.02238	—	242.902	242.902	0.00476	0.03735	0.01384	254.164
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04378	0.04269	0.03158	0.45089	0.00000	0.00000	0.10381	0.10381	0.00000	0.02432	0.02432	—	102.668	102.668	0.00219	0.00435	0.15002	104.171
Vendor	0.00699	0.00408	0.16303	0.05347	0.00097	0.00195	0.03684	0.03879	0.00195	0.01018	0.01213	—	132.077	132.077	0.00259	0.02032	0.12524	138.321
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00799	0.00779	0.00576	0.08229	0.00000	0.00000	0.01895	0.01895	0.00000	0.00444	0.00444	—	16.9979	16.9979	0.00036	0.00072	0.02484	17.2466
Vendor	0.00128	0.00075	0.02975	0.00976	0.00018	0.00036	0.00672	0.00708	0.00036	0.00186	0.00221	—	21.8668	21.8668	0.00043	0.00336	0.02073	22.9007
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66957	0.56029	5.10896	7.03865	0.01273	0.18311	—	0.18311	0.16846	—	0.16846	—	1,304.09	1,304.09	0.05290	0.01058	—	1,308.56
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12220	0.10225	0.93239	1.28455	0.00232	0.03342	—	0.03342	0.03074	—	0.03074	—	215.906	215.906	0.00876	0.00175	—	216.647
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09251	0.08501	0.05054	1.02256	0.00000	0.00000	0.19193	0.19193	0.00000	0.04499	0.04499	—	203.644	203.644	0.00353	0.00750	0.63887	206.606
Vendor	0.01305	0.00771	0.28658	0.09671	0.00179	0.00358	0.06806	0.07163	0.00358	0.01880	0.02238	—	242.682	242.682	0.00476	0.03735	0.53458	254.465
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08048	0.07846	0.06554	0.80522	0.00000	0.00000	0.19193	0.19193	0.00000	0.04499	0.04499	—	184.124	184.124	0.00504	0.00800	0.01653	186.652
Vendor	0.01266	0.00751	0.30600	0.10024	0.00179	0.00358	0.06806	0.07163	0.00358	0.01880	0.02238	—	242.902	242.902	0.00476	0.03735	0.01384	254.164
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04378	0.04269	0.03158	0.45089	0.00000	0.00000	0.10381	0.10381	0.00000	0.02432	0.02432	—	102.668	102.668	0.00219	0.00435	0.15002	104.171
Vendor	0.00699	0.00408	0.16303	0.05347	0.00097	0.00195	0.03684	0.03879	0.00195	0.01018	0.01213	—	132.077	132.077	0.00259	0.02032	0.12524	138.321
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00799	0.00779	0.00576	0.08229	0.00000	0.00000	0.01895	0.01895	0.00000	0.00444	0.00444	—	16.9979	16.9979	0.00036	0.00072	0.02484	17.2466
Vendor	0.00128	0.00075	0.02975	0.00976	0.00018	0.00036	0.00672	0.00708	0.00036	0.00186	0.00221	—	21.8668	21.8668	0.00043	0.00336	0.02073	22.9007
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Building Construction (2028)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33156	0.27745	2.49759	3.61984	0.00655	0.08402	—	0.08402	0.07730	—	0.07730	—	670.913	670.913	0.02722	0.00544	—	673.215
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06051	0.05063	0.45581	0.66062	0.00120	0.01533	—	0.01533	0.01411	—	0.01411	—	111.077	111.077	0.00451	0.00090	—	111.458
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08249	0.08098	0.04953	0.95209	0.00000	0.00000	0.19193	0.19193	0.00000	0.04499	0.04499	—	199.691	199.691	0.00353	0.00750	0.57122	202.585
Vendor	0.01107	0.00771	0.27626	0.09254	0.00179	0.00358	0.06806	0.07163	0.00358	0.01880	0.02238	—	236.813	236.813	0.00476	0.03536	0.46552	247.935
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07645	0.06845	0.05854	0.75267	0.00000	0.00000	0.19193	0.19193	0.00000	0.04499	0.04499	—	180.591	180.591	0.00453	0.00800	0.01482	183.104
Vendor	0.01087	0.00731	0.29389	0.09588	0.00179	0.00358	0.06806	0.07163	0.00358	0.01880	0.02238	—	237.036	237.036	0.00476	0.03556	0.01205	247.763
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02153	0.01930	0.01596	0.21472	0.00000	0.00000	0.05340	0.05340	0.00000	0.01251	0.01251	—	51.7940	51.7940	0.00113	0.00210	0.06902	52.5167
Vendor	0.00299	0.00205	0.08042	0.02634	0.00050	0.00100	0.01895	0.01995	0.00100	0.00524	0.00624	—	66.2968	66.2968	0.00133	0.00990	0.05612	69.3351
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00393	0.00352	0.00291	0.03919	0.00000	0.00000	0.00975	0.00975	0.00000	0.00228	0.00228	—	8.57509	8.57509	0.00019	0.00035	0.01143	8.69473
Vendor	0.00055	0.00037	0.01468	0.00481	0.00009	0.00018	0.00346	0.00364	0.00018	0.00096	0.00114	—	10.9762	10.9762	0.00022	0.00164	0.00929	11.4792
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33156	0.27745	2.49759	3.61984	0.00655	0.08402	—	0.08402	0.07730	—	0.07730	—	670.913	670.913	0.02722	0.00544	—	673.215
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06051	0.05063	0.45581	0.66062	0.00120	0.01533	—	0.01533	0.01411	—	0.01411	—	111.077	111.077	0.00451	0.00090	—	111.458
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08249	0.08098	0.04953	0.95209	0.00000	0.00000	0.19193	0.19193	0.00000	0.04499	0.04499	—	199.691	199.691	0.00353	0.00750	0.57122	202.585
Vendor	0.01107	0.00771	0.27626	0.09254	0.00179	0.00358	0.06806	0.07163	0.00358	0.01880	0.02238	—	236.813	236.813	0.00476	0.03536	0.46552	247.935
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07645	0.06845	0.05854	0.75267	0.00000	0.00000	0.19193	0.19193	0.00000	0.04499	0.04499	—	180.591	180.591	0.00453	0.00800	0.01482	183.104
Vendor	0.01087	0.00731	0.29389	0.09588	0.00179	0.00358	0.06806	0.07163	0.00358	0.01880	0.02238	—	237.036	237.036	0.00476	0.03556	0.01205	247.763
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02153	0.01930	0.01596	0.21472	0.00000	0.00000	0.05340	0.05340	0.00000	0.01251	0.01251	—	51.7940	51.7940	0.00113	0.00210	0.06902	52.5167
Vendor	0.00299	0.00205	0.08042	0.02634	0.00050	0.00100	0.01895	0.01995	0.00100	0.00524	0.00624	—	66.2968	66.2968	0.00133	0.00990	0.05612	69.3351
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00393	0.00352	0.00291	0.03919	0.00000	0.00000	0.00975	0.00975	0.00000	0.00228	0.00228	—	8.57509	8.57509	0.00019	0.00035	0.01143	8.69473
Vendor	0.00055	0.00037	0.01468	0.00481	0.00009	0.00018	0.00346	0.00364	0.00018	0.00096	0.00114	—	10.9762	10.9762	0.00022	0.00164	0.00929	11.4792
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Paving (2028)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81550	0.68524	6.62754	9.90989	0.01395	0.25554	—	0.25554	0.23510	—	0.23510	—	1,511.03	1,511.03	0.06129	0.01226	—	1,516.22

Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04468	0.03755	0.36315	0.54301	0.00076	0.01400	—	0.01400	0.01288	—	0.01288	—	82.7962	82.7962	0.00336	0.00067	—	83.0803
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00815	0.00685	0.06628	0.09910	0.00014	0.00256	—	0.00256	0.00235	—	0.00235	—	13.7079	13.7079	0.00056	0.00011	—	13.7549
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05416	0.05317	0.03252	0.62510	0.00000	0.00000	0.12601	0.12601	0.00000	0.02954	0.02954	—	131.107	131.107	0.00231	0.00492	0.37503	133.007
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00277	0.00248	0.00205	0.02760	0.00000	0.00000	0.00686	0.00686	0.00000	0.00161	0.00161	—	6.65838	6.65838	0.00014	0.00027	0.00887	6.75128
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00051	0.00045	0.00037	0.00504	0.00000	0.00000	0.00125	0.00125	0.00000	0.00029	0.00029	—	1.10237	1.10237	0.00002	0.00004	0.00147	1.11775
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81550	0.68524	6.62754	9.90989	0.01395	0.25554	—	0.25554	0.23510	—	0.23510	—	1,511.03	1,511.03	0.06129	0.01226	—	1,516.22
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.04468	0.03755	0.36315	0.54301	0.00076	0.01400	—	0.01400	0.01288	—	0.01288	—	82.7962	82.7962	0.00336	0.00067	—	83.0803
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00815	0.00685	0.06628	0.09910	0.00014	0.00256	—	0.00256	0.00235	—	0.00235	—	13.7079	13.7079	0.00056	0.00011	—	13.7549
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05416	0.05317	0.03252	0.62510	0.00000	0.00000	0.12601	0.12601	0.00000	0.02954	0.02954	—	131.107	131.107	0.00231	0.00492	0.37503	133.007
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00277	0.00248	0.00205	0.02760	0.00000	0.00000	0.00686	0.00686	0.00000	0.00161	0.00161	—	6.65838	6.65838	0.00014	0.00027	0.00887	6.75128
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00051	0.00045	0.00037	0.00504	0.00000	0.00000	0.00125	0.00125	0.00000	0.00029	0.00029	—	1.10237	1.10237	0.00002	0.00004	0.00147	1.11775
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Architectural Coating (2028)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12985	0.10731	0.80814	1.11833	0.00173	0.01536	—	0.01536	0.01413	—	0.01413	—	133.517	133.517	0.00542	0.00108	—	133.975
Architectural Coatings	12.6101	12.6101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00711	0.00588	0.04428	0.06128	0.00009	0.00084	—	0.00084	0.00077	—	0.00077	—	7.31600	7.31600	0.00030	0.00006	—	7.34111
Architectural Coatings	0.69097	0.69097	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00130	0.00107	0.00808	0.01118	0.00002	0.00015	—	0.00015	0.00014	—	0.00014	—	1.21125	1.21125	0.00005	0.00001	—	1.21540
Architectural Coatings	0.12610	0.12610	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01650	0.01620	0.00991	0.19042	0.00000	0.00000	0.03839	0.03839	0.00000	0.00900	0.00900	—	39.9381	39.9381	0.00071	0.00150	0.11424	40.5170
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00084	0.00076	0.00063	0.00841	0.00000	0.00000	0.00209	0.00209	0.00000	0.00049	0.00049	—	2.02830	2.02830	0.00004	0.00008	0.00270	2.05660
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00015	0.00014	0.00011	0.00153	0.00000	0.00000	0.00038	0.00038	0.00000	0.00009	0.00009	—	0.33581	0.33581	0.00001	0.00001	0.00045	0.34049

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12985	0.10731	0.80814	1.11833	0.00173	0.01536	—	0.01536	0.01413	—	0.01413	—	133.517	133.517	0.00542	0.00108	—	133.975
Architectural Coatings	12.6101	12.6101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00711	0.00588	0.04428	0.06128	0.00009	0.00084	—	0.00084	0.00077	—	0.00077	—	7.31600	7.31600	0.00030	0.00006	—	7.34111
Architectural Coatings	0.69097	0.69097	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.00130	0.00107	0.00808	0.01118	0.00002	0.00015	—	0.00015	0.00014	—	0.00014	—	1.21125	1.21125	0.00005	0.00001	—	1.21540
Architectural Coatings	0.12610	0.12610	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01650	0.01620	0.00991	0.19042	0.00000	0.00000	0.03839	0.03839	0.00000	0.00900	0.00900	—	39.9381	39.9381	0.00071	0.00150	0.11424	40.5170
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00084	0.00076	0.00063	0.00841	0.00000	0.00000	0.00209	0.00209	0.00000	0.00049	0.00049	—	2.02830	2.02830	0.00004	0.00008	0.00270	2.05660
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00015	0.00014	0.00011	0.00153	0.00000	0.00000	0.00038	0.00038	0.00000	0.00009	0.00009	—	0.33581	0.33581	0.00001	0.00001	0.00045	0.34049
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	26.7947	24.7656	22.4015	215.574	0.53656	0.41293	46.8126	47.2256	0.38786	11.9049	12.2928	—	54,738.7	54,738.7	1.95821	2.37952	157.398	55,654.2
Total	26.7947	24.7656	22.4015	215.574	0.53656	0.41293	46.8126	47.2256	0.38786	11.9049	12.2928	—	54,738.7	54,738.7	1.95821	2.37952	157.398	55,654.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	25.0100	22.8929	25.8393	186.448	0.49743	0.41319	46.8126	47.2258	0.38811	11.9049	12.2930	—	50,781.0	50,781.0	2.20318	2.57039	4.08119	51,606.1
Total	25.0100	22.8929	25.8393	186.448	0.49743	0.41319	46.8126	47.2258	0.38811	11.9049	12.2930	—	50,781.0	50,781.0	2.20318	2.57039	4.08119	51,606.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	3.02407	2.77443	2.94628	22.5874	0.06125	0.04994	5.62748	5.67742	0.04691	1.43126	1.47817	—	5,671.65	5,671.65	0.22821	0.27233	7.45450	5,765.97
Total	3.02407	2.77443	2.94628	22.5874	0.06125	0.04994	5.62748	5.67742	0.04691	1.43126	1.47817	—	5,671.65	5,671.65	0.22821	0.27233	7.45450	5,765.97

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	26.7947	24.7656	22.4015	215.574	0.53656	0.41293	46.8126	47.2256	0.38786	11.9049	12.2928	—	54,738.7	54,738.7	1.95821	2.37952	157.398	55,654.2
Total	26.7947	24.7656	22.4015	215.574	0.53656	0.41293	46.8126	47.2256	0.38786	11.9049	12.2928	—	54,738.7	54,738.7	1.95821	2.37952	157.398	55,654.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	25.0100	22.8929	25.8393	186.448	0.49743	0.41319	46.8126	47.2258	0.38811	11.9049	12.2930	—	50,781.0	50,781.0	2.20318	2.57039	4.08119	51,606.1
Total	25.0100	22.8929	25.8393	186.448	0.49743	0.41319	46.8126	47.2258	0.38811	11.9049	12.2930	—	50,781.0	50,781.0	2.20318	2.57039	4.08119	51,606.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	3.02407	2.77443	2.94628	22.5874	0.06125	0.04994	5.62748	5.67742	0.04691	1.43126	1.47817	—	5,671.65	5,671.65	0.22821	0.27233	7.45450	5,765.97
Total	3.02407	2.77443	2.94628	22.5874	0.06125	0.04994	5.62748	5.67742	0.04691	1.43126	1.47817	—	5,671.65	5,671.65	0.22821	0.27233	7.45450	5,765.97

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	314.033	314.033	0.05080	0.00616	—	317.138
Total	—	—	—	—	—	—	—	—	—	—	—	—	314.033	314.033	0.05080	0.00616	—	317.138
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	314.033	314.033	0.05080	0.00616	—	317.138
Total	—	—	—	—	—	—	—	—	—	—	—	—	314.033	314.033	0.05080	0.00616	—	317.138
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	51.9917	51.9917	0.00841	0.00102	—	52.5058
Total	—	—	—	—	—	—	—	—	—	—	—	—	51.9917	51.9917	0.00841	0.00102	—	52.5058

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	314.033	314.033	0.05080	0.00616	—	317.138
Total	—	—	—	—	—	—	—	—	—	—	—	—	314.033	314.033	0.05080	0.00616	—	317.138
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	314.033	314.033	0.05080	0.00616	—	317.138
Total	—	—	—	—	—	—	—	—	—	—	—	—	314.033	314.033	0.05080	0.00616	—	317.138
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	51.9917	51.9917	0.00841	0.00102	—	52.5058
Total	—	—	—	—	—	—	—	—	—	—	—	—	51.9917	51.9917	0.00841	0.00102	—	52.5058

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	722.766	722.766	0.06396	0.00136	—	724.771
Total	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	722.766	722.766	0.06396	0.00136	—	724.771
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	722.766	722.766	0.06396	0.00136	—	724.771
Total	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	722.766	722.766	0.06396	0.00136	—	724.771
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.01216	0.00608	0.11055	0.09286	0.00066	0.00840	—	0.00840	0.00840	—	0.00840	—	119.662	119.662	0.01059	0.00023	—	119.994
Total	0.01216	0.00608	0.11055	0.09286	0.00066	0.00840	—	0.00840	0.00840	—	0.00840	—	119.662	119.662	0.01059	0.00023	—	119.994

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	722.766	722.766	0.06396	0.00136	—	724.771
Total	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	722.766	722.766	0.06396	0.00136	—	724.771
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	722.766	722.766	0.06396	0.00136	—	724.771
Total	0.06663	0.03332	0.60575	0.50883	0.00363	0.04604	—	0.04604	0.04604	—	0.04604	—	722.766	722.766	0.06396	0.00136	—	724.771
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	0.01216	0.00608	0.11055	0.09286	0.00066	0.00840	—	0.00840	0.00840	—	0.00840	—	119.662	119.662	0.01059	0.00023	—	119.994

Total	0.01216	0.00608	0.11055	0.09286	0.00066	0.00840	—	0.00840	0.00840	—	0.00840	—	119.662	119.662	0.01059	0.00023	—	119.994

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.16410	1.16410	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06910	0.06910	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.42108	0.38861	0.01991	2.36583	0.00014	0.00420	—	0.00420	0.00318	—	0.00318	—	9.72872	9.72872	0.00041	0.00008	—	9.76380
Total	1.65428	1.62181	0.01991	2.36583	0.00014	0.00420	—	0.00420	0.00318	—	0.00318	—	9.72872	9.72872	0.00041	0.00008	—	9.76380
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.16410	1.16410	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06910	0.06910	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.23319	1.23319	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.21245	0.21245	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01261	0.01261	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03790	0.03498	0.00179	0.21292	0.00001	0.00038	—	0.00038	0.00029	—	0.00029	—	0.79432	0.79432	0.00003	0.00001	—	0.79718
Total	0.26296	0.26003	0.00179	0.21292	0.00001	0.00038	—	0.00038	0.00029	—	0.00029	—	0.79432	0.79432	0.00003	0.00001	—	0.79718

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.16410	1.16410	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06910	0.06910	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.42108	0.38861	0.01991	2.36583	0.00014	0.00420	—	0.00420	0.00318	—	0.00318	—	9.72872	9.72872	0.00041	0.00008	—	9.76380
Total	1.65428	1.62181	0.01991	2.36583	0.00014	0.00420	—	0.00420	0.00318	—	0.00318	—	9.72872	9.72872	0.00041	0.00008	—	9.76380

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.16410	1.16410	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06910	0.06910	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.23319	1.23319	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.21245	0.21245	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01261	0.01261	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03790	0.03498	0.00179	0.21292	0.00001	0.00038	—	0.00038	0.00029	—	0.00029	—	0.79432	0.79432	0.00003	0.00001	—	0.79718
Total	0.26296	0.26003	0.00179	0.21292	0.00001	0.00038	—	0.00038	0.00029	—	0.00029	—	0.79432	0.79432	0.00003	0.00001	—	0.79718

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Total	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Total	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	0.30080	0.78267	1.08347	0.03097	0.00075	—	2.08070
Total	—	—	—	—	—	—	—	—	—	—	—	0.30080	0.78267	1.08347	0.03097	0.00075	—	2.08070

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Total	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Total	—	—	—	—	—	—	—	—	—	—	—	1.81688	4.72735	6.54423	0.18706	0.00452	—	12.5675
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	0.30080	0.78267	1.08347	0.03097	0.00075	—	2.08070

Total	—	—	—	—	—	—	—	—	—	—	—	0.30080	0.78267	1.08347	0.03097	0.00075	—	2.08070

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Total	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Total	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	481.828	0.00000	481.828	48.1570	0.00000	—	1,685.75
Total	—	—	—	—	—	—	—	—	—	—	—	481.828	0.00000	481.828	48.1570	0.00000	—	1,685.75

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Total	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Total	—	—	—	—	—	—	—	—	—	—	—	2,910.27	0.00000	2,910.27	290.871	0.00000	—	10,182.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	481.828	0.00000	481.828	48.1570	0.00000	—	1,685.75
Total	—	—	—	—	—	—	—	—	—	—	—	481.828	0.00000	481.828	48.1570	0.00000	—	1,685.75

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03479	0.03479
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03479	0.03479

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.21013	0.21013
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03479	0.03479
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03479	0.03479

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	-0.00033	-0.00100	—	-0.00022	-0.00063	-0.00063	-0.00126	-0.00017	-0.00017	-0.00034	—	-6.66718	-6.66718	—	—	—	-6.66718
Bigberry manzanita (Arctostaphylos)	—	-0.00014	-0.00044	—	-0.00010	-0.00020	-0.00020	-0.00039	-0.00005	-0.00005	-0.00011	—	-2.94405	-2.94405	—	—	—	-2.94405
River birch (Betula nigra)	—	-0.00005	-0.00015	—	-0.00003	-0.00008	-0.00008	-0.00016	-0.00002	-0.00002	-0.00004	—	-1.02109	-1.02109	—	—	—	-1.02109
Deodar cedar (Cedrus deodara)	—	-0.00014	-0.00044	—	-0.00010	-0.00020	-0.00020	-0.00039	-0.00005	-0.00005	-0.00011	—	-2.93664	-2.93664	—	—	—	-2.93664
Eastern redbud (Cercis canadensis)	—	-0.00021	-0.00063	—	-0.00014	-0.00033	-0.00033	-0.00066	-0.00009	-0.00009	-0.00018	—	-4.25027	-4.25027	—	—	—	-4.25027
Canary island pine (Pinus canariensis)	—	-0.00023	-0.00072	—	-0.00016	-0.00032	-0.00032	-0.00064	-0.00009	-0.00009	-0.00017	—	-4.78801	-4.78801	—	—	—	-4.78801
Pin oak (Quercus palustris)	—	-0.00014	-0.00043	—	-0.00010	-0.00022	-0.00022	-0.00044	-0.00006	-0.00006	-0.00012	—	-2.85562	-2.85562	—	—	—	-2.85562
Northern white cedar (Thuja occidentalis)	—	-0.00002	-0.00005	—	-0.00001	-0.00003	-0.00003	-0.00005	-0.00001	-0.00001	-0.00001	—	-0.36177	-0.36177	—	—	—	-0.36177

Western red cedar (Thuja plicata)	—	-0.00023	-0.00071	—	-0.00016	-0.00034	-0.00034	-0.00067	-0.00009	-0.00009	-0.00018	—	-4.76371	-4.76371	—	—	—	-4.7637
Subtotal	—	-0.00150	-0.00457	—	-0.00104	-0.00234	-0.00234	-0.00468	-0.00064	-0.00064	-0.00127	—	-30.5883	-30.5883	—	—	—	-30.5883
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	—	—	—	—	—	—	—	—	—	—	-33.7100	-33.7100	—	—	—	-33.7100
Bigberry manzanita (Arctostaphylos)	—	—	—	—	—	—	—	—	—	—	—	—	-3.88420	-3.88420	—	—	—	-3.88420
River birch (Betula nigra)	—	—	—	—	—	—	—	—	—	—	—	—	-5.57859	-5.57859	—	—	—	-5.57859
Deodar cedar (Cedrus deodara)	—	—	—	—	—	—	—	—	—	—	—	—	-12.6136	-12.6136	—	—	—	-12.6136
Eastern redbud (Cercis canadensis)	—	—	—	—	—	—	—	—	—	—	—	—	-6.52804	-6.52804	—	—	—	-6.52804
Canary island pine (Pinus canariensis)	—	—	—	—	—	—	—	—	—	—	—	—	-4.41131	-4.41131	—	—	—	-4.41131
Pin oak (Quercus palustris)	—	—	—	—	—	—	—	—	—	—	—	—	-11.3925	-11.3925	—	—	—	-11.3925

Northern white cedar (Thuja occidentalis)	—	—	—	—	—	—	—	—	—	—	—	—	-0.86053	-0.86053	—	—	—	-0.86053
Western red cedar (Thuja plicata)	—	—	—	—	—	—	—	—	—	—	—	—	-2.83435	-2.83435	—	—	—	-2.83435
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-81.8131	-81.8131	—	—	—	-81.8131
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	-0.00790	—	-0.00210	-0.00232	-0.00232	-0.00464	-0.00063	-0.00063	-0.00127	—	—	—	—	—	—	—
Bigberry manzanita (Arctostaphylos)	—	—	-0.00246	—	-0.00066	-0.00092	-0.00092	-0.00184	-0.00025	-0.00025	-0.00050	—	—	—	—	—	—	—
River birch (Betula nigra)	—	—	-0.00181	—	-0.00051	-0.00036	-0.00036	-0.00072	-0.00010	-0.00010	-0.00020	—	—	—	—	—	—	—
Deodar cedar (Cedrus deodara)	—	—	-0.00437	—	-0.00115	-0.00190	-0.00190	-0.00379	-0.00052	-0.00052	-0.00103	—	—	—	—	—	—	—
Eastern redbud (Cercis canadensis)	—	—	-0.00486	—	-0.00138	-0.00090	-0.00090	-0.00179	-0.00024	-0.00024	-0.00049	—	—	—	—	—	—	—
Canary island pine (Pinus canariensis)	—	—	-0.00451	—	-0.00119	-0.00193	-0.00193	-0.00385	-0.00052	-0.00052	-0.00105	—	—	—	—	—	—	—

Pin oak (Quercus palustris)	—	—	-0.00585	—	-0.00160	-0.00140	-0.00140	-0.00280	-0.00038	-0.00038	-0.00076	—	—	—	—	—	—	—
Northern white cedar (Thuja occidentalis)	—	—	-0.00042	—	-0.00011	-0.00019	-0.00019	-0.00039	-0.00005	-0.00005	-0.00011	—	—	—	—	—	—	—
Western red cedar (Thuja plicata)	—	—	-0.00546	—	-0.00142	-0.00257	-0.00257	-0.00514	-0.00070	-0.00070	-0.00140	—	—	—	—	—	—	—
Subtotal	—	—	-0.03764	—	-0.01012	-0.01249	-0.01249	-0.02497	-0.00340	-0.00340	-0.00680	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	-0.00033	-0.00100	—	-0.00022	-0.00063	-0.00063	-0.00126	-0.00017	-0.00017	-0.00034	—	-6.66718	-6.66718	—	—	—	-6.66718
Bigberry manzanita (Arctostaphylos)	—	-0.00014	-0.00044	—	-0.00010	-0.00020	-0.00020	-0.00039	-0.00005	-0.00005	-0.00011	—	-2.94405	-2.94405	—	—	—	-2.94405
River birch (Betula nigra)	—	-0.00005	-0.00015	—	-0.00003	-0.00008	-0.00008	-0.00016	-0.00002	-0.00002	-0.00004	—	-1.02109	-1.02109	—	—	—	-1.02109
Deodar cedar (Cedrus deodara)	—	-0.00014	-0.00044	—	-0.00010	-0.00020	-0.00020	-0.00039	-0.00005	-0.00005	-0.00011	—	-2.93664	-2.93664	—	—	—	-2.93664

Eastern redbud (Cercis canadensis)	—	-0.00021	-0.00063	—	-0.00014	-0.00033	-0.00033	-0.00066	-0.00009	-0.00009	-0.00018	—	-4.25027	-4.25027	—	—	—	-4.25027
Canary island pine (Pinus canariensis)	—	-0.00023	-0.00072	—	-0.00016	-0.00032	-0.00032	-0.00064	-0.00009	-0.00009	-0.00017	—	-4.78801	-4.78801	—	—	—	-4.78801
Pin oak (Quercus palustris)	—	-0.00014	-0.00043	—	-0.00010	-0.00022	-0.00022	-0.00044	-0.00006	-0.00006	-0.00012	—	-2.85562	-2.85562	—	—	—	-2.85562
Northern white cedar (Thuja occidentalis)	—	-0.00002	-0.00005	—	-0.00001	-0.00003	-0.00003	-0.00005	-0.00001	-0.00001	-0.00001	—	-0.36177	-0.36177	—	—	—	-0.36177
Western red cedar (Thuja plicata)	—	-0.00023	-0.00071	—	-0.00016	-0.00034	-0.00034	-0.00067	-0.00009	-0.00009	-0.00018	—	-4.76371	-4.76371	—	—	—	-4.76371
Subtotal	—	-0.00150	-0.00457	—	-0.00104	-0.00234	-0.00234	-0.00468	-0.00064	-0.00064	-0.00127	—	-30.5883	-30.5883	—	—	—	-30.5883
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	—	—	—	—	—	—	—	—	—	—	-33.7100	-33.7100	—	—	—	-33.7100
Bigberry manzanita (Arctostaphylos)	—	—	—	—	—	—	—	—	—	—	—	—	-3.88420	-3.88420	—	—	—	-3.88420
River birch (Betula nigra)	—	—	—	—	—	—	—	—	—	—	—	—	-5.57859	-5.57859	—	—	—	-5.57859

Deodar cedar (Cedrus deodara)	—	—	—	—	—	—	—	—	—	—	—	—	-12.6136	-12.6136	—	—	—	-12.6136
Eastern redbud (Cercis canadensis)	—	—	—	—	—	—	—	—	—	—	—	—	-6.52804	-6.52804	—	—	—	-6.52804
Canary island pine (Pinus canariensis)	—	—	—	—	—	—	—	—	—	—	—	—	-4.41131	-4.41131	—	—	—	-4.41131
Pin oak (Quercus palustris)	—	—	—	—	—	—	—	—	—	—	—	—	-11.3925	-11.3925	—	—	—	-11.3925
Northern white cedar (Thuja occidentalis)	—	—	—	—	—	—	—	—	—	—	—	—	-0.86053	-0.86053	—	—	—	-0.86053
Western red cedar (Thuja plicata)	—	—	—	—	—	—	—	—	—	—	—	—	-2.83435	-2.83435	—	—	—	-2.83435
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-81.8131	-81.8131	—	—	—	-81.8131
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	-0.00790	—	-0.00210	-0.00232	-0.00232	-0.00464	-0.00063	-0.00063	-0.00127	—	—	—	—	—	—	—
Bigberry manzanita (Arctostaphylos)	—	—	-0.00246	—	-0.00066	-0.00092	-0.00092	-0.00184	-0.00025	-0.00025	-0.00050	—	—	—	—	—	—	—

River birch (Betula nigra)	—	—	-0.00181	—	-0.00051	-0.00036	-0.00036	-0.00072	-0.00010	-0.00010	-0.00020	—	—	—	—	—	—	—
Deodar cedar (Cedrus deodara)	—	—	-0.00437	—	-0.00115	-0.00190	-0.00190	-0.00379	-0.00052	-0.00052	-0.00103	—	—	—	—	—	—	—
Eastern redbud (Cercis canadensis)	—	—	-0.00486	—	-0.00138	-0.00090	-0.00090	-0.00179	-0.00024	-0.00024	-0.00049	—	—	—	—	—	—	—
Canary island pine (Pinus canariensis)	—	—	-0.00451	—	-0.00119	-0.00193	-0.00193	-0.00385	-0.00052	-0.00052	-0.00105	—	—	—	—	—	—	—
Pin oak (Quercus palustris)	—	—	-0.00585	—	-0.00160	-0.00140	-0.00140	-0.00280	-0.00038	-0.00038	-0.00076	—	—	—	—	—	—	—
Northern white cedar (Thuja occidentalis)	—	—	-0.00042	—	-0.00011	-0.00019	-0.00019	-0.00039	-0.00005	-0.00005	-0.00011	—	—	—	—	—	—	—
Western red cedar (Thuja plicata)	—	—	-0.00546	—	-0.00142	-0.00257	-0.00257	-0.00514	-0.00070	-0.00070	-0.00140	—	—	—	—	—	—	—
Subtotal	—	—	-0.03764	—	-0.01012	-0.01249	-0.01249	-0.02497	-0.00340	-0.00340	-0.00680	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Red Maple (Acre Rubrum)	—	-0.00006	-0.00018	—	-0.00004	-0.00012	-0.00012	-0.00023	-0.00003	-0.00003	-0.00006	—	-1.10383	-1.10383	—	—	—	-1.10383
Bigberry manzanita (Arctostaphylos)	—	-0.00003	-0.00008	—	-0.00002	-0.00004	-0.00004	-0.00007	-0.00001	-0.00001	-0.00002	—	-0.48742	-0.48742	—	—	—	-0.48742
River birch (Betula nigra)	—	-0.00001	-0.00003	—	-0.00001	-0.00001	-0.00001	-0.00003	> -0.000005	> -0.000005	-0.00001	—	-0.16905	-0.16905	—	—	—	-0.16905
Deodar cedar (Cedrus deodara)	—	-0.00003	-0.00008	—	-0.00002	-0.00004	-0.00004	-0.00007	-0.00001	-0.00001	-0.00002	—	-0.48619	-0.48619	—	—	—	-0.48619
Eastern redbud (Cercis canadensis)	—	-0.00004	-0.00012	—	-0.00003	-0.00006	-0.00006	-0.00012	-0.00002	-0.00002	-0.00003	—	-0.70368	-0.70368	—	—	—	-0.70368
Canary island pine (Pinus canariensis)	—	-0.00004	-0.00013	—	-0.00003	-0.00006	-0.00006	-0.00012	-0.00002	-0.00002	-0.00003	—	-0.79271	-0.79271	—	—	—	-0.79271
Pin oak (Quercus palustris)	—	-0.00003	-0.00008	—	-0.00002	-0.00004	-0.00004	-0.00008	-0.00001	-0.00001	-0.00002	—	-0.47278	-0.47278	—	—	—	-0.47278
Northern white cedar (Thuja occidentalis)	—	> -0.000005	-0.00001	—	> -0.000005	> -0.000005	> -0.000005	-0.00001	> -0.000005	> -0.000005	> -0.000005	—	-0.05989	-0.05989	—	—	—	-0.05989
Western red cedar (Thuja plicata)	—	-0.00004	-0.00013	—	-0.00003	-0.00006	-0.00006	-0.00012	-0.00002	-0.00002	-0.00003	—	-0.78869	-0.78869	—	—	—	-0.78869
Subtotal	—	-0.00027	-0.00083	—	-0.00019	-0.00043	-0.00043	-0.00085	-0.00012	-0.00012	-0.00023	—	-5.06425	-5.06425	—	—	—	-5.06425

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	—	—	—	—	—	—	—	—	—	—	-5.58107	-5.58107	—	—	—	-5.58107
Bigberry manzanita (Arctostaphylos)	—	—	—	—	—	—	—	—	—	—	—	—	-0.64307	-0.64307	—	—	—	-0.64307
River birch (Betula nigra)	—	—	—	—	—	—	—	—	—	—	—	—	-0.92360	-0.92360	—	—	—	-0.92360
Deodar cedar (Cedrus deodara)	—	—	—	—	—	—	—	—	—	—	—	—	-2.08833	-2.08833	—	—	—	-2.08833
Eastern redbud (Cercis canadensis)	—	—	—	—	—	—	—	—	—	—	—	—	-1.08079	-1.08079	—	—	—	-1.08079
Canary island pine (Pinus canariensis)	—	—	—	—	—	—	—	—	—	—	—	—	-0.73034	-0.73034	—	—	—	-0.73034
Pin oak (Quercus palustris)	—	—	—	—	—	—	—	—	—	—	—	—	-1.88616	-1.88616	—	—	—	-1.88616
Northern white cedar (Thuja occidentalis)	—	—	—	—	—	—	—	—	—	—	—	—	-0.14247	-0.14247	—	—	—	-0.14247
Western red cedar (Thuja plicata)	—	—	—	—	—	—	—	—	—	—	—	—	-0.46926	-0.46926	—	—	—	-0.46926

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-13.5451	-13.5451	—	—	—	-13.545
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	-0.00144	—	-0.00038	-0.00042	-0.00042	-0.00085	-0.00012	-0.00012	-0.00023	—	—	—	—	—	—	—
Bigberry manzanita (Arctostaphylos)	—	—	-0.00045	—	-0.00012	-0.00017	-0.00017	-0.00034	-0.00005	-0.00005	-0.00009	—	—	—	—	—	—	—
River birch (Betula nigra)	—	—	-0.00033	—	-0.00009	-0.00007	-0.00007	-0.00013	-0.00002	-0.00002	-0.00004	—	—	—	—	—	—	—
Deodar cedar (Cedrus deodara)	—	—	-0.00080	—	-0.00021	-0.00035	-0.00035	-0.00069	-0.00009	-0.00009	-0.00019	—	—	—	—	—	—	—
Eastern redbud (Cercis canadensis)	—	—	-0.00089	—	-0.00025	-0.00016	-0.00016	-0.00033	-0.00004	-0.00004	-0.00009	—	—	—	—	—	—	—
Canary island pine (Pinus canariensis)	—	—	-0.00082	—	-0.00022	-0.00035	-0.00035	-0.00070	-0.00010	-0.00010	-0.00019	—	—	—	—	—	—	—
Pin oak (Quercus palustris)	—	—	-0.00107	—	-0.00029	-0.00026	-0.00026	-0.00051	-0.00007	-0.00007	-0.00014	—	—	—	—	—	—	—
Northern white cedar (Thuja occidentalis)	—	—	-0.00008	—	-0.00002	-0.00004	-0.00004	-0.00007	-0.00001	-0.00001	-0.00002	—	—	—	—	—	—	—

Western red cedar (Thuja plicata)	—	—	-0.00100	—	-0.00026	-0.00047	-0.00047	-0.00094	-0.00013	-0.00013	-0.00026	—	—	—	—	—	—	—
Subtotal	—	—	-0.00687	—	-0.00185	-0.00228	-0.00228	-0.00456	-0.00062	-0.00062	-0.00124	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.00027	-0.00770	—	-0.00203	-0.00271	-0.00271	-0.00541	-0.00074	-0.00074	-0.00147	—	-18.6093	-18.6093	—	—	—	-18.6093

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	-0.00033	-0.00100	—	-0.00022	-0.00063	-0.00063	-0.00126	-0.00017	-0.00017	-0.00034	—	-6.66718	-6.66718	—	—	—	-6.66718
Bigberry manzanita (Arctostaphylos)	—	-0.00014	-0.00044	—	-0.00010	-0.00020	-0.00020	-0.00039	-0.00005	-0.00005	-0.00011	—	-2.94405	-2.94405	—	—	—	-2.94405
River birch (Betula nigra)	—	-0.00005	-0.00015	—	-0.00003	-0.00008	-0.00008	-0.00016	-0.00002	-0.00002	-0.00004	—	-1.02109	-1.02109	—	—	—	-1.02109
Deodar cedar (Cedrus deodara)	—	-0.00014	-0.00044	—	-0.00010	-0.00020	-0.00020	-0.00039	-0.00005	-0.00005	-0.00011	—	-2.93664	-2.93664	—	—	—	-2.93664
Eastern redbud (Cercis canadensis)	—	-0.00021	-0.00063	—	-0.00014	-0.00033	-0.00033	-0.00066	-0.00009	-0.00009	-0.00018	—	-4.25027	-4.25027	—	—	—	-4.25027

Canary island pine (Pinus canariensis)	—	-0.00023	-0.00072	—	-0.00016	-0.00032	-0.00032	-0.00064	-0.00009	-0.00009	-0.00017	—	-4.78801	-4.78801	—	—	—	-4.78801
Pin oak (Quercus palustris)	—	-0.00014	-0.00043	—	-0.00010	-0.00022	-0.00022	-0.00044	-0.00006	-0.00006	-0.00012	—	-2.85562	-2.85562	—	—	—	-2.85562
Northern white cedar (Thuja occidentalis)	—	-0.00002	-0.00005	—	-0.00001	-0.00003	-0.00003	-0.00005	-0.00001	-0.00001	-0.00001	—	-0.36177	-0.36177	—	—	—	-0.36177
Western red cedar (Thuja plicata)	—	-0.00023	-0.00071	—	-0.00016	-0.00034	-0.00034	-0.00067	-0.00009	-0.00009	-0.00018	—	-4.76371	-4.76371	—	—	—	-4.76371
Subtotal	—	-0.00150	-0.00457	—	-0.00104	-0.00234	-0.00234	-0.00468	-0.00064	-0.00064	-0.00127	—	-30.5883	-30.5883	—	—	—	-30.5883
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	—	—	—	—	—	—	—	—	—	—	-33.7100	-33.7100	—	—	—	-33.7100
Bigberry manzanita (Arctostaphylos)	—	—	—	—	—	—	—	—	—	—	—	—	-3.88420	-3.88420	—	—	—	-3.88420
River birch (Betula nigra)	—	—	—	—	—	—	—	—	—	—	—	—	-5.57859	-5.57859	—	—	—	-5.57859
Deodar cedar (Cedrus deodara)	—	—	—	—	—	—	—	—	—	—	—	—	-12.6136	-12.6136	—	—	—	-12.6136

Eastern redbud (Cercis canadensis)	—	—	—	—	—	—	—	—	—	—	—	—	-6.52804	-6.52804	—	—	—	-6.52804
Canary island pine (Pinus canariensis)	—	—	—	—	—	—	—	—	—	—	—	—	-4.41131	-4.41131	—	—	—	-4.41131
Pin oak (Quercus palustris)	—	—	—	—	—	—	—	—	—	—	—	—	-11.3925	-11.3925	—	—	—	-11.3925
Northern white cedar (Thuja occidentalis)	—	—	—	—	—	—	—	—	—	—	—	—	-0.86053	-0.86053	—	—	—	-0.86053
Western red cedar (Thuja plicata)	—	—	—	—	—	—	—	—	—	—	—	—	-2.83435	-2.83435	—	—	—	-2.83435
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-81.8131	-81.8131	—	—	—	-81.8131
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	-0.00790	—	-0.00210	-0.00232	-0.00232	-0.00464	-0.00063	-0.00063	-0.00127	—	—	—	—	—	—	—
Bigberry manzanita (Arctostaphylos)	—	—	-0.00246	—	-0.00066	-0.00092	-0.00092	-0.00184	-0.00025	-0.00025	-0.00050	—	—	—	—	—	—	—
River birch (Betula nigra)	—	—	-0.00181	—	-0.00051	-0.00036	-0.00036	-0.00072	-0.00010	-0.00010	-0.00020	—	—	—	—	—	—	—

Deodar cedar (Cedrus deodara)	—	—	-0.00437	—	-0.00115	-0.00190	-0.00190	-0.00379	-0.00052	-0.00052	-0.00103	—	—	—	—	—	—	—
Eastern redbud (Cercis canadensis)	—	—	-0.00486	—	-0.00138	-0.00090	-0.00090	-0.00179	-0.00024	-0.00024	-0.00049	—	—	—	—	—	—	—
Canary island pine (Pinus canariensis)	—	—	-0.00451	—	-0.00119	-0.00193	-0.00193	-0.00385	-0.00052	-0.00052	-0.00105	—	—	—	—	—	—	—
Pin oak (Quercus palustris)	—	—	-0.00585	—	-0.00160	-0.00140	-0.00140	-0.00280	-0.00038	-0.00038	-0.00076	—	—	—	—	—	—	—
Northern white cedar (Thuja occidentalis)	—	—	-0.00042	—	-0.00011	-0.00019	-0.00019	-0.00039	-0.00005	-0.00005	-0.00011	—	—	—	—	—	—	—
Western red cedar (Thuja plicata)	—	—	-0.00546	—	-0.00142	-0.00257	-0.00257	-0.00514	-0.00070	-0.00070	-0.00140	—	—	—	—	—	—	—
Subtotal	—	—	-0.03764	—	-0.01012	-0.01249	-0.01249	-0.02497	-0.00340	-0.00340	-0.00680	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Red Maple (Acre Rubrum)	—	-0.00033	-0.00100	—	-0.00022	-0.00063	-0.00063	-0.00126	-0.00017	-0.00017	-0.00034	—	-6.66718	-6.66718	—	—	—	-6.66718
Bigberry manzanita (Arctostaphylos)	—	-0.00014	-0.00044	—	-0.00010	-0.00020	-0.00020	-0.00039	-0.00005	-0.00005	-0.00011	—	-2.94405	-2.94405	—	—	—	-2.94405
River birch (Betula nigra)	—	-0.00005	-0.00015	—	-0.00003	-0.00008	-0.00008	-0.00016	-0.00002	-0.00002	-0.00004	—	-1.02109	-1.02109	—	—	—	-1.02109
Deodar cedar (Cedrus deodara)	—	-0.00014	-0.00044	—	-0.00010	-0.00020	-0.00020	-0.00039	-0.00005	-0.00005	-0.00011	—	-2.93664	-2.93664	—	—	—	-2.93664
Eastern redbud (Cercis canadensis)	—	-0.00021	-0.00063	—	-0.00014	-0.00033	-0.00033	-0.00066	-0.00009	-0.00009	-0.00018	—	-4.25027	-4.25027	—	—	—	-4.25027
Canary island pine (Pinus canariensis)	—	-0.00023	-0.00072	—	-0.00016	-0.00032	-0.00032	-0.00064	-0.00009	-0.00009	-0.00017	—	-4.78801	-4.78801	—	—	—	-4.78801
Pin oak (Quercus palustris)	—	-0.00014	-0.00043	—	-0.00010	-0.00022	-0.00022	-0.00044	-0.00006	-0.00006	-0.00012	—	-2.85562	-2.85562	—	—	—	-2.85562
Northern white cedar (Thuja occidentalis)	—	-0.00002	-0.00005	—	-0.00001	-0.00003	-0.00003	-0.00005	-0.00001	-0.00001	-0.00001	—	-0.36177	-0.36177	—	—	—	-0.36177
Western red cedar (Thuja plicata)	—	-0.00023	-0.00071	—	-0.00016	-0.00034	-0.00034	-0.00067	-0.00009	-0.00009	-0.00018	—	-4.76371	-4.76371	—	—	—	-4.76371
Subtotal	—	-0.00150	-0.00457	—	-0.00104	-0.00234	-0.00234	-0.00468	-0.00064	-0.00064	-0.00127	—	-30.5883	-30.5883	—	—	—	-30.5883

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	—	—	—	—	—	—	—	—	—	—	-33.7100	-33.7100	—	—	—	-33.7100
Bigberry manzanita (Arctostaphylos)	—	—	—	—	—	—	—	—	—	—	—	—	-3.88420	-3.88420	—	—	—	-3.88420
River birch (Betula nigra)	—	—	—	—	—	—	—	—	—	—	—	—	-5.57859	-5.57859	—	—	—	-5.57859
Deodar cedar (Cedrus deodara)	—	—	—	—	—	—	—	—	—	—	—	—	-12.6136	-12.6136	—	—	—	-12.6136
Eastern redbud (Cercis canadensis)	—	—	—	—	—	—	—	—	—	—	—	—	-6.52804	-6.52804	—	—	—	-6.52804
Canary island pine (Pinus canariensis)	—	—	—	—	—	—	—	—	—	—	—	—	-4.41131	-4.41131	—	—	—	-4.41131
Pin oak (Quercus palustris)	—	—	—	—	—	—	—	—	—	—	—	—	-11.3925	-11.3925	—	—	—	-11.3925
Northern white cedar (Thuja occidentalis)	—	—	—	—	—	—	—	—	—	—	—	—	-0.86053	-0.86053	—	—	—	-0.86053
Western red cedar (Thuja plicata)	—	—	—	—	—	—	—	—	—	—	—	—	-2.83435	-2.83435	—	—	—	-2.83435

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-81.8131	-81.8131	—	—	—	-81.813
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	-0.00790	—	-0.00210	-0.00232	-0.00232	-0.00464	-0.00063	-0.00063	-0.00127	—	—	—	—	—	—	—
Bigberry manzanita (Arctostaphylos)	—	—	-0.00246	—	-0.00066	-0.00092	-0.00092	-0.00184	-0.00025	-0.00025	-0.00050	—	—	—	—	—	—	—
River birch (Betula nigra)	—	—	-0.00181	—	-0.00051	-0.00036	-0.00036	-0.00072	-0.00010	-0.00010	-0.00020	—	—	—	—	—	—	—
Deodar cedar (Cedrus deodara)	—	—	-0.00437	—	-0.00115	-0.00190	-0.00190	-0.00379	-0.00052	-0.00052	-0.00103	—	—	—	—	—	—	—
Eastern redbud (Cercis canadensis)	—	—	-0.00486	—	-0.00138	-0.00090	-0.00090	-0.00179	-0.00024	-0.00024	-0.00049	—	—	—	—	—	—	—
Canary island pine (Pinus canariensis)	—	—	-0.00451	—	-0.00119	-0.00193	-0.00193	-0.00385	-0.00052	-0.00052	-0.00105	—	—	—	—	—	—	—
Pin oak (Quercus palustris)	—	—	-0.00585	—	-0.00160	-0.00140	-0.00140	-0.00280	-0.00038	-0.00038	-0.00076	—	—	—	—	—	—	—
Northern white cedar (Thuja occidentalis)	—	—	-0.00042	—	-0.00011	-0.00019	-0.00019	-0.00039	-0.00005	-0.00005	-0.00011	—	—	—	—	—	—	—

Western red cedar (Thuja plicata)	—	—	-0.00546	—	-0.00142	-0.00257	-0.00257	-0.00514	-0.00070	-0.00070	-0.00140	—	—	—	—	—	—	—
Subtotal	—	—	-0.03764	—	-0.01012	-0.01249	-0.01249	-0.02497	-0.00340	-0.00340	-0.00680	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.00150	-0.04221	—	-0.01115	-0.01482	-0.01482	-0.02965	-0.00404	-0.00404	-0.00808	—	-112.401	-112.401	—	—	—	-112.401
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	-0.00006	-0.00018	—	-0.00004	-0.00012	-0.00012	-0.00023	-0.00003	-0.00003	-0.00006	—	-1.10383	-1.10383	—	—	—	-1.10383
Bigberry manzanita (Arctostaphylos)	—	-0.00003	-0.00008	—	-0.00002	-0.00004	-0.00004	-0.00007	-0.00001	-0.00001	-0.00002	—	-0.48742	-0.48742	—	—	—	-0.48742
River birch (Betula nigra)	—	-0.00001	-0.00003	—	-0.00001	-0.00001	-0.00001	-0.00003	> -0.000005	> -0.000005	-0.00001	—	-0.16905	-0.16905	—	—	—	-0.16905
Deodar cedar (Cedrus deodara)	—	-0.00003	-0.00008	—	-0.00002	-0.00004	-0.00004	-0.00007	-0.00001	-0.00001	-0.00002	—	-0.48619	-0.48619	—	—	—	-0.48619
Eastern redbud (Cercis canadensis)	—	-0.00004	-0.00012	—	-0.00003	-0.00006	-0.00006	-0.00012	-0.00002	-0.00002	-0.00003	—	-0.70368	-0.70368	—	—	—	-0.70368
Canary island pine (Pinus canariensis)	—	-0.00004	-0.00013	—	-0.00003	-0.00006	-0.00006	-0.00012	-0.00002	-0.00002	-0.00003	—	-0.79271	-0.79271	—	—	—	-0.79271
Pin oak (Quercus palustris)	—	-0.00003	-0.00008	—	-0.00002	-0.00004	-0.00004	-0.00008	-0.00001	-0.00001	-0.00002	—	-0.47278	-0.47278	—	—	—	-0.47278

Northern white cedar (Thuja occidentalis)	—	> -0.000005	-0.00001	—	> -0.000005	> -0.000005	> -0.000005	-0.00001	> -0.000005	> -0.000005	> -0.000005	—	-0.05989	-0.05989	—	—	—	-0.0598
Western red cedar (Thuja plicata)	—	-0.00004	-0.00013	—	-0.00003	-0.00006	-0.00006	-0.00012	-0.00002	-0.00002	-0.00003	—	-0.78869	-0.78869	—	—	—	-0.78869
Subtotal	—	-0.00027	-0.00083	—	-0.00019	-0.00043	-0.00043	-0.00085	-0.00012	-0.00012	-0.00023	—	-5.06425	-5.06425	—	—	—	-5.06425
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	—	—	—	—	—	—	—	—	—	—	-5.58107	-5.58107	—	—	—	-5.58107
Bigberry manzanita (Arctostaphylos)	—	—	—	—	—	—	—	—	—	—	—	—	-0.64307	-0.64307	—	—	—	-0.64307
River birch (Betula nigra)	—	—	—	—	—	—	—	—	—	—	—	—	-0.92360	-0.92360	—	—	—	-0.92360
Deodar cedar (Cedrus deodara)	—	—	—	—	—	—	—	—	—	—	—	—	-2.08833	-2.08833	—	—	—	-2.08833
Eastern redbud (Cercis canadensis)	—	—	—	—	—	—	—	—	—	—	—	—	-1.08079	-1.08079	—	—	—	-1.08079
Canary island pine (Pinus canariensis)	—	—	—	—	—	—	—	—	—	—	—	—	-0.73034	-0.73034	—	—	—	-0.73034

Pin oak (Quercus palustris)	—	—	—	—	—	—	—	—	—	—	—	—	-1.88616	-1.88616	—	—	—	-1.88616
Northern white cedar (Thuja occidentalis)	—	—	—	—	—	—	—	—	—	—	—	—	-0.14247	-0.14247	—	—	—	-0.14247
Western red cedar (Thuja plicata)	—	—	—	—	—	—	—	—	—	—	—	—	-0.46926	-0.46926	—	—	—	-0.46926
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-13.5451	-13.5451	—	—	—	-13.5451
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Maple (Acre Rubrum)	—	—	-0.00144	—	-0.00038	-0.00042	-0.00042	-0.00085	-0.00012	-0.00012	-0.00023	—	—	—	—	—	—	—
Bigberry manzanita (Arctostaphylos)	—	—	-0.00045	—	-0.00012	-0.00017	-0.00017	-0.00034	-0.00005	-0.00005	-0.00009	—	—	—	—	—	—	—
River birch (Betula nigra)	—	—	-0.00033	—	-0.00009	-0.00007	-0.00007	-0.00013	-0.00002	-0.00002	-0.00004	—	—	—	—	—	—	—
Deodar cedar (Cedrus deodara)	—	—	-0.00080	—	-0.00021	-0.00035	-0.00035	-0.00069	-0.00009	-0.00009	-0.00019	—	—	—	—	—	—	—
Eastern redbud (Cercis canadensis)	—	—	-0.00089	—	-0.00025	-0.00016	-0.00016	-0.00033	-0.00004	-0.00004	-0.00009	—	—	—	—	—	—	—

Canary island pine (Pinus canariensis)	—	—	-0.00082	—	-0.00022	-0.00035	-0.00035	-0.00070	-0.00010	-0.00010	-0.00019	—	—	—	—	—	—	—
Pin oak (Quercus palustris)	—	—	-0.00107	—	-0.00029	-0.00026	-0.00026	-0.00051	-0.00007	-0.00007	-0.00014	—	—	—	—	—	—	—
Northern white cedar (Thuja occidentalis)	—	—	-0.00008	—	-0.00002	-0.00004	-0.00004	-0.00007	-0.00001	-0.00001	-0.00002	—	—	—	—	—	—	—
Western red cedar (Thuja plicata)	—	—	-0.00100	—	-0.00026	-0.00047	-0.00047	-0.00094	-0.00013	-0.00013	-0.00026	—	—	—	—	—	—	—
Subtotal	—	—	-0.00687	—	-0.00185	-0.00228	-0.00228	-0.00456	-0.00062	-0.00062	-0.00124	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	-0.00027	-0.00770	—	-0.00203	-0.00271	-0.00271	-0.00541	-0.00074	-0.00074	-0.00147	—	-18.6093	-18.6093	—	—	—	-18.6093

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2027	1/29/2027	5.00000	20.0000	—
Site Preparation	Site Preparation	1/30/2027	2/13/2027	5.00000	10.00000	—
Grading	Grading	2/14/2027	3/28/2027	5.00000	30.0000	—
Building Construction	Building Construction	3/29/2027	5/22/2028	5.00000	300.000	—
Paving	Paving	5/23/2028	6/20/2028	5.00000	20.0000	—
Architectural Coating	Architectural Coating	6/21/2028	7/19/2028	5.00000	20.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	33.0000	0.73000
Demolition	Excavators	Diesel	Average	3.00000	8.00000	36.0000	0.38000
Demolition	Rubber Tired Dozers	Diesel	Average	2.00000	8.00000	367.000	0.40000
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	2.00000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	33.0000	0.73000
Demolition	Excavators	Diesel	Average	3.00000	8.00000	36.0000	0.38000
Demolition	Rubber Tired Dozers	Diesel	Average	2.00000	8.00000	367.000	0.40000
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	2.00000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	15.0000	11.8900	LDA,LDT1,LDT2

Demolition	Vendor	—	9.10000	HHDT,MHDT
Demolition	Hauling	0.05000	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	17.5000	11.8900	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	11.8900	LDA,LDT1,LDT2
Grading	Vendor	—	9.10000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	22.8467	11.8900	LDA,LDT1,LDT2
Building Construction	Vendor	8.91567	9.10000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	11.8900	LDA,LDT1,LDT2
Paving	Vendor	—	9.10000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	4.56935	11.8900	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	15.0000	11.8900	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10000	HHDT,MHDT

Demolition	Hauling	0.05000	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	17.5000	11.8900	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	11.8900	LDA,LDT1,LDT2
Grading	Vendor	—	9.10000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	22.8467	11.8900	LDA,LDT1,LDT2
Building Construction	Vendor	8.91567	9.10000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	11.8900	LDA,LDT1,LDT2
Paving	Vendor	—	9.10000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	4.56935	11.8900	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	81,595.5	27,198.5	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00000	0.00000	0.00000	60.0000	0.00000
Site Preparation	—	—	15.0000	0.00000	0.00000
Grading	—	—	90.0000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Place of Worship	0.00000	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	203.983	0.03300	0.00400
2028	0.00000	203.983	0.03300	0.00400

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Place of Worship	4,170.00	3,594.00	6,720.00	1,624,980	40,797.0	35,161.8	65,744.9	15,897,934

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Place of Worship	4,170.00	3,594.00	6,720.00	1,624,980	40,797.0	35,161.8	65,744.9	15,897,934

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Place of Worship	Wood Fireplaces	0	0
Place of Worship	Gas Fireplaces	0	0
Place of Worship	Propane Fireplaces	0	0
Place of Worship	Electric Fireplaces	0	0
Place of Worship	No Fireplaces	0	0
Place of Worship	Conventional Wood Stoves	0	0
Place of Worship	Catalytic Wood Stoves	0	0
Place of Worship	Non-Catalytic Wood Stoves	0	0
Place of Worship	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

0.00000	0.00000	81,595.5	27,198.5	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Place of Worship	561,919	203.983	0.0330	0.0040	2,255,224

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Place of Worship	561,919	203.983	0.0330	0.0040	2,255,224

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Place of Worship	948,149	3,083,726

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Place of Worship	948,149	3,083,726

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Place of Worship	5,400.00	0.00000

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Place of Worship	5,400.00	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Place of Worship	Household refrigerators and/or freezers	R-134a	1,430.00	0.01679	0.60000	0.00000	1.000000
Place of Worship	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Place of Worship	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.00004	1.000000	0.00000	1.000000

Place of Worship	Walk-in refrigerators and freezers	R-404A	3,922.00	0.00040	7.50000	7.50000	20.0000

5.14.2. Mitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Place of Worship	Household refrigerators and/or freezers	R-134a	1,430.00	0.01679	0.60000	0.00000	1.000000
Place of Worship	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Place of Worship	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.00004	1.000000	0.00000	1.000000
Place of Worship	Walk-in refrigerators and freezers	R-404A	3,922.00	0.00040	7.50000	7.50000	20.0000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
Red Maple (Acre Rubrum)	53.0000	236,953	1.10000
Bigberry manzanita (Arctostaphylos)	22.0000	65,274.3	147.300
River birch (Betula nigra)	9.00000	28,128.1	30.6000
Deodar cedar (Cedrus deodara)	31.0000	65,901.9	144.000
Eastern redbud (Cercis canadensis)	10.00000	26,594.9	29.0000
Eastern redbud (Cercis canadensis)	34.0000	90,422.7	98.6000
Canary island pine (Pinus canariensis)	38.0000	106,932	236.700
Pin oak (Quercus palustris)	25.0000	78,645.0	85.7000
Northern white cedar (Thuja occidentalis)	7.00000	8,822.70	15.1000

Western red cedar (Thuja plicata)	87.0000	114,547	205.000

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
Red Maple (Acre Rubrum)	53.0000	236,953	1.10000
Bigberry manzanita (Arctostaphylos)	22.0000	65,274.3	147.300
River birch (Betula nigra)	9.00000	28,128.1	30.6000
Deodar cedar (Cedrus deodara)	31.0000	65,901.9	144.000
Eastern redbud (Cercis canadensis)	10.00000	26,594.9	29.0000
Eastern redbud (Cercis canadensis)	34.0000	90,422.7	98.6000
Canary island pine (Pinus canariensis)	38.0000	106,932	236.700
Pin oak (Quercus palustris)	25.0000	78,645.0	85.7000
Northern white cedar (Thuja occidentalis)	7.00000	8,822.70	15.1000
Western red cedar (Thuja plicata)	87.0000	114,547	205.000

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.4000	annual days of extreme heat
Extreme Precipitation	1.85000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	58.2327
AQ-PM	54.4617
AQ-DPM	76.6895
Drinking Water	99.1008
Lead Risk Housing	13.7870
Pesticides	95.2069
Toxic Releases	55.0013
Traffic	68.9375
Effect Indicators	—
CleanUp Sites	0.00000
Groundwater	26.7143
Haz Waste Facilities/Generators	7.34613
Impaired Water Bodies	0.00000
Solid Waste	0.00000

Sensitive Population	—
Asthma	89.9053
Cardio-vascular	93.0833
Low Birth Weights	86.1560
Socioeconomic Factor Indicators	—
Education	53.8724
Housing	36.2104
Linguistic	34.6461
Poverty	49.5477
Unemployment	83.2249

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	60.6698319
Employed	39.71512896
Median HI	47.04221737
Education	—
Bachelor's or higher	32.09290389
High school enrollment	100
Preschool enrollment	22.25073784
Transportation	—
Auto Access	27.46054151
Active commuting	20.45425382
Social	—
2-parent households	66.36725266
Voting	71.65404851

Neighborhood	—
Alcohol availability	46.88823303
Park access	46.09264725
Retail density	20.64673425
Supermarket access	39.47132042
Tree canopy	43.39792121
Housing	—
Homeownership	47.45284229
Housing habitability	37.82882074
Low-inc homeowner severe housing cost burden	84.42191711
Low-inc renter severe housing cost burden	39.40716027
Uncrowded housing	48.81303734
Health Outcomes	—
Insured adults	56.82022328
Arthritis	10.7
Asthma ER Admissions	4.8
High Blood Pressure	11.0
Cancer (excluding skin)	15.0
Asthma	40.2
Coronary Heart Disease	13.8
Chronic Obstructive Pulmonary Disease	23.6
Diagnosed Diabetes	48.6
Life Expectancy at Birth	19.5
Cognitively Disabled	28.0
Physically Disabled	33.4
Heart Attack ER Admissions	9.4
Mental Health Not Good	50.5
Chronic Kidney Disease	27.1

Obesity	39.2
Pedestrian Injuries	19.6
Physical Health Not Good	46.9
Stroke	26.0
Health Risk Behaviors	—
Binge Drinking	48.9
Current Smoker	45.9
No Leisure Time for Physical Activity	41.9
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	56.6
Elderly	16.8
English Speaking	66.0
Foreign-born	20.2
Outdoor Workers	34.6
Climate Change Adaptive Capacity	—
Impervious Surface Cover	50.4
Traffic Density	69.9
Traffic Access	0.0
Other Indices	—
Hardship	44.9
Other Decision Support	—
2016 Voting	52.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0000

Healthy Places Index Score for Project Location (b)	44.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Per the Project Plans, the site size is 11.94 net acres. Landscape area and Special Landscape Area provided via WELO calculations from Landscape Plans. Square footage includes associated buildings, including the following: 1,500 sq. ft. Maintenance Building, 8,000 sq. ft. Kids Building, 8,000 sq. ft. Youth Building, and 4,000 sq. ft. Chapel.
Operations: Vehicle Data	Sunday trip rate updated to match the Traffic Impact Study, dated April 15, 2026, prepared by TJW Engineering, Inc.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	0.69566	11.9400
Building Area	sq. ft	30,303.0	54,397.0

Landscape Area	sq. ft	—	150,052
Special Landscape Area	sq. ft	—	56,985.0

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Place of Worship	Weekday Trip Rate	size/day	0.44000	6.95000
Place of Worship	Saturday Trip Rate	size/day	0.25000	5.99000
Place of Worship	Sunday Trip Rate	size/day	1.21000	11.2000

Appendix B

Central California Information Center Records Search, dated January 19, 2026

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, Mono, San Joaquin, Stanislaus & Tuolumne Counties

Date: 1/29/2026

Records Search File #: 13636L
Project: Cornerstone Community Church Development, Manteca; 421, 457, and 499 S. Austin Road

Jailah Smith, Assistant Planner
J. B. Anderson Land Use Planning
139 S. Stockton Avenue
Ripon, CA 95377
209-599-8377 jailah@jbandersonplanning.com

We have conducted a non-confidential extended records search as per your request for the above-referenced project area located on the Manteca USGS 7.5-minute quadrangle map in San Joaquin County.

Search of our files includes review of our maps for the specific project area and the immediate vicinity of the project area, and review of the following:

National Register of Historic Places (NRHP)
California Register of Historical Resources (CRHR)
California Inventory of Historic Resources (1976)
California Historical Landmarks
California Points of Historical Interest listing
Office of Historic Preservation Built Environment Resource Directory (BERD) and the Archaeological Resources Directory (ARD)
Survey of Surveys (1989)
Caltrans State and Local Bridges Inventory
General Land Office Plats
Other pertinent historic data available at the CCaIC for each specific county

The following details the results of the records search:

Prehistoric or historic resources within the project area:

- There are no formally recorded prehistoric or historic archaeological resources or historic buildings or structures within the project area.

- The General Land Office survey plat for T2S R7E (dated 1855) shows the NE ¼ of Section 3 divided into two parcels of ca. 80-acres each.

- The Map of the County of San Joaquin, California (1883) shows H. W. Cowell as the landowner at that time in the Castoria Township.

- The 1914 and the 1952 editions of the Manteca USGS quadrangle show two buildings on or near the project area on the west side of S. Austin Road that would be 112 years in age (or older). We have no further information on file regarding these possible historical resources.

Prehistoric or historic resources within the immediate vicinity of the project area: Residences and ancillary buildings dating to 1910-1950s have been recorded on the east side of S. Austin Road (see CCaIC Report SJ-05309 referenced below).

Resources that are known to have value to local cultural groups: None has been formally reported to the Information Center.

Previous investigations within the project area:

- No project-specific investigation has been conducted within the subject area.

- Two overview documents whose overall study-area boundaries include the project area have been conducted:

  Windmiller, Ric and Donald Napoli (Ric Windmiller, Consulting Archaeologist (and) Donald Napoli, of Historic Preservation Planning; for Wade Associates, Sacramento, CA)
  2002 *City of Manteca--General Plan Update, Background Reports: Archaeological Resources, Historical Resources, Records Search Results.*
  CCaIC Report SJ-04786

  Shideler, H. (San Joaquin County Historical Society)
  1988 *Manteca: City in Transition.*
  CCaIC Report SJ-04982

- A sensitivity investigation that included portions of the east side of S. Austin Road is located adjacent to the project area:

  Baloian, M., R. Baloian, and W. Nettles (Applied Earthworks, Inc.; prepared for Russell Associates, Palo Alto, CA)
  2004 *Cultural Resources Investigations for the South San Joaquin Irrigation District in San Joaquin County, California.*
  CCaIC Report SJ-05309

Recommendations/Comments:

Please be advised that a historical resource is defined as a building, structure, object, prehistoric or historic archaeological site, or district possessing physical evidence of human activities over

45 years old. Since the Cornerstone Community Church Development area has not been subject to previous project-specific investigations, there may be unidentified features involved in your project that are 45 years or older and considered as historical resources requiring further study and evaluation by a qualified professional of the appropriate discipline.

If the current project does not include ground disturbance, further study for archaeological resources is not recommended at this time. If ground disturbance is considered a part of the current project, we recommend further review for the possibility of identifying prehistoric or historic-era archaeological resources.

If the proposed project contains buildings or structures that meet the minimum age requirement (45 years in age or older) it is recommended that the resource/s be assessed by a professional familiar with architecture and history of the county. Review of the available historic building/structure data has included only those sources listed above and should not be considered comprehensive.

If at any time you might require the services of a qualified professional the Statewide Referral List for Historical Resources Consultants is posted for your use on the internet at http://chrisinfo.org

If archaeological resources are encountered during project-related activities**,** work should be temporarily halted in the vicinity of the discovered materials and workers should avoid altering the materials and their context until a qualified professional archaeologist has evaluated the situation and provided appropriate recommendations. Project personnel should not collect cultural resources.

If human remains are discovered, California Health and Safety Code Section 7050.5 requires you to protect the discovery and notify the county coroner, who will determine if the find is Native American. If the remains are recognized as Native American, the coroner shall then notify the Native American Heritage Commission (NAHC). California Public Resources Code Section 5097.98 authorizes the NAHC to appoint a Most Likely Descendant (MLD) who will make recommendations for the treatment of the discovery.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the State 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.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and

application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

We thank you for contacting this office regarding historical resource preservation. Please let us know when we can be of further service. Thank you for sending the **Access Agreement Short Form.**

Note: Billing will be transmitted separately via email from the Financial Services office ($150.00), 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

Appendix C

Cornerstone Community Church VMT Screening, dated April 7, 2026, prepared by TJW Engineering, Inc.

April 7, 2026

TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

Mr. Chad DeGraff
DEGRAFF DEVELOPMENT, INC.
501 S. Stockton
Ripon, CA 95366

SUBJECT: Cornerstone Community Church VMT Screening
City of Manteca, California

Dear Mr. DeGraff,

TJW Engineering, Inc. (TJW) is pleased to submit this Vehicle Miles Traveled (VMT) Screening for the proposed project located at 449 S Austin Road in the City of Manteca, California. The proposed project is for the construction of a 32,834 square feet church. The purpose of this memorandum is to summarize the project VMT Screening.

Proposed Project

The site for the proposed project is located at 449 S Austin Road in the City of Manteca, California. The proposed project is for the construction of a 32,834 square feet church. A site plan is attached for reference.

Site access will be provided via two (2) proposed driveways on Austin Road, one right-in/right-out (RI/RO) driveway and one full access driveway further south.

Vehicle Miles Traveled (VMT) Screening

Senate Bill (SB) 743 was adopted in 2013 requiring the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts within the California Environmental Quality Act (CEQA). For land use projects, OPR has identified Vehicle Miles Traveled (VMT) as the new metric for transportation analysis under CEQA. The regulatory changes to the CEQA guidelines that implement SB 743 were approved on December 28th, 2018, with an implementation date of July 1st, 2020, as the new metric.

The City of Manteca's 22-048 – Attachment 3 – Proposed SB 743 Implementation Policy (July 2022) outlines screening criteria and requirements for VMT assessment of land use projects. The Guidelines identify screening criteria including small projects, affordable housing, local-serving retail, and public/quasi-public land uses. Projects that support community health, safety, and welfare may be classified as Public/Quasi-Public (PQP) land use. The PQP developments are typically built to aid nearby

land uses such as residential. The proposed church is a place of religious assembly that is typically used by the local community as a place of gathering. Therefore, the church can also be considered local serving and is under 50,000 square feet. Per *City Guidelines,* the proposed church fulfils the "Public /Quasi-Public Land Use Screening Criteria" and therefore, can be presumed to have a less than significant impact on VMT.

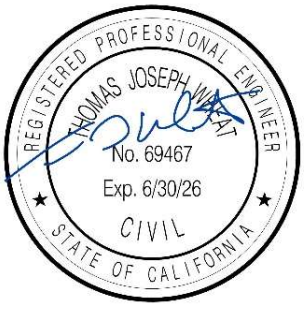
Summary

This memorandum provides an overview of the VMT screening for the proposed project. Based on the City Guidelines, the project can be assumed to have a less than significant impact and screens from a VMT analysis as the proposed church qualifies as a local serving Public/Quasi-Public Land Use in addition to being under 50,000 square feet.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

Thomas Wheat, PE, TE
President
Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*

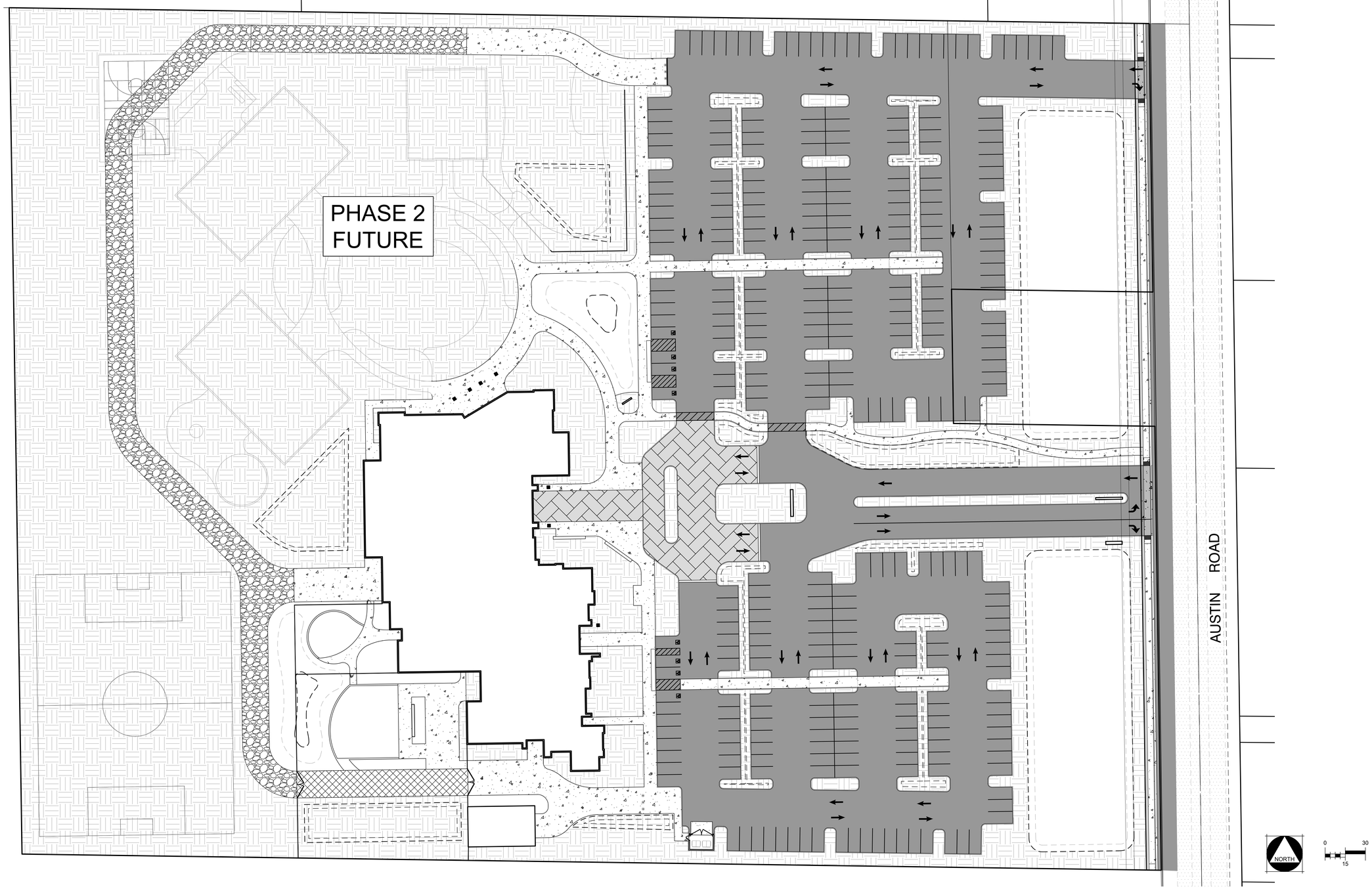




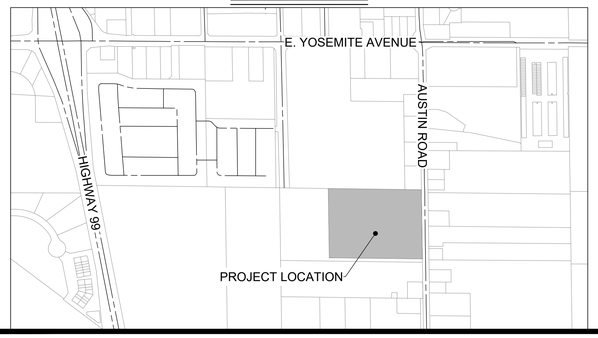
David Chew, PTP
Transportation Planner

Tiffany Chang, EIT
Assistant Transportation Planner

SITE PLAN



VICINITY MAP



INFORMATION

ASSESSOR'S INFORMATION

APN #: 228-020-440

ADDRESS: 449 S. AUSTIN ROAD

LOT ACRES: ±11.25 ACRES

CURRENT ZONING: R1

CURRENT GENERAL PLAN: LDR

SITE PLAN LEGEND

- CONCRETE (PROPOSED)
- PAVEMENT (PROPOSED)
- GRAVEL (PROPOSED)
- LANDSCAPE (PROPOSED)
- PAVERS (PROPOSED)
- GRASS PAVERS (PROPOSED)

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SHEET NUMBER	SHEET TITLE
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SP2	TOPOGRAPHIC SURVEY & AERIAL IMAGERY
SP3	GRADING, DRAINAGE & UTILITY PLAN
SP4	PHASING PLAN - PHASE 1
SP5	PHASING PLAN - PHASE 2

mcr ENGINEERING
www.mcreng.com
1242 DUPONT COURT
MANTECA, CA 95336
TEL: (209) 239 - 6229
FAX: (209) 239 - 8839

REGISTERED PROFESSIONAL ENGINEER
MARSHALL T. SMITH
No. C87499
CIVIL
STATE OF CALIFORNIA

APPROVED:

PLAN REVISIONS

NO.	DESCRIPTIONS	DATE
1		
2		
3		
4		
5		
6		
7		

SITE PLANS FOR:
CORNERSTONE COMMUNITY CHURCH
MANTECA, CA

COVER SHEET

APN: 228-020-440

811 Know what's below. Call before you dig. 811 / 800-227-2600

JOB NO.:	23-136
DATE:	05/12/2025
SCALE:	AS SHOWN
DR. BY:	KE
CK. BY:	MTS

SHEET NO.

SP1

OF 5 SHEETS

APPENDIX

2.1.1.4. Public/Quasi Public Land Uses

The development of Public/Quasi-Public (PQP) land uses that support community health, safety and welfare may also be screened from subsequent CEQA VMT analysis. PQP uses (e.g., hospitals, police, fire stations, community centers, refuse stations, public utilities, neighborhood parks) do not generally generate substantial amounts of trips and VMT. Instead, these land uses are often built to support other nearby land uses (e.g., office and residential). PQP facilities are already part of the community and, as a public service, the VMT is accounted for in the existing regional average. Many of these facilities generate fewer than 1,000 ADT and/or use vehicles other than passenger-cars or light duty trucks. These other vehicle fleets are subject to regulation outside of CEQA, such as the CARB and the San Joaquin Valley Air Pollution Control District. Therefore, PQP land uses can be presumed to have less-than-significant impacts on VMT. However, this presumption would not apply if the project is sited in a location that requires employees or visitors to travel substantial distances and may require a detailed VMT analysis

2.1.1.5. High-Quality Transit Area (HQTA)

Projects that are within 0.5 mile of the City's Downtown Transit Center or the Altamont Commuter Express (ACE) Manteca/Lathrop station are exempt from further VMT CEQA analysis. In accordance with SB 743, "Transit priority areas" are defined as "an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program. Public Resource Code Section 21064.3(a) further defines a Major Transit Stop as: "a site containing an **existing rail transit station**, …" The Downtown Transit will be serviced by ACE starting in 2024 and ACE is currently providing services to the Manteca/Lathrop Station. A project located within one-half mile of either station are considered to do not require a detailed VMT analysis. However, this presumption does not apply if the project:

- has a floor area ratio (FAR) of less than 0.75;
- includes substantially more parking for use by residents, customers, or employees of the project than required by the City (per Section 17.52.050 of the Municipal Code) such that it discourages use of alternative modes (transit, biking, walking) by promoting auto ownership and making driving very convenient;
- is inconsistent with the applicable San Joaquin Council of Governments (San Joaquin COG) Sustainable Communities Strategy (SCS), as determined by the City; or
- replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The City of Manteca's Transit Center and the existing ACE station and their respective surrounding areas are considered High-Quality Transit Areas. Projects will be required to provide a continuous sidewalk meeting ADA requirements from the project site to the nearest rail station. Below are maps that depict the High-Quality Transit Areas within the City. Detailed maps showing one-half-mile areas surrounding the transit center and ACE Station are shown on Maps "A" and "B" respectively.

DRAFT

Appendix D

Cornerstone Community Church Traffic Impact Analysis, dated September 2, 2026, prepared by TJW Engineering, Inc.

Cornerstone Community Church Traffic Impact Analysis

City of Manteca, California

September 2, 2026

Prepared by:

TJW ENGINEERING, INC.
9841 Irvine Center Drive, Suite 200
Irvine, CA 92618
949.878.3509 | www.tjwengineering.com

TJW Engineering, Inc.
Traffic | Transportation | Lighting
Engineers • Planners • Designers

September 2, 2026

Mr. Chad DeGraff
DEGRAFF DEVELOPMENT, INC.
501 S. Stockton
Ripon, CA 95366

Subject: Traffic Impact Analysis – Cornerstone Community Church, City of Manteca, CA

Dear Mr. DeGraff:

TJW ENGINEERING, INC. (TJW) is pleased to present you with this traffic impact analysis for the proposed project located at 449 S Austin Road in the City of Manteca, California. The proposed project includes the replacement of the existing Cornerstone Community Church with the construction of a 32,834 square feet church.

This traffic study has been prepared to meet the traffic study requirements for the City of Manteca and assesses the forecast traffic operations associated with the proposed project and its impact on the local street network. This report is being submitted to you for review and forwarding to the City of Manteca.

Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

Thomas Wheat, PE, TE
President
Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*





David Chew, PTP
Transportation Planner

Tiffany Chang, EIT
Project Engineer

Cornerstone Community Church
Traffic Impact Analysis

City of Manteca, California

September 2, 2026

Prepared for:
Mr. Chad DeGraff
DEGRAFF DEVELOPMENT, INC.
501 S. Stockton
Ripon, CA 95366

Prepared by:
Thomas Wheat, PE, TE
David Chew, PTP
Tiffany Chang, EIT

TJW ENGINEERING, INC.
9841 Irvine Center Drive, Suite 200
Irvine, CA 92618
949.878.3509 | www.tjwengineering.com

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1.0 EXECUTIVE SUMMARY

This traffic impact analysis (TIA) analyzes the projected traffic operations associated with the proposed project located at 449 S Austin Road in the City of Manteca, California. The purpose of this TIA is to evaluate potential circulation system deficiencies that may result from the development of the proposed project, and to recommend improvements to achieve acceptable operations, if applicable. This analysis has been prepared in coordination with the City of Manteca via a scoping agreement (See **Appendix B**) and follows the *City of Manteca General Plan Update (City General Plan)* (April 2023), and the *City of Manteca Transportation Impact Analysis Guidelines (City Guidelines).*

The proposed project includes the replacement of the existing Cornerstone Community Church with the construction of a new church located at 449 S Austin Road, Manteca CA. The proposed project will construct the church in two phases with the first phase consisting of a 32,987 square foot community church with a worship center and support buildings and the second phase consisting of an 8,000 square foot kids building, an 8,000 square foot youth building, a 4,000 square foot chapel. The proposed project will also include outdoor recreation with a kid's play area, soccer field, and basketball court. Operations of the church will stay consistent throughout the two phases. Church service will occur on Sundays from 8:00 AM – 1:00 PM and regular staff hours will be Tuesday through Thursday from 9:00 AM – 4:00 PM, with 8 employees on site at any given time. Additionally, weekday service will occur on Wednesdays from 6:30 PM – 8:00 PM. The same number of patrons will attend the church through both phase 1 and phase 2.

The proposed project site has an existing land use designation for Low Density Residential and zoned as R-1. Site access will be provided via two (2) proposed driveways on Austin Road, one right-in/right-out (RI/RO) driveway and one full access driveway further south.

The proposed project is anticipated to be completed and generating trips by 2027.

The following six (6) intersections in the vicinity of the project site have been included in the level of service (LOS) analysis:

1. Austin Road / Graves Road
2. Austin Road / 99 Frontage Road
3. Austin Road / SR-120
4. Vasconcellos Avenue / SR-120
5. Austin Road / Project Driveway 1
6. Austin Road / Project Driveway 2

The study intersections are analyzed for the following study scenarios:

- Existing Traffic Conditions
    - *Existing*
- Existing Year Plus Project Traffic Conditions
    - *Existing + Project*
    - *Including Yosemite Square*
- Full Build with Project Traffic Conditions
    - *Existing + Ambient + Cumulative + Project*
    - *Including Yosemite Square Subdivision, and properties East of S Austin Road*
    - *One-Way Stop Control at South Project Driveway*

1.1 SUMMARY OF LEVEL OF SERVICE ANALYSIS RESULTS

Table ES-1 summarizes the results of the intersection level of service analysis based on the City of Manteca thresholds of significance for analyzing transportation deficiencies.

Table ES-1
Summary of Transportation Deficiencies at Study Intersections

Intersection			Existing	Existing Plus Project	Full Build +Project
1	Austin Road	Graves Road	Deficient	Deficient	Deficient
2	Austin Road	99 Frontage Road	-	-	-
3	Austin Road	SR-120	-	-	Deficient
4	Vasconcellos Avenue	SR-120	-	-	-
5	Austin Road	Project Driveway 1	N/A	-	-
6	Austin Road	Project Driveway 2	N/A	-	-

Existing Traffic Conditions

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for *Existing* traffic conditions with the exceptions of:

- Intersection 1: Austin Road/Graves Road

Existing Plus Project (EP) Traffic Conditions

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for *Existing Plus Project* traffic conditions.

- Intersection 1: Austin Road/Graves Road

Full Build with Project

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for *Full Build with Project (Stop Control)* traffic conditions.

- Intersection 1: Austin Road/Graves Road
- Intersection 3: Austin Road/SR-120

1.2 GENERAL PLAN IMPROVEMENTS AND ON-SITE ROADWAY AND SITE ACCESS IMPROVEMENTS

Per the *City of Manteca General Plan Update (City General Plan)* (April 2023) roadway expansions are planned for the *Full Build* Year. Based on Figure C-1: Major Streets Circulation Plan in the *City General Plan,* Austin Road and SR-120 will be widened to ultimately have four lanes.

Wherever necessary, roadways adjacent to the proposed project site and site access points will be constructed in compliance with recommended roadway classifications and respective cross-sections in the *City General Plan* or as directed by the City Engineer.

Sight distance at each project access point should be reviewed with respect to standard Caltrans and City sight distance standards at the time of final grading, landscaping and street improvement plans.

Signing/striping should be implemented in conjunction with detailed construction plans for the project site.

1.3 FULL BUILD WITH PROJECT RECCOMENDED IMPROVEMENTS

To mitigate project impacts that would contribute to unacceptable operational performance, the following improvements are recommended:

- **Intersection 1: Austin Road/Graves Road** – Add right turn pocket in the westbound direction, widen southbound lane to have one thru lane and one thru-right lane
- **Intersection 3: Austin Road/SR-120** – Convert right turn lane in the eastbound direction to a shared thru right turn lane; Change the northbound and southbound left turn lane from split to protected signal control. Lane geometry improvements are consistent with the *Final Traffic Operations Analysis Report (FTOAR) for The State Route 120 / State Route 99 Improvement Project (January 2019)* developed for Caltrans.

1.4 FAIR SHARE ANALYSIS

Due to the existing construction within the project study area, the volume development for this analysis utilized volumes derived from a Caltrans study that utilized a regional travel demand model. The regional travel demand model includes the City's General Plan Build Out assumptions and does not provide a breakdown of cumulative projects. Without a breakdown of cumulative projects, a fair share calculation cannot be determined. It is recommended to coordinate with City staff to determine an appropriate fair share for the identified improvements.

2.0 INTRODUCTION

This traffic impact analysis (TIA) analyzes the projected traffic operations associated with the proposed project located at 449 S Austin Road in the City of Manteca, California. The purpose of this TIA is to evaluate potential circulation system deficiencies that may result from the development of the proposed project, and to recommend improvements to achieve acceptable operations, if applicable. This analysis has been prepared in coordination with the City of Manteca via a scoping agreement (See **Appendix B**) and follows the *City of Manteca General Plan Update (City General Plan)* (April 2023), and the *City of Manteca Transportation Impact Analysis Guidelines (City Guidelines).*

2.1 PROJECT DESCRIPTION

The proposed project includes the replacement of the existing Cornerstone Community Church with the construction of a new church located at 449 S Austin Road, Manteca CA. The proposed project will construct the church in two phases with the first phase consisting of a 32,987 square foot community church with a worship center and support buildings and the second phase consisting of an 8,000 square foot kids building, an 8,000 square foot youth building, a 4,000 square foot chapel. The proposed project will also include outdoor recreation with a kid's play area, soccer field, and basketball court. Operations of the church will stay consistent throughout the two phases. Church service will occur on Sundays from 8:00 AM – 1:00 PM and regular staff hours will be Tuesday through Thursday from 9:00 AM – 4:00 PM, with 8 employees on site at any given time. Additionally, weekday service will occur on Wednesdays from 6:30 PM – 8:00 PM. The same number of patrons will attend the church through both phase 1 and phase 2.

The proposed project site has an existing land use designation for Low Density Residential and zoned as R-1. Site access will be provided via two (2) proposed driveways on Austin Road, one right-in/right-out (RI/RO) driveway and one full access driveway further south.

The proposed project is anticipated to be completed and generating trips by 2027.

Exhibit 1 shows the project site location. **Exhibit 2** shows the proposed project site plan.

2.2 STUDY AREA

The following six (6) intersections in the vicinity of the project site have been included in the level of service (LOS) analysis:

1. Austin Road / Graves Road
2. Austin Road / 99 Frontage Road
3. Austin Road / SR-120
4. Vasconcellos Avenue / SR-120

5. Austin Road / Project Driveway 1
6. Austin Road / Project Driveway 2

Exhibit 3 shows the locations of the study intersections.

The study intersections are analyzed for the following study scenarios:

- Existing Traffic Conditions
  - *Existing*
- Existing Year Plus Project Traffic Conditions
  - *Existing + Project*
  - *Including Yosemite Square*
- Full Build with Project Traffic Conditions
  - *Existing + Ambient + Cumulative + Project*
  - *Including Yosemite Square Subdivision, and properties East of S Austin Road*
  - *One-Way Stop Control at South Project Driveway*

Traffic operations are evaluated for the following time periods:

- Weekday PM Peak Hour occurring between 6:30 PM to 8:30 PM; and
- Weekend AM Peak Hour occurring between 8:00 AM to 12:00 PM.

2.3 ANALYSIS METHODOLOGY

Level of Service (LOS) is commonly used to describe the quality of flow on roadways and at intersections using a range of LOS from LOS A (free flow with little congestion) to LOS F (severely congested conditions). The definitions for LOS for interruption of traffic flow differ depending on the type of traffic control (traffic signal, unsignalized intersection with side street stops, unsignalized intersection with all-way stops). The *Highway Capacity Manual (HCM) 7th Edition* (Transportation Research Board, 2022) methodology expresses the LOS of an intersection in terms of delay time for the intersection approaches. The HCM methodology utilizes different procedures for different types of intersection control.

The *City Guidelines* recommends signalized intersection operations to be analyzed utilizing the HCM 7th Edition methodology. Intersection LOS for signalized intersections is based on the intersections average control delay for all movements at the intersection during the peak hour. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The procedure for stop-control analysis determines the average total delay, expressed in seconds of delay per vehicle, for left turns from the major street and from the stop-controlled minor street traffic stream. Delay values are calculated based on the relationship between traffic on the major street and the availability of acceptable "gaps" in this stream through which conflicting traffic movements can be made.

Table 1 describes the general characteristics of traffic flow and accompanying delay ranges at signalized intersections.

Table 1:
HCM – LOS & Delay Ranges – Signalized Intersections

Level of Service	Description	Delay (in seconds)
A	Very favorable progression; most vehicles arrive during green signal and do not stop. Short cycle lengths.	0 – 10.00
B	Good progression, short cycle lengths. More vehicles stop than for LOS A.	10.01 – 20.00
C	Fair progression; longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, though many vehicles still pass through without stopping.	20.01 – 35.00
D	Progression less favorable, longer cycle length and high flow/capacity ratio. The proportion of vehicles that pass through without stopping diminishes. Individual cycle failures are obvious.	35.01 – 55.00
E	Severe congestion with some long-standing queues on critical approaches. Poor progression, long cycle lengths and high flow/capacity ratio. Individual cycle failures are frequent.	55.01 – 80.00
F	Very poor progression, long cycle lengths and many individual cycle failures. Arrival flow rates exceed capacity of intersection.	> 80.01

Source: Transportation Research Board, *Highway Capacity Manual, 7th Edition* (Washington D.C., 2022).

Collected peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. It is a common practice in LOS analysis to conservatively use a peak 15-minute flow rate applied to the entire hour to derive flow rates in vehicles per hour that are used in the LOS analysis. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume. PHF = [Hourly Volume]/ [4 * Peak 15-Minute Volume]. The use of a 15-minute PHF produces a more detailed and conservative analysis compared to analyzing vehicles per hour. Existing PHFs, obtained from the *Existing* traffic counts have been used for all analysis scenarios in this study.

The *City Guidelines* also recommends unsignalized intersection operations to be analyzed utilizing the HCM 7th Edition methodology. Intersection operation for unsignalized intersections is based on the weighted average control delay expressed in seconds per vehicle.

At a two-way or side-street stop-controlled intersection, LOS is calculated for each stop-controlled minor street movement, for the left-turn movement(s) from the major street, and for the intersection as a whole. For approaches consisting of a single lane, the delay is calculated as the average of all movements in that lane. For all-way stop-controlled intersection, LOS is computed for the intersection as a whole. **Table 2** describes the general characteristics of traffic flow and accompanying delay ranges at unsignalized intersections.

Table 2:
HCM – LOS & Delay Ranges – Unsignalized Intersections

Level of Service	Description	Delay (in seconds)
A	Very favorable progression; most vehicles arrive during green signal and do not stop. Short cycle lengths.	0 – 10.00
B	Good progression, short cycle lengths. More vehicles stop than for LOS A.	10.01 – 20.00
C	Fair progression; longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, though many vehicles still pass through without stopping.	20.01 – 35.00
D	Progression less favorable, longer cycle length and high flow/capacity ratio. The proportion of vehicles that pass through without stopping diminishes. Individual cycle failures are obvious.	35.01 – 55.00
E	Severe congestion with some long-standing queues on critical approaches. Poor progression, long cycle lengths and high flow/capacity ratio. Individual cycle failures are frequent.	55.01 – 80.00
F	Very poor progression, long cycle lengths and many individual cycle failures. Arrival flow rates exceed capacity of intersection.	> 80.01

Source: Transportation Research Board, *Highway Capacity Manual, 7th Edition* (Washington D.C., 2022).

This analysis utilizes *PTV Vistro*, Version 2026 analysis software for all signalized and unsignalized intersections. Vistro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis specified in Chapter 16 of the HCM. The level of service and capacity analysis performed within Vistro takes the optimization and coordination of signalized intersections within a network into consideration.

2.4 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

Traffic signal warrants refer to a list of established criteria utilized by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an unsignalized location. This analysis uses the signal warrant criteria in the latest edition of the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition, for all unsignalized study intersections.

The CA MUTCD contains nine different signal warrants for existing conditions based on several different factors such as vehicular volumes, pedestrian volumes, accident frequency, location of schools and location of railroad tracks. This TIA utilizes the four-hour volume-based warrant (Warrant 2) as the appropriate traffic signal warrant analysis for all analysis.

It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal may be warranted. Satisfying a signal warrant does not require that a traffic signal be installed at a location, rather other traffic factors and conditions should be evaluated to determine if signalization is justified. Additionally, signal warrants do not necessarily correlate with level of service; an intersection may

satisfy a warrant and still be operating at or better than LOS D or be operating at a deficient LOS (E or F) and not meet signal warrants.

2.5 PERFORMANCE CRITERIA

2.5.1 City of Manteca Performance Criteria

The *City General Plan* indicates that all intersections should be maintained at an LOS of "D" or better during AM and PM peak hours.

Per the *City Guidelines*, for facilities that operate at an acceptable LOS without the project, an impact is defined if the project causes the LOS of an intersection to change from an acceptable LOS under "No Project" conditions to an unacceptable LOS under "With Project Conditions."

The *City Guidelines* indicate that a project impacts an intersection operating at an unacceptable LOS under Existing or Cumulative No Project Conditions, if:

- The addition of project traffic increases the average vehicle delay for a signalized intersection by five seconds or more, or
- The addition of project traffic increases the average delay for an all-way stop controlled intersection by five seconds or more and the intersection meets the one-hour peak hour signal warrant, or
- The addition of project traffic increases the highest delayed side-street movement for a side-street stop-controlled intersection by five seconds or more and the intersection meets the one-hour peak hour signal warrant.

2.5.2 Caltrans Performance Criteria

Roadways maintained by Caltrans must maintain a minimum LOS of "D" regardless of jurisdiction. As such, LOS "D" or better has been utilized as the threshold for this analysis.

Operational improvements are required when one of the following criteria are met:

- The intersection operates at LOS D or better without project traffic and LOS E or F with the addition of project traffic, OR
- The intersection operates at LOS E or F without project traffic and the addition of project traffic results in an increase in delay

Operational improvements should be recommended to bring the study intersection to pre-project LOS or better.



Legend:

Project Site

Exhibit 1: Project Location

Cornerstone Community Church Traffic Impact Analysis

DDI-25-001

Not to Scale

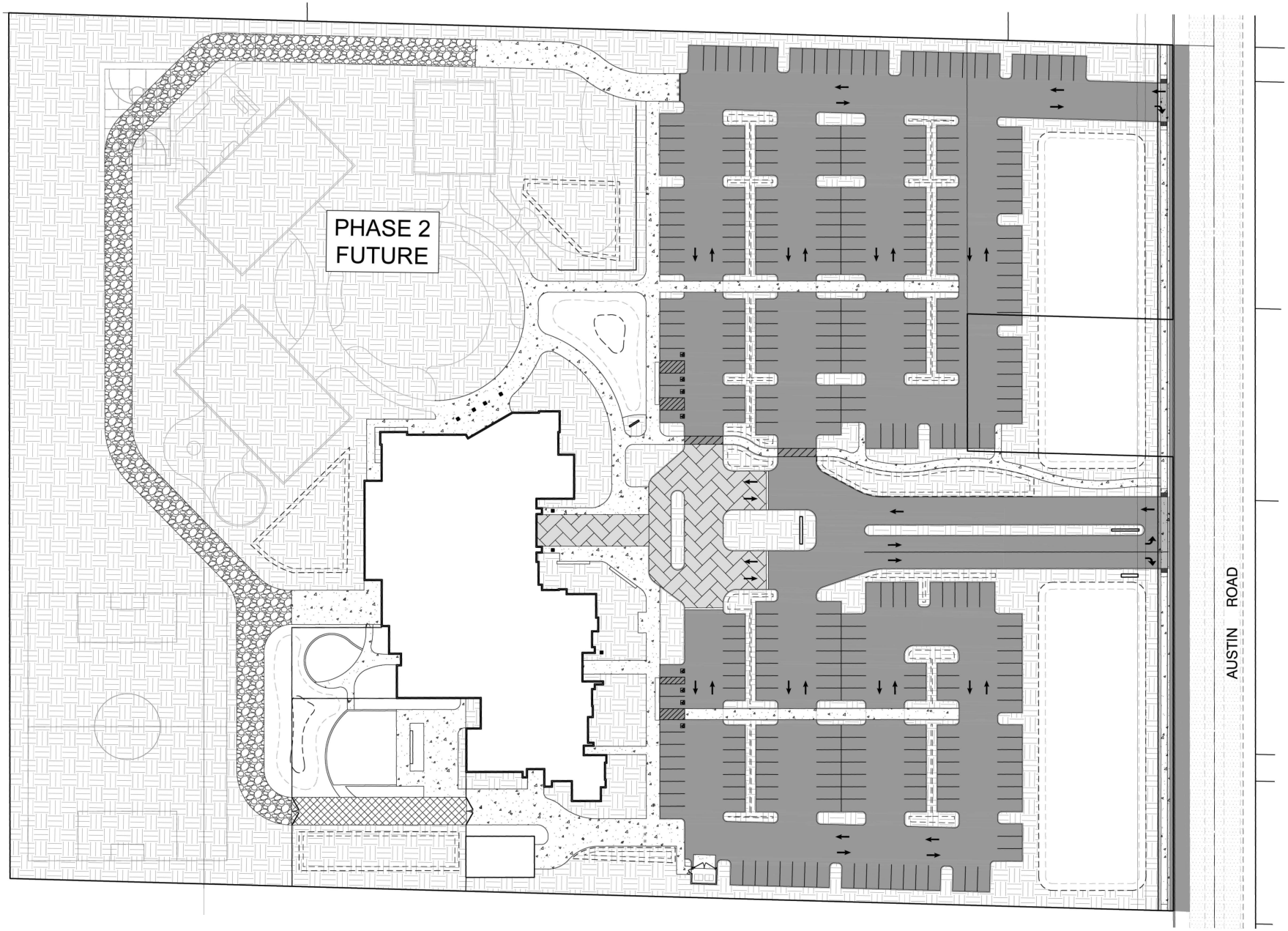
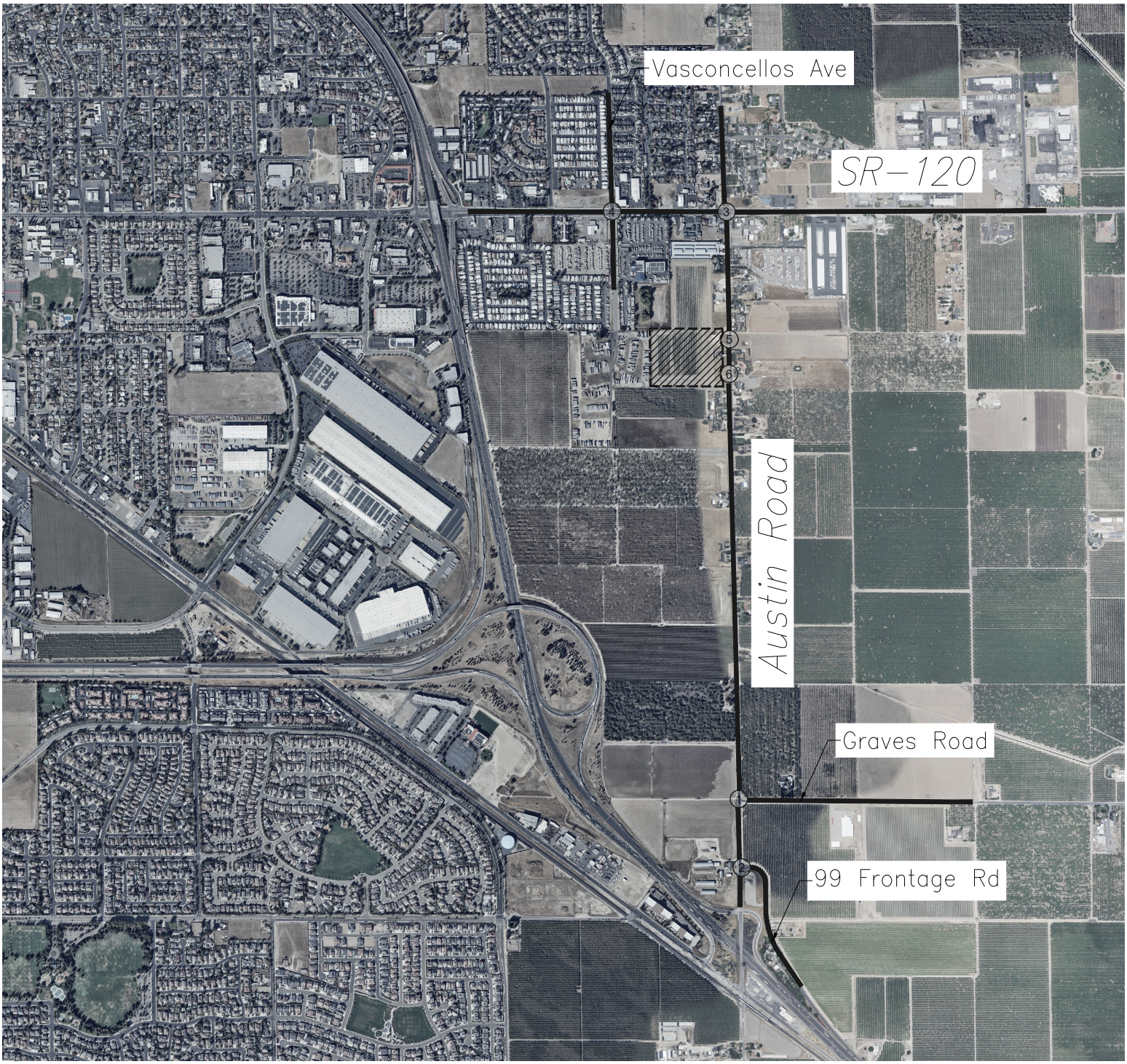


Exhibit 2: Proposed Project Site Plan

Cornerstone Community Church Traffic Impact Analysis



Legend:

Project Site

(#) Study Intersection Location

Exhibit 3: Project Study Area

Cornerstone Community Church Traffic Impact Analysis

DDI-25-001

Not to Scale

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3.0 EXISTING CONDITIONS

3.1 EXISTING CIRCULATION NETWORK/STUDY AREA CONDITIONS

The *City General Plan* classifies its streets and highways by their function. The description of these roadway classifications can be found in **Appendix B**. The characteristics of the roadways in the vicinity of the proposed project site are described in **Table 3.**

Table 3:
Roadway Characteristics within Study Area

Roadway	Classification[1]	Jurisdiction	Direction	Existing Travel Lanes	Median Type[2]	Speed Limit (mph)	On-Street Parking
Graves Road	Minor Arterial	Manteca	East-West	2	NM	35	No
Austin Road	Major Arterial	Manteca	North-South	2-4	NM	40-45	No
99 Frontage Road	Minor Arterial	Manteca	East-West	2	NM	35	No
SR-120	Major Arterial	Caltrans	East-West	2	TWLTL	45	No
Vasconcellos Avenue	Residential	Manteca	North-South	2	NM	25	Yes

1: Sources: City of Manteca General Plan (April 2023).
2: TWLTL = Two-Way Left-Turn Lane, RM= Raised Median, NM = No Median.

Exhibit 4 shows the *Existing* intersection controls and roadway geometry of the study area.

3.2 PEDESTRIAN AND BICYCLE FACILITIES

There are currently no bicycle lanes marked in the vicinity of the proposed project. However, Class II bicycle lanes are planned for the west bound leg of SR-120 and the north bound leg of Austin Road at the intersection of SR-120 and Austin Road. Class III bicycle lanes are planned for the east bound leg of SR-120 and the south bound leg of Austin Road at the same intersection. A *City General Plan* map of the planned bicycle lanes is included in **Appendix B**. Paved sidewalks exist along the south side of SR-120 at Austin Road. There are no pedestrian facilities amongst the other roadways in the study area. However, there are planned sidewalks for the north side of SR-120 at Austin Road.

3.3 EXISTING PUBLIC TRANSIT SERVICES

The City of Manteca is served by Manteca Transit which provides bus service throughout the City of Manteca. The proposed project is located within one-half mile of one stop, Vasconcellos Avenue and E Yosemite Avenue, served by Bus Route 1.

3.4 EXISTING TRAFFIC VOLUMES

Due to current construction taking place within the project area, collection of traffic counts would not be representative of typical conditions. As a result, the *Final Traffic Operations Analysis Report (FTOAR) for The State Route 120 / State Route 99 Improvement Project (January 2019)* developed for Caltrans was utilized. The Caltrans study included two intersections within the project study area. To account for the remaining intersections, recent traffic volumes were collected on Thursday, March 12, 2026 and utilized along with the Caltrans study to establish existing operations. The Caltrans study is shown in **Appendix B** and the recent traffic counts are shown in **Appendix C.**

The Caltrans' study evaluated three construction phases (Phase 1A, Phase 1B, and Phase 1C) to assess traffic operations. Phase 1A represents the 2023 construction condition, including the closure of the Austin Road northbound entrance ramp and southbound exit ramp. This roadway configuration remains substantially unchanged under existing (2026) conditions; therefore, Phase 1A was used to represent the Existing Conditions scenario for this analysis. Because the existing traffic circulation continues to be governed by the same roadway closures and detour patterns evaluated in the Caltrans study, the Phase 1A traffic volumes are considered representative of current operating conditions. Accordingly, no growth factors were applied to Phase 1A volumes, as applying regional growth to a construction-phase traffic assignment would not materially improve the representation of existing traffic conditions. It should also be noted, the Caltrans study developed the construction-phase traffic volumes using a subarea model of the San Joaquin Council of Governments (SJCOG) Travel Demand Forecasting (TDF) model, which incorporates the City of Manteca General Plan land use assumptions. Utilizing a combination of the Caltrans study volumes and the recent traffic counts, the following methodology was used for the study intersections to establish Existing conditions

The Vasconcellos Avenue / SR-120 intersection (Intersection 4) was not included in the Caltrans study. However, two adjacent intersections (Austin Rd and SR-99 NB Ramps) along SR-120 were included in the Caltrans study. To establish existing conditions for study intersection 4, the recently collected volumes were utilized, and a growth rate was applied based on the Caltrans study volumes for the two adjacent intersections to account for volume assumptions presumed by the Caltrans study (i.e. the City's General Plan).

For Austin Road / 99 Frontage Road (Intersection 2) and Austin Road / SR-120 (Intersection 3), traffic volumes were pulled from the Caltrans study, as these two study intersections were included in the study.

For Austin Road / Graves Road (Intersection 1), due to the proximity to Intersection 2, volume balancing was used based on Intersection 2 volumes. To account for movement splits and the eastbound direction, travel patterns from the recently collected traffic counts were used.

The resulting *Existing* AM peak hour volumes at each study intersection are shown in **Exhibit 5**, while the *Existing* PM peak hour volumes at each study intersection are shown in **Exhibit 6**.

3.5 EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE ANALYSIS

The AM and PM peak hour intersection analysis of the *Existing* traffic conditions are shown in **Table 4.** Calculations are based on the current geometrics at each study area intersection as shown in **Exhibit 4.** HCM analysis reports are provided in **Appendix D**.

Table 4:
Intersection Analysis – Existing Conditions

Intersection			Control Type[1]	Peak Hour	Existing Conditions	
					Delay[2]	LOS
1	Austin Road	Graves Road	TWSC	AM	20.6	C
				PM	36.6	E
2	Austin Road	99 Frontage Road	TWSC	AM	12.4	B
				PM	18.5	C
3	Austin Road	SR-120	Signal	AM	17.3	B
				PM	24.0	C
4	Vasconcellos Avenue	SR-120	Signal	AM	9.3	A
				PM	11.2	B

1: TWSC = Two-Way Stop-Control, AWSC = All Way Stop-Control.
2: Delay is shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one- or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 4**, the study intersections under *Existing* traffic conditions are currently operating at an acceptable LOS during the AM and PM peak hours with the exception of:

- Intersection 1: Austin Road/Graves Road



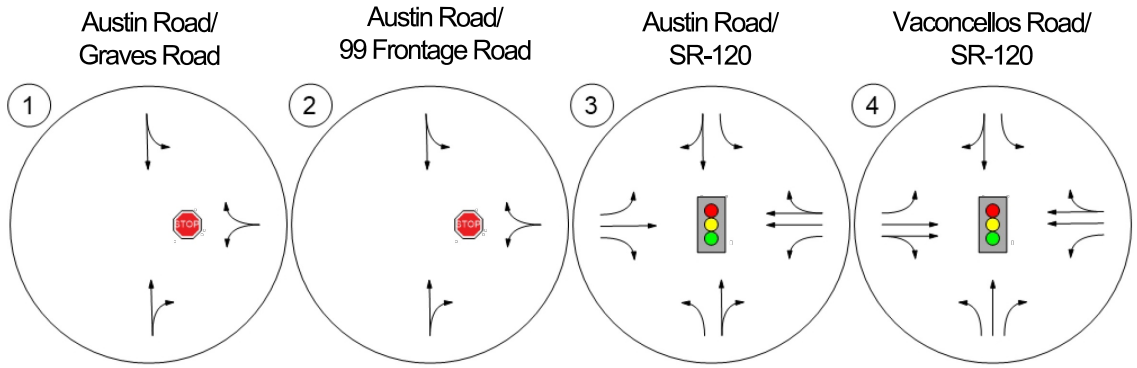


Exhibit 4: Existing Lane Geometry and Intersection Controls



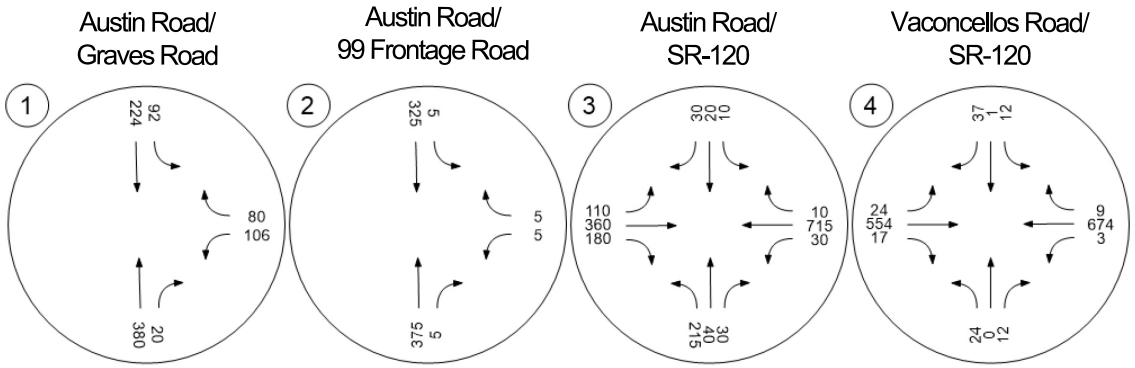


Exhibit 5: Existing AM Peak Hour Volumes



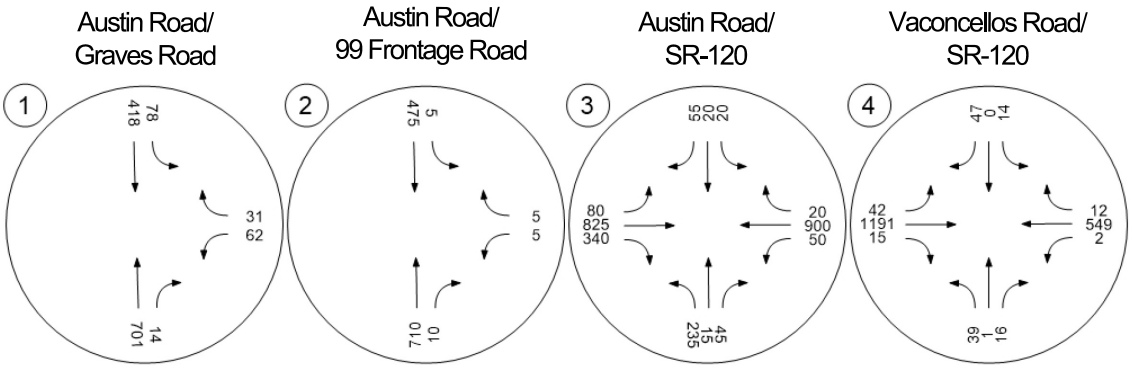


Exhibit 6: Existing PM Peak Hour Volumes

4.0 PROPOSED PROJECT

4.1 PROJECT DESCRIPTION

The proposed project includes the replacement of the existing Cornerstone Community Church with the construction of a new church located at 449 S Austin Road, Manteca CA. The proposed project will construct the church in two phases with the first phase consisting of a 32,987 square foot community church with a worship center and support buildings and the second phase consisting of an 8,000 square foot kids building, an 8,000 square foot youth building, a 4,000 square foot chapel. The proposed project will also include outdoor recreation with a kid's play area, soccer field, and basketball court. Operations of the church will stay consistent throughout the two phases. Church service will occur on Sundays from 8:00 AM – 1:00 PM and regular staff hours will be Tuesday through Thursday from 9:00 AM – 4:00 PM, with 8 employees on site at any given time. Additionally, weekday service will occur on Wednesdays from 6:30 PM – 8:00 PM. The same number of patrons will attend the church through both phase 1 and phase 2.

The proposed project site has an existing land use designation for Low Density Residential and zoned as R-1. Site access will be provided via two (2) proposed driveways on Austin Road, one right-in/right-out (RI/RO) driveway and one full access driveway further south.

The proposed project is anticipated to be completed and generating trips by 2027.

4.2 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic, both inbound and outbound, produced by a development. Determining trip generation for a proposed project is based on projecting the amount of traffic that the specific land uses being proposed will produce.

The traffic impact analysis will analyze the operations for both phase 1 and 2 as operations will stay consistent with the existing church. Operations will occur on Wednesdays from 6:30 PM – 8:00 PM and Sundays from 8:00 AM – 12:00 PM. The existing church currently has 150 people attending the church on Wednesday nights. Additionally, 400 people will attend the Sunday service throughout the three services. By dividing the attendees by 3, each sermon is expected to have 134 attendees per service. The services occur at 8:00 AM-9:00 AM, 9:30 AM – 10:30 AM, and 11:00 AM – 12:00 PM. The operation hours are outside of typical peak hours of traffic (i.e. 4:00 PM – 6:00 PM Peak traffic) and therefore, will not affect the peak hour traffic volumes. With the operations of the church, it is determined that Wednesday Peak Hours will be from 5:00 PM – 9:00 PM and Sunday Peak Hours will be from 7:00 AM – 2:00 PM. It should be noted, this study assumes single occupancy drivers and is therefore a conservative estimate on the trip generation; operationally, many patrons would be carpooling to and from the establishment.

Table 5 and **Table 6** summarizes the projected AM peak hour and PM peak hour from the proposed project operations.

Table 5:
Proposed Project Trip Generation (Wednesday)

Proposed Land Use[1]	Weekday PM Peak Hour		
	Volume		
	In	Out	Total
Church	150	150	300

1: Trip generation from Proposed Project operations

Table 6:
Proposed Project Trip Generation (Sunday)

Proposed Land Use[1]	Sunday AM Peak Hour		
	Volume		
	In	Out	Total
Church	134	134	268

1: Trip generation from proposed project operations

Table 7 summarizes the projected AM peak hour and PM peak hour using the *Institute of Transportation Engineers (ITE) Trip Generation Manual (12th Edition, 2025)*.

Table 7:
ITE Project Trip Generation

Proposed Land Use[1]	ITE Code	Qty	Unit[2]	Weekday PM Peak Hour					Sunday AM Peak Hour				
				Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Church	560	32.834	TSF	0.37	62:38	8	4	12	11.20	47:53	173	195	368
Net Total						**8**	**4**	**12**			**173**	**195**	**368**

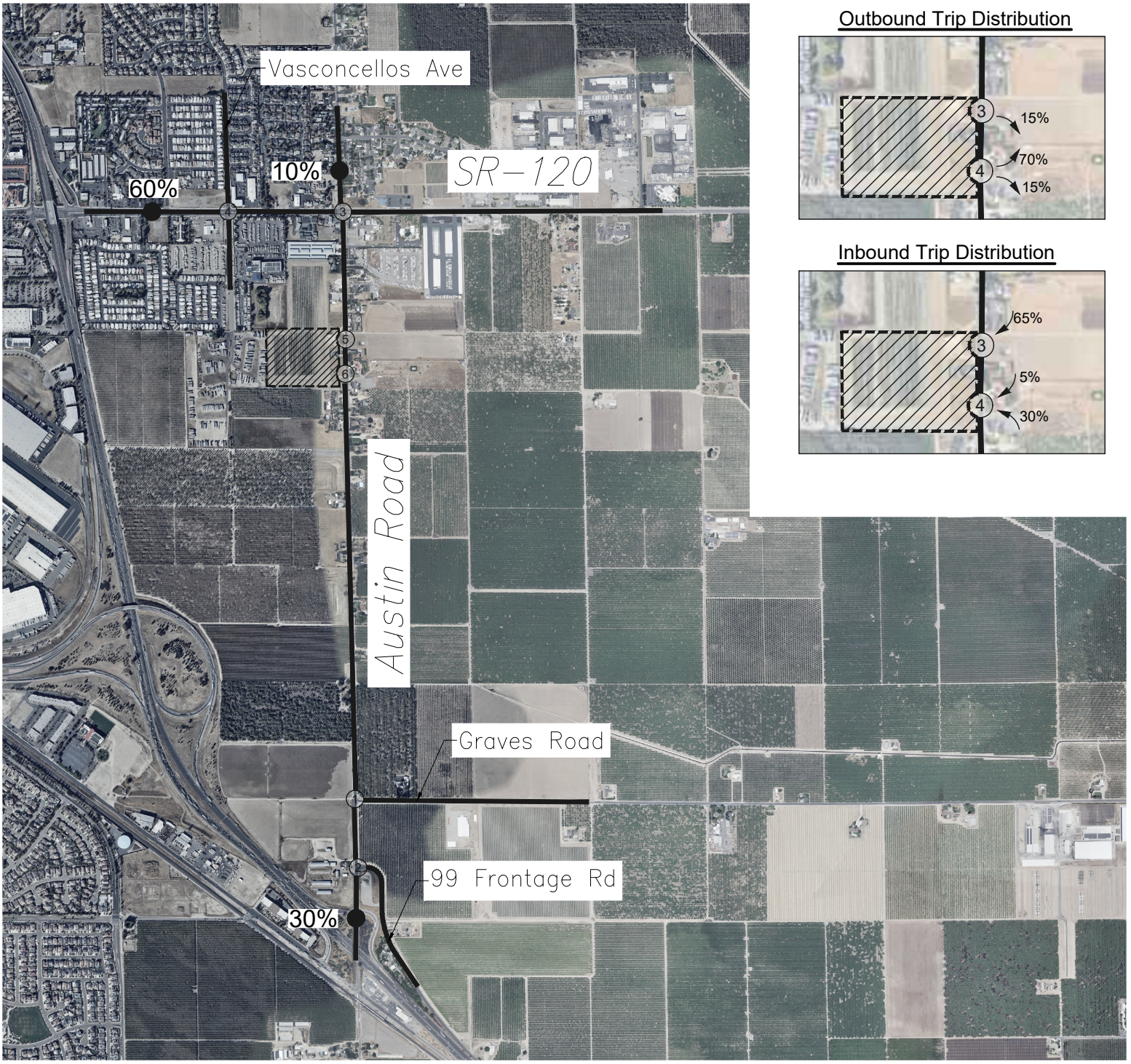
1: Trip generation and pass-by rates are from the ITE Trip Generation Manual (12th Edition, 2025).
2: TSF = Thousand Square Feet

The church's operations in comparison to the ITE Trip Generation Manual will generate 288 additional Wednesday PM trips and 100 less Sunday Peak Hour trips. Therefore, for a more conservative analysis, the trip generation based on the church's existing operations will be utilized for weekday PM peak hour operations. The ITE Trip Generation Manual trip generation rates provide a higher trip generation for the Sunday AM peak hour than the existing operations. Therefore, the analysis will utilize the ITE Trip Generation Manual Rates for Sunday AM Peak Hour scenarios.

For a more conservative analysis, the proposed project is expected to generate 300 Weekday PM peak hour trips and 368 Sunday AM peak hour trips.

4.3 PROJECT TRIP DISTRIBUTION

Projecting trip distribution involves the process of identifying probable destinations and traffic routes that will be utilized by the proposed project's traffic. The potential interaction between the proposed land use and surrounding regional access routes are considered to identify the probable routes onto which project traffic would distribute. The projected trip distribution for the proposed project is based on anticipated travel patterns to and from the project site. **Exhibit 7** shows the project proposed trip distribution.



Outbound Trip Distribution

Inbound Trip Distribution

Legend:

▨	Project Site
(#)	Study Intersection Location
(XX%)	Percent Trip Distribution

Exhibit 7: Proposed Trip Distribution

Cornerstone Community Church Traffic Impact Analysis

DDI-25-001

TJW ENGINEERING, INC.

Not to Scale

5.0 EXISTING PLUS PROJECT TRAFFIC CONDITIONS (EP)

The *Existing Plus Project (EP)* traffic conditions analysis is intended to identify current baseline conditions plus the proposed project.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the *EP* conditions scenario include the proposed project driveways. **Exhibit 8** shows the *Existing Plus Project (EP)* Lane configuration and traffic controls.

5.2 EP TRAFFIC VOLUMES

The *EP* traffic conditions scenario analyzes *Existing* volumes, plus project traffic volumes. As discussed in section 3.4, this study utilizes volumes from the *Final Traffic Operations Analysis Report (FTOAR) for The State Route 120 / State Route 99 Improvement Project (January 2019)* that are inclusive of the City of Manteca's General Plan. It is understood that the adjacent Yosemite Square project was previously approved and incorporated into the City's General Plan before the Caltrans study.[1] Therefore, the volumes utilized for this study are inclusive of the adjacent Yosemite Square project currently under construction.

EP Volumes = Existing Counts + Proposed Project

Exhibit 9 and **Exhibit 10** shows *EP* AM and PM peak hour volumes at the study intersections.

5.3 EP TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE ANALYSIS

The AM and PM peak hour intersection analysis of the *EP* traffic conditions are shown in **Table 8.** Calculations are based on the current geometrics at each study area intersection as shown in **Exhibit 8.** HCM analysis reports are provided in **Appendix D**.

[1] In coordination with City staff, the previous traffic study for the Yosemite Square project was unavailable

Table 8:
Intersection Analysis – Existing Plus Project Conditions

Intersection			Control Type[1]	Peak Hour	Existing Plus Project Conditions	
					Delay[2]	LOS
1	Austin Road	Graves Road	TWSC	AM	25.09	D
				PM	44.40	E
2	Austin Road	99 Frontage Road	TWSC	AM	13.34	B
				PM	20.10	C
3	Austin Road	SR-120	Signal	AM	21.20	C
				PM	31.20	C
4	Vasconcellos Avenue	SR-120	Signal	AM	9.50	A
				PM	11.60	B
5	Austin Road	Project Driveway 1	TWSC	AM	9.46	A
				PM	10.00	B
6	Austin Road	Project Driveway 2	TWSC	AM	18.73	C
				PM	21.80	C

1: TWSC = Two-Way Stop-Control, AWSC = All Way Stop-Control.
2: Delay is shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one- or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 8**, the study intersections under *EP* traffic conditions are projected to continue to operate at an acceptable LOS during the AM and PM peak hours with the exception of:

- Intersection 1: Austin Road/Graves Road

5.4 EXISTING PLUS PROJECT SIGNAL WARRANT ANALYSIS

Per the City of Manteca's request, a traffic signal warrant was conducted for the intersection of Austin Road and Driveway 2. The intersection is unsignalized. Figure 4C-3 contained in the California Manual on Uniform Traffic Control Devices (CA MUTCD) was utilized to determine if a traffic signal is warranted. Warrant analysis worksheets are provided in **Appendix E**.

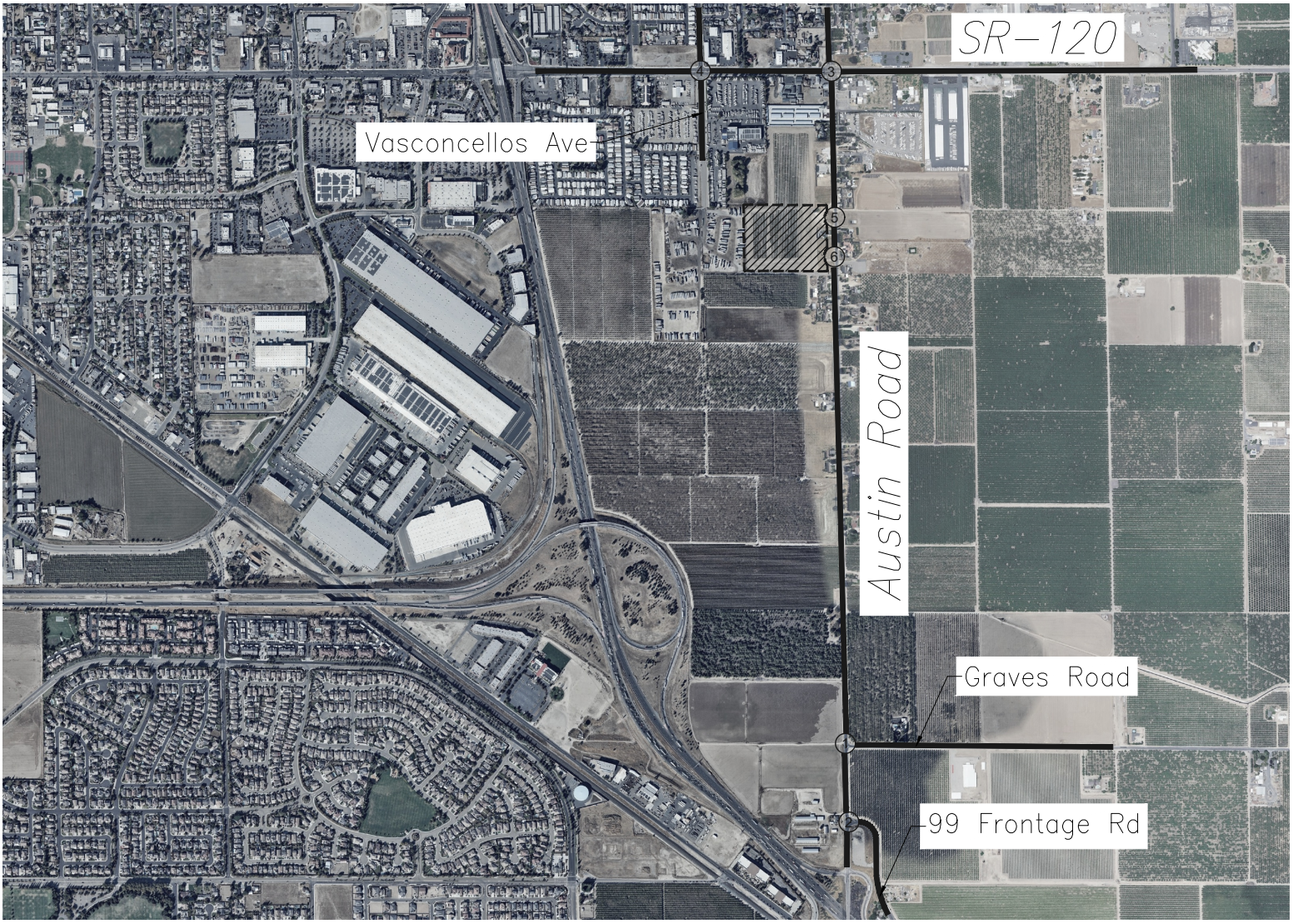
The result of the traffic signal warrant analysis for Austin Road and Driveway 2 for *Existing Plus Project* traffic conditions AM and PM peak hour is shown in **Table 9**.

Table 9:
Existing Plus Project Signal Warrant Analysis

Intersection			Control Type[1]	Peak Hour	Existing Plus Project Conditions Is a Signal Warranted?
6	Austin Road	Project Driveway 2	TWSC	AM	No
				PM	No

1: TWSC = Two-Way Stop-Control, AWSC = All Way Stop-Control.
2: Delay is shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one- or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

The signal warrant is not satisfied for Austin Road and Driveway 2 for *Existing Plus Project* AM and PM conditions.



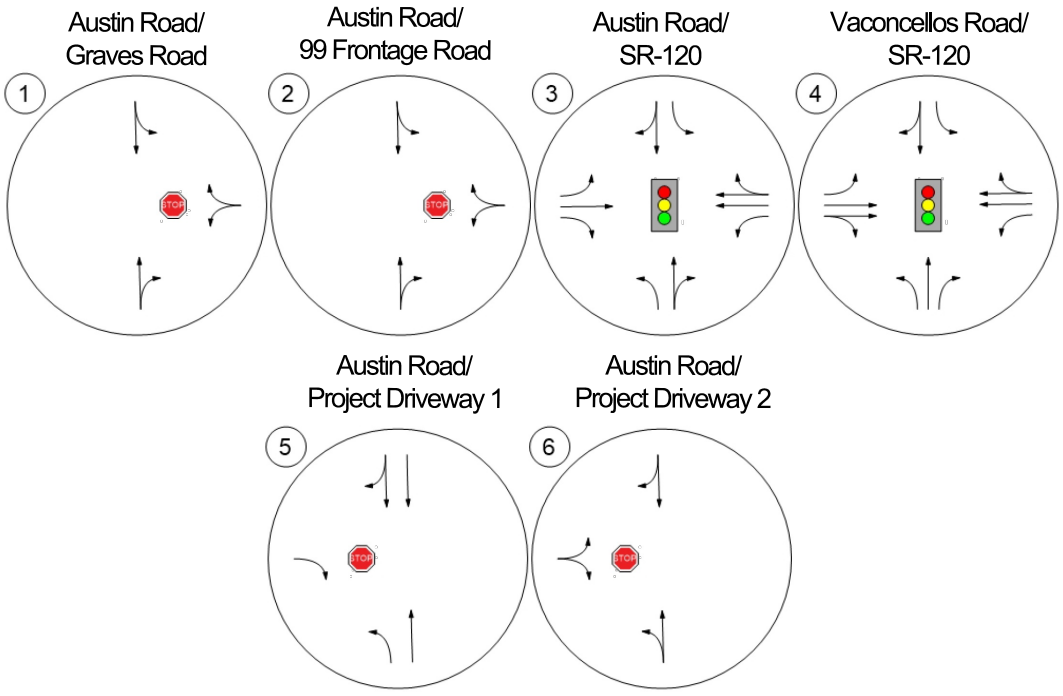
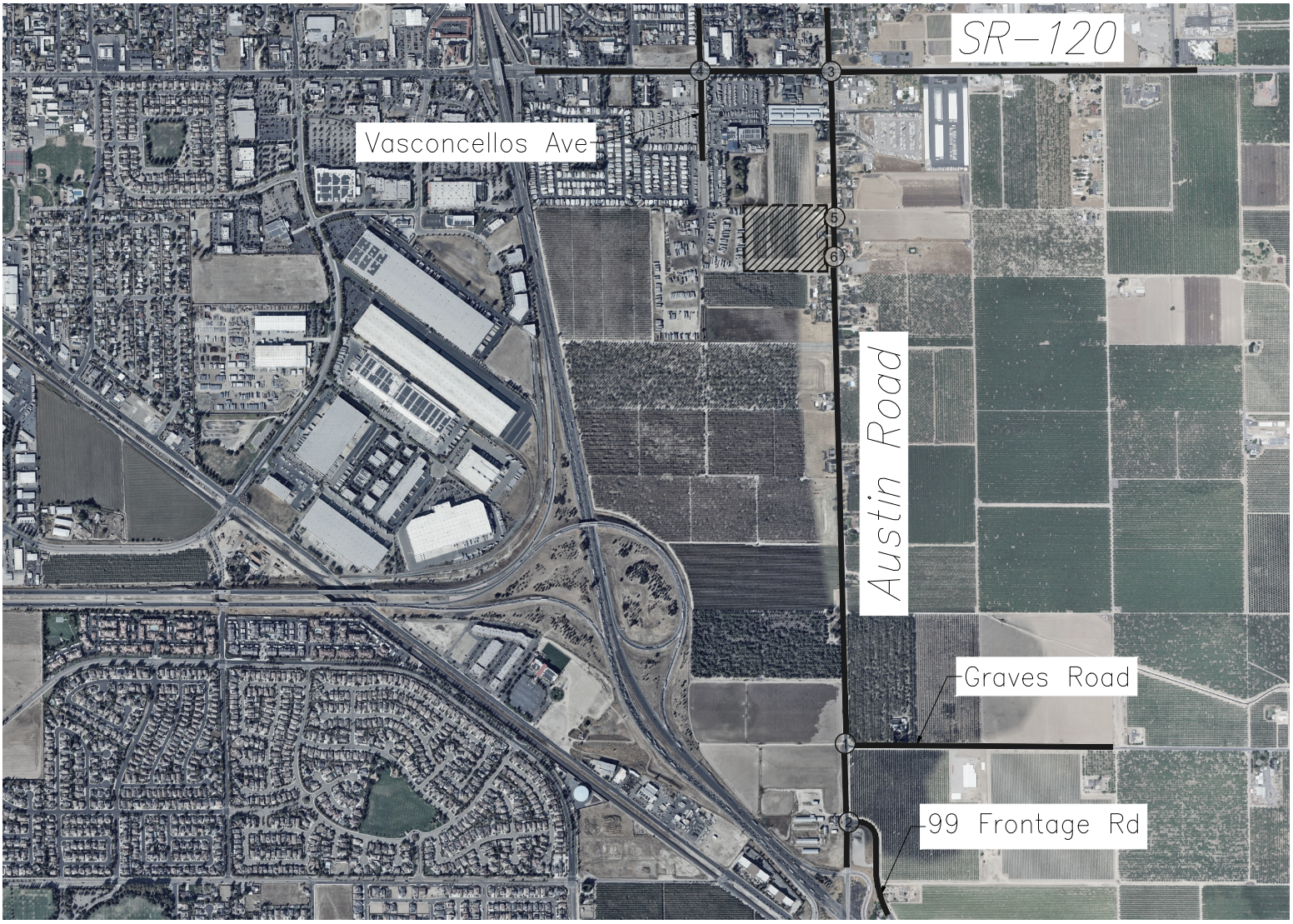


Exhibit 8: Existing Plus Project Lane Geometry and Intersection Controls



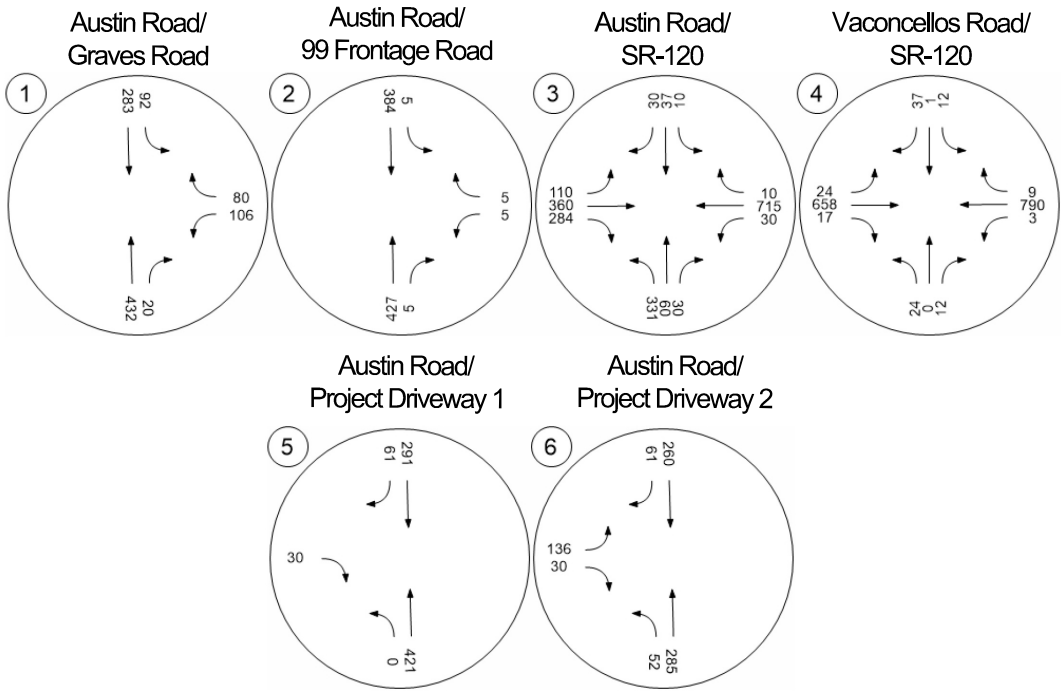
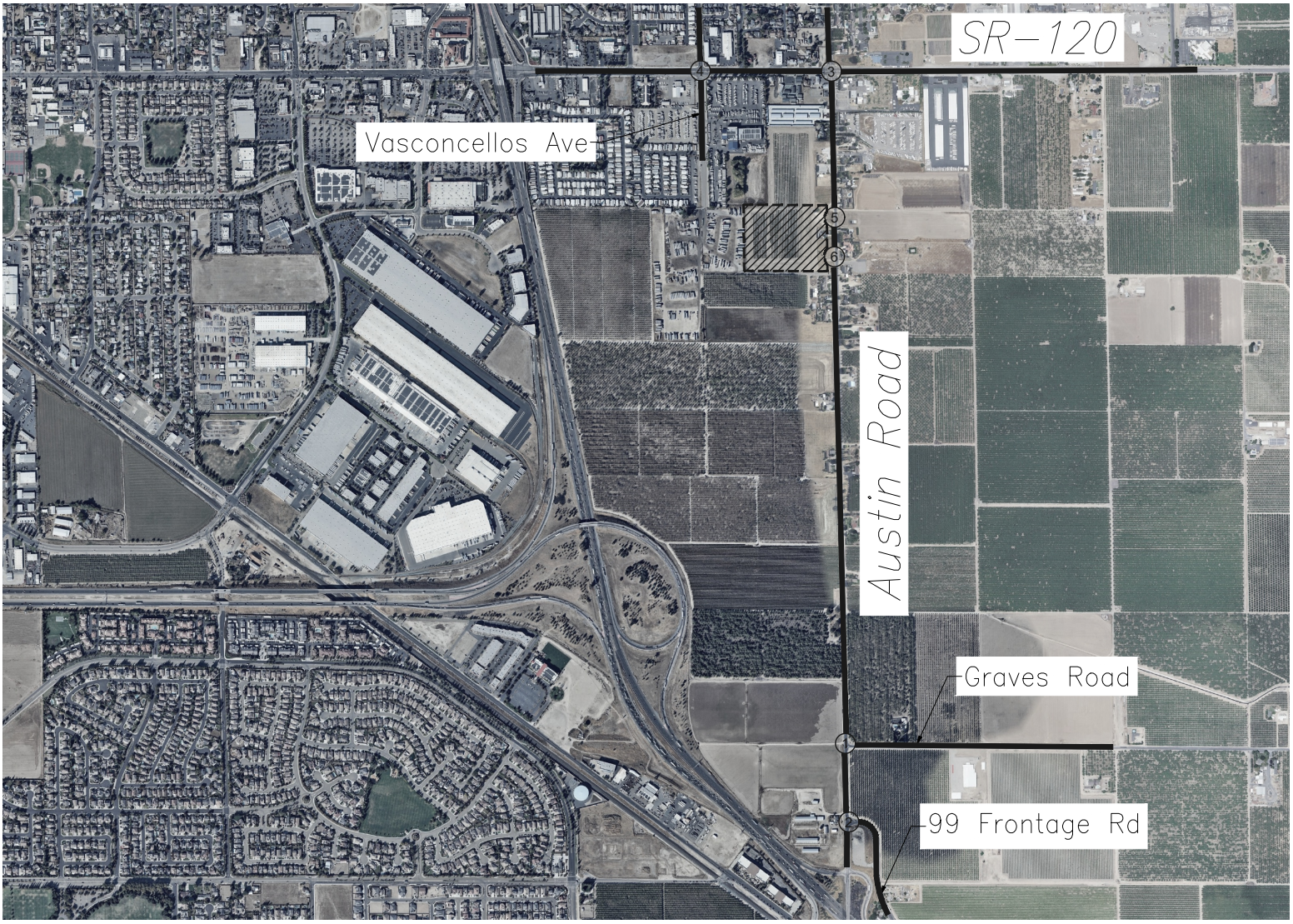


Exhibit 9: Existing Plus Project AM Peak Hour Volumes



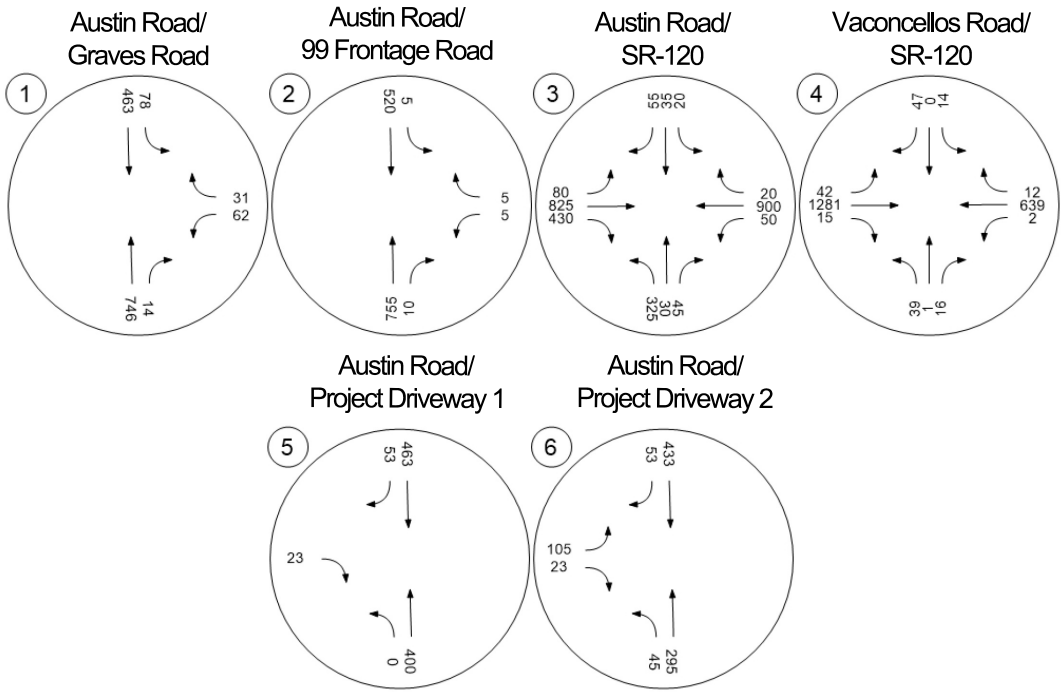


Exhibit 10: Existing Plus Project PM Peak Hour Volumes

6.0 FULL BUILD WITH PROJECT TRAFFIC CONDITIONS

The *Full Build with Project* traffic conditions analysis is intended to identify traffic conditions at the time of the *Full Build* Year of the *City General Plan*. This includes impacts from cumulative projects in the study area.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the *Full Build with Project* traffic conditions scenario is shown in **Exhibit 6.**

6.2 FULL BUILD WITH PROJECT TRAFFIC VOLUMES

Full Build with Project traffic volumes were obtained in a similar manner as outlined in Section 3.4, however, to represent Full Build conditions the Design Year 2043 traffic volumes from the Caltrans study were used instead. In addition, it was determined that the Caltrans study volumes are inclusive of the City of Manteca's General Plan. Therefore, by utilizing the Caltrans study volumes any projects identified in the City's General Plan, such as any anticipated development east of Austin Road and the adjacent Yosemite Square project, would be included in the volumes.

Exhibit 12 and **Exhibit 13** shows *Full Build with Project* AM and PM peak hour volumes at the study intersections.

6.3 FULL BUILD WITH PROJECT INTERSECTION LEVEL OF SERVICE ANALYSIS

The AM and PM peak hour intersection analysis of the *Full Build with Project* traffic conditions is shown in **Table 10**. Calculations are based on the current geometrics at the study area intersections. HCM analysis reports are provided in **Appendix D.**

Table 10:
Intersection Analysis – Full Build with Project Conditions

Intersection			Control Type[1]	Peak Hour	Full Build Project No Signal Conditions	
					Delay[2]	LOS
1	Austin Road	Graves Road	TWSC	AM	145.51	F
				PM	63.84	F
2	Austin Road	99 Frontage Road	TWSC	AM	14.36	B
				PM	21.75	C
3	Austin Road	SR-120	Signal	AM	21.40	C
				PM	110.70	F
4	Vasconcellos Avenue	SR-120	Signal	AM	10.50	B

Intersection			Control Type[1]	Peak Hour	Full Build Project No Signal Conditions	
					Delay[2]	LOS
				PM	12.20	B
5	Austin Road	Project Driveway 1	TWSC	AM	9.23	A
				PM	10.51	A
6	Austin Road	Project Driveway 2	TWSC	AM	13.52	B
				PM	20.34	C

1: TWSC = Two-Way Stop-Control, AWSC = All Way Stop-Control.
2: Delay is shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one- or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 10**, the study intersections under *Full Build with Project* traffic conditions are projected to continue to operate at an acceptable LOS during the AM and PM peak hours with the exception of:

- Intersection 1: Austin Road/Graves Road
- Intersection 3: Austin Road/SR-120
-

6.4 FULL BUILD WITH PROJECT SIGNAL WARRANT ANALYSIS

Per the City of Manteca's request, a traffic signal warrant was conducted for the intersection of Austin Road and Driveway 2. The intersection is unsignalized. Figure 4C-3 contained in the California Manual on Uniform Traffic Control Devices (CA MUTCD) was utilized to determine if a traffic signal is warranted. Warrant analysis worksheets are provided in **Appendix E**.

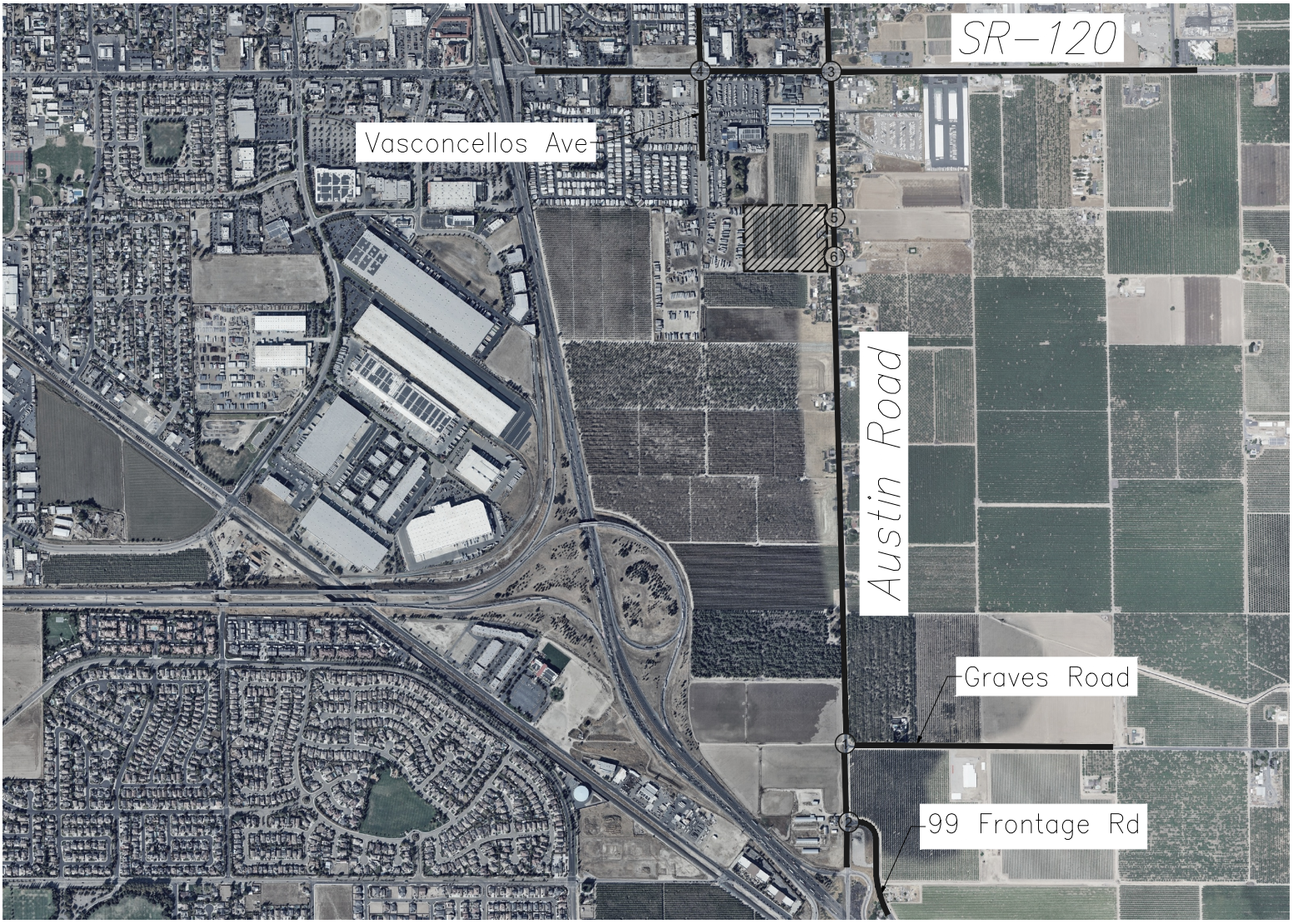
The result of the traffic signal warrant analysis for Austin Road and Driveway 2 for *Full Build with Project (Stop Control)* traffic conditions AM and PM peak hour is shown in **Table 11**.

Table 11:
Full Build with Project Signal Warrant Analysis

Intersection			Control Type[1]	Peak Hour	Full Build Project No Signal Conditions
					Is a Signal Warranted?
6	Austin Road	Project Driveway 2	TWSC	AM	No
				PM	No

1: TWSC = Two-Way Stop-Control, AWSC = All Way Stop-Control.
2: Delay is shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one- or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

The signal warrant is not satisfied for Austin Road and Driveway 2 for *Full Build with Project (Stop Control)* AM and PM conditions.



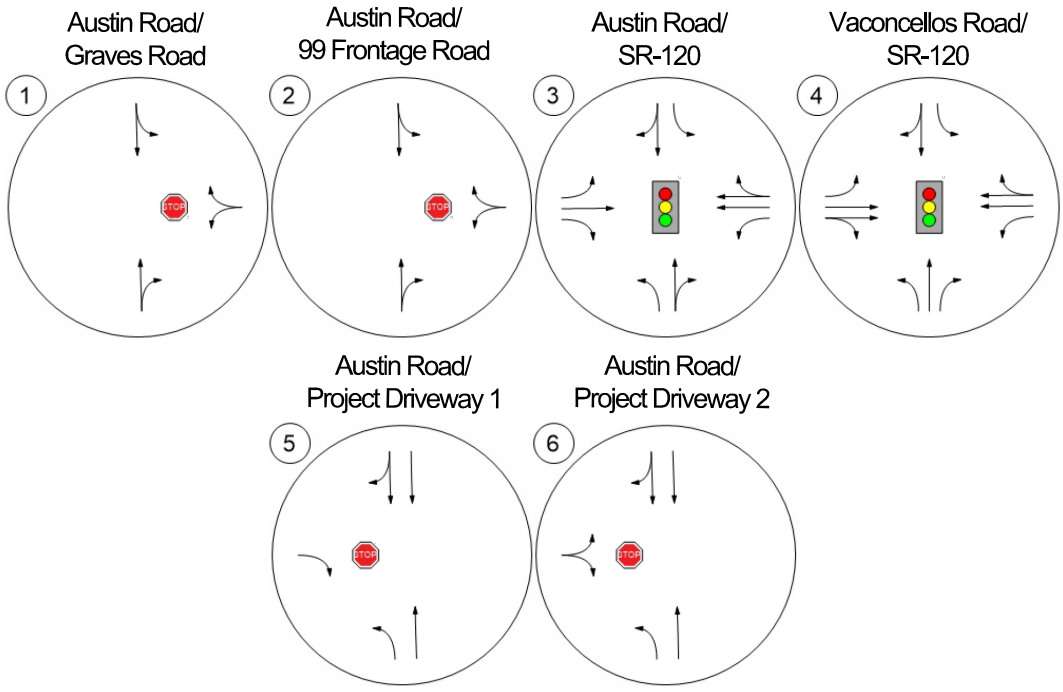
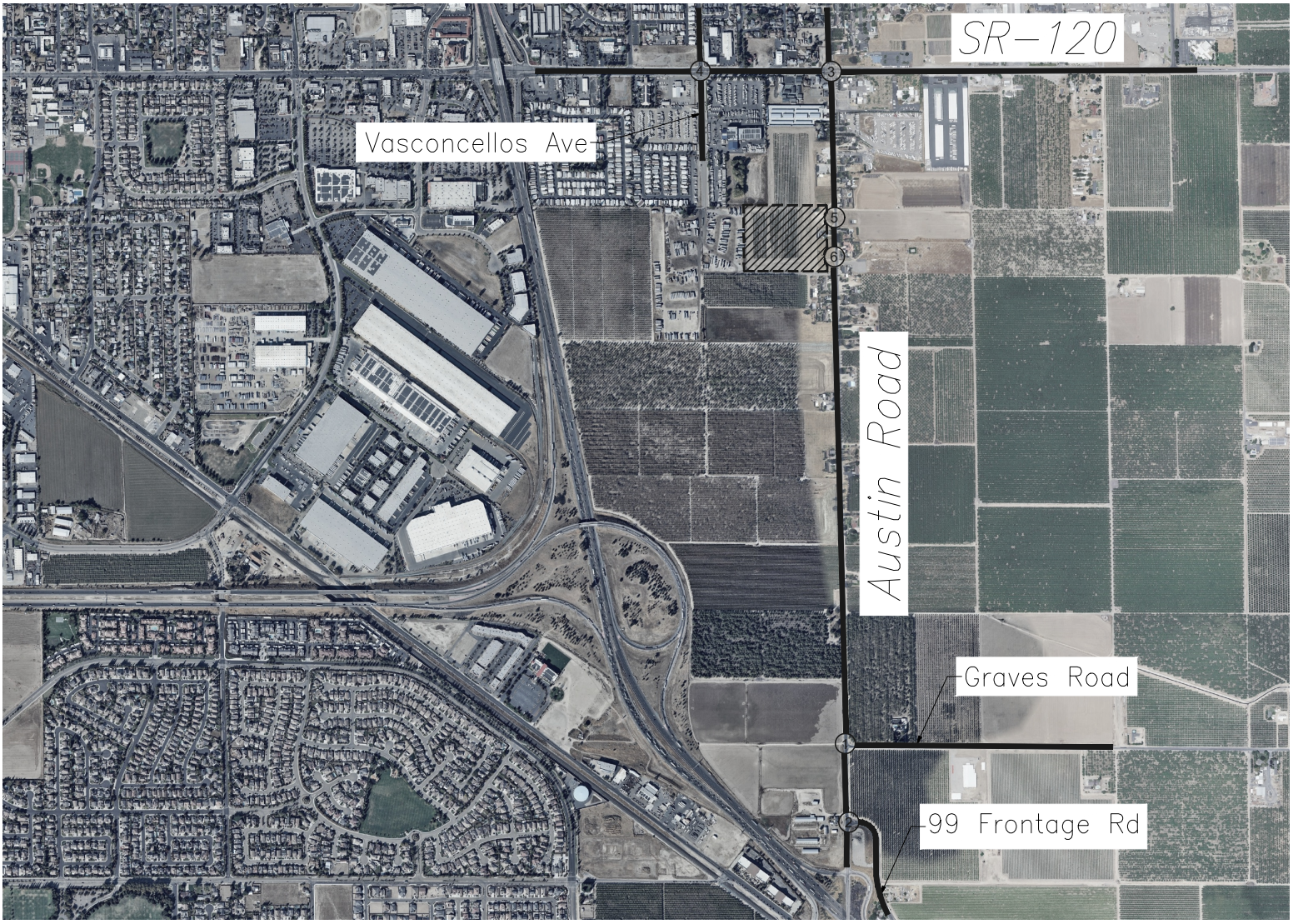


Exhibit 11: Full Build with Project (Stop Control) Lane Geometry and Intersection Controls



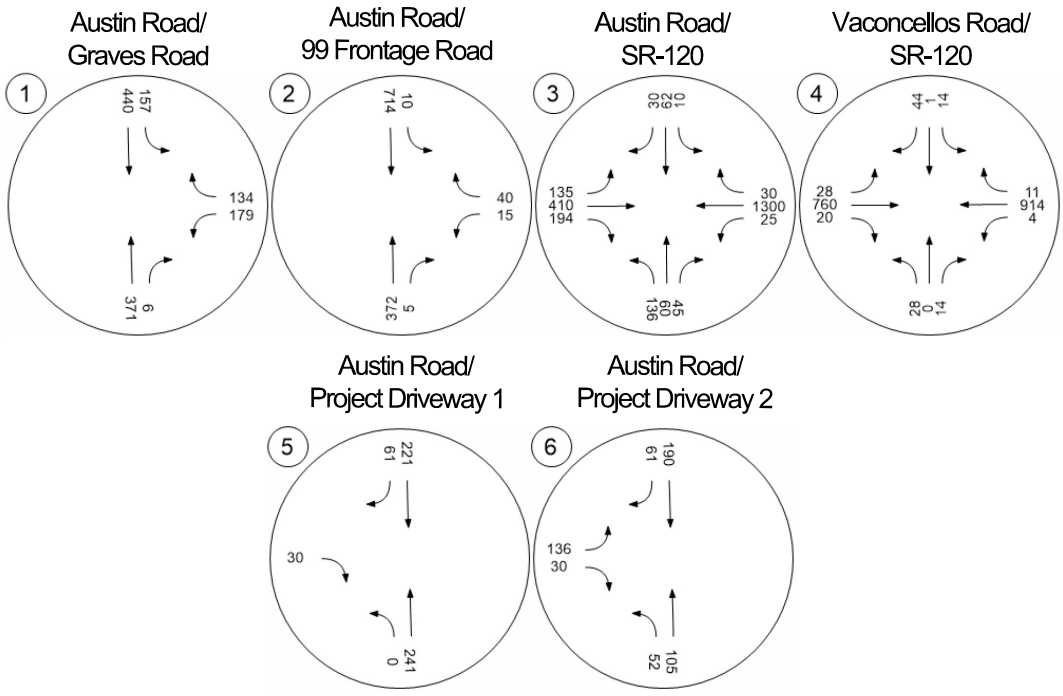
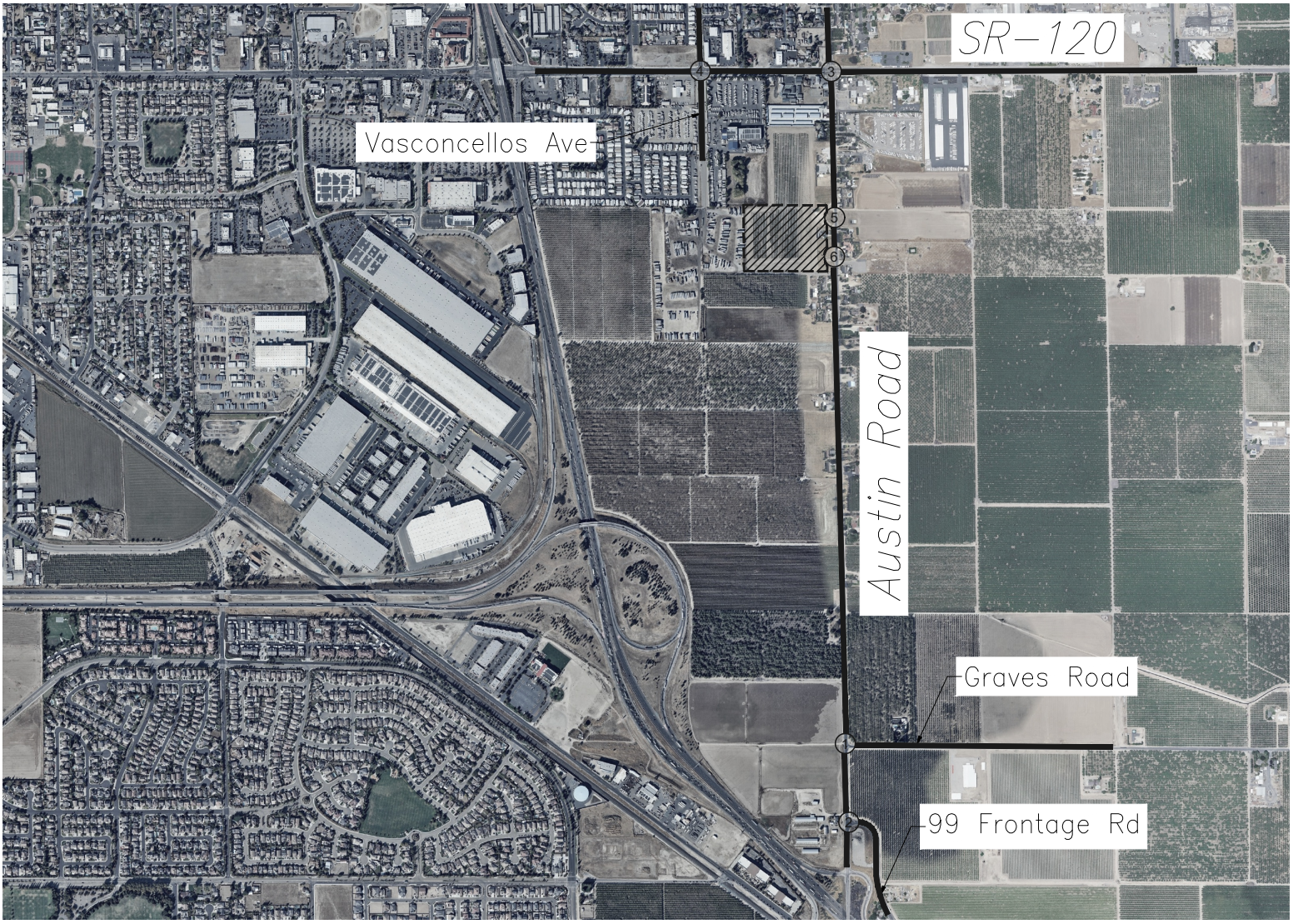


Exhibit 12: Full Build with Project (Stop Control) AM Peak Hour Volumes



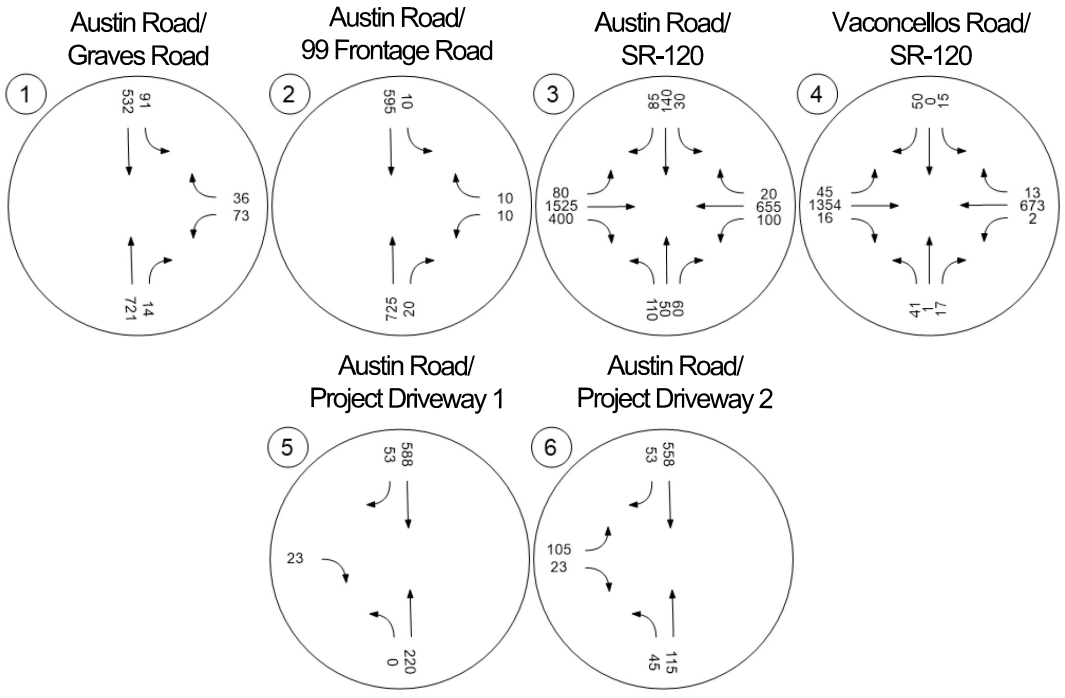


Exhibit 13: Full Build with Project (Stop Control) PM Peak Hour Volumes

7.0 RECOMMENDED IMPROVEMENTS

The development of the proposed project would result in unsatisfactory impacts at the following intersection:

- Intersection 1: Austin Road/Graves Road
- Intersection 3: Austin Road/SR-120

7.1 RECOMMENDED INTERSECTION IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the *Full Build with Project and No Signal on Project Driveway* traffic conditions scenario include the *City of Manteca General Plan Update (City General Plan)* (April 2023). Based on Figure C-1: Major Streets Circulation Plan in the *City General Plan,* Austin Road and SR-120 will ultimately have four lanes.

Recommended improvement for *Full Build with Project (Stop Control)*:

- **Intersection 1: Austin Road/Graves Road** – Add right turn pocket in the westbound direction, widen southbound lane to have one thru lane and one thru-left lane
- **Intersection 3: Austin Road/SR-120** – Convert right turn lane in the eastbound direction to a shared thru right turn lane; Change the northbound and southbound left turn lane from split to protected

Exhibit 13 shows the lane geometry for the intersections with the *General Plan* buildout and the project improvements during Full Build Year. The *Full Build with Project (Stop Control) with Improvements* conditions AM and PM peak hour intersection analysis is shown in **Table 12**. HCM analysis sheets are provided in **Appendix D**.

Table 12:
Intersection Analysis – Recommended Improvements Level of Service

Intersection			Improvement	Peak Hour	Full Build Plus Project No Signal Conditions		Full Build Plus Project No Signal with Improvements Conditions	
					Delay[1]	LOS	Delay[1]	LOS
1	Austin Road	Graves Road	Lane Geometry Changes	AM	127.10	F	34.08	D
				PM	63.80	F	30.90	D
3	Austin Road	SR-120	Lane Geometry Changes; Signal Phase Changes	AM	19.10	D	21.50	C
				PM	110.70	F	46.50	D

1: Delay is shown in seconds per vehicle. Per the Highway Capacity Manual 7th Edition, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 12**, the study intersections with improvements are projected to continue to operate at an acceptable LOS during the AM and PM peak hours.

7.2 QUEUING ANALYSIS WITH IMPROVEMENTS

A queuing analysis was conducted at the study intersections for the *Full Build with Project and No Signal on Project Driveway Conditions with Improvements* to determine if vehicles have sufficient space in the turning lane without causing queuing issues. The analysis was conducted for the AM and PM peak hours. The traffic modeling and signal timing optimization software package Synchro (Version 12) has been utilized to assess queues. Synchro is a macroscopic traffic software program that is based on the signalized and unsignalized intersection capacity analyses as specified in the HCM. SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. The 95th percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). However, the average queue is the average of all the two-minute maximum queues observed by SimTraffic. The maximum back of queue observed for every two-minute period is recorded by SimTraffic.

Many jurisdictions utilize the 95th percentile queues for design purposes. The random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each movement. A SimTraffic simulation has been recorded during the weekday AM and weekday PM peak hours and has been seeded for 10-minute periods with 60-minute recording intervals. Queuing results are provided in **Appendix F**.

The 95th percentile queue lengths and storage lengths for the turn pockets of each study intersection are shown in **Table 13**. Each movement's queue can be accommodated by the storage lengths provided in the *Full Build with Project and No Signal on Project Driveway* Conditions with Improvements.

Table 13
Cumulative Conditions Queuing Analysis

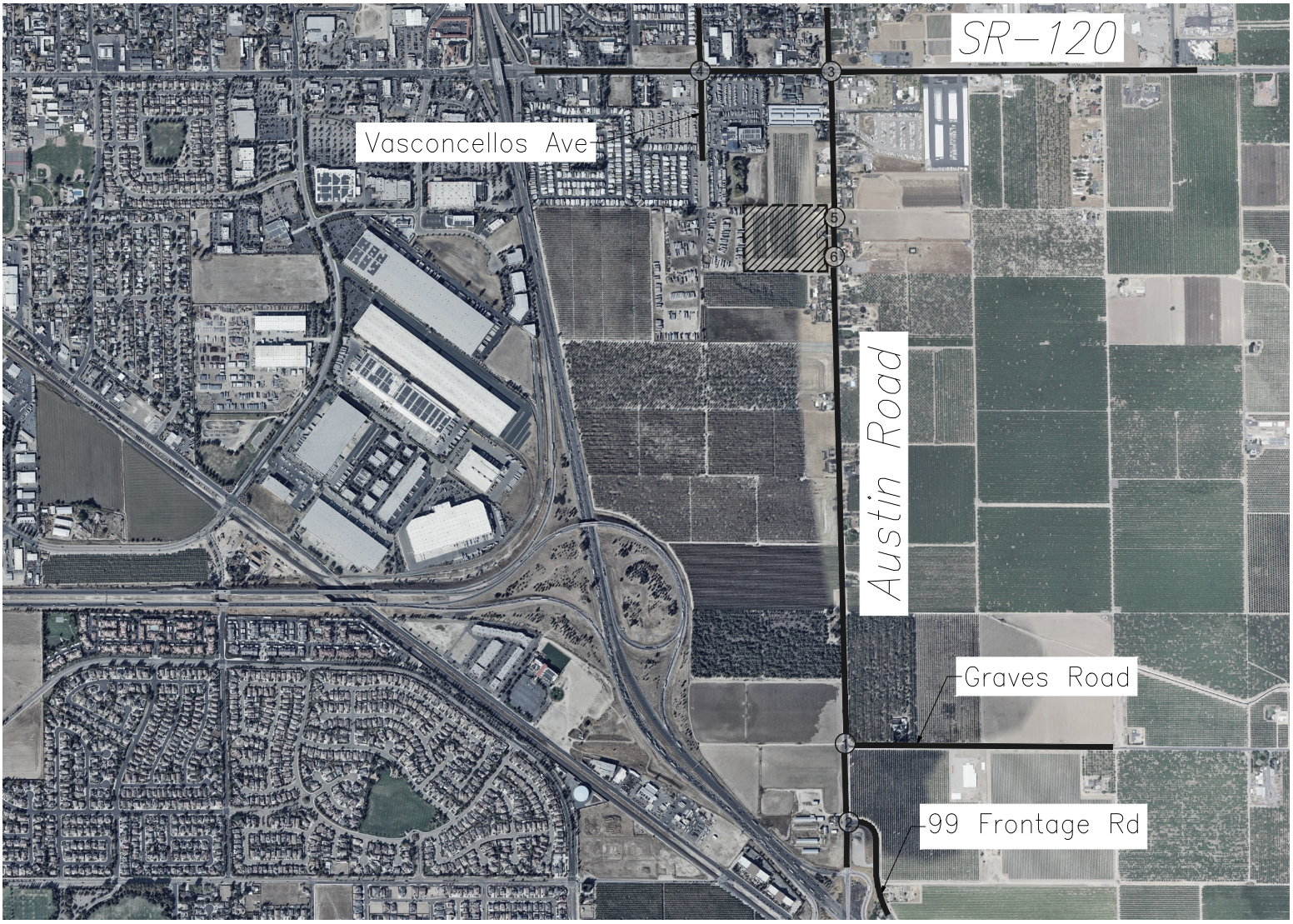
Intersection		Movement	Storage Length (ft)	AM Peak Hour 95th Percentile Queue Length (ft)	PM Peak Hour 95th Percentile Queue Length (ft)
1	Austin Road / Graves Road	WBL	150	126	65
		WBR	150	65	45
3	Austin Road / SR-120	EBL	774*	136	603
		WBL	470	137	193
		NBL	225	162	154
		SBL	180	32	416
4	Vasconcellos Avenue / SR-120	EBL	400	49	61
		WBL	200	28	16
		NBL	50	44	45
		NBR	50	25	32

Intersection		Movement	Storage Length (ft)	AM Peak Hour 95th Percentile Queue Length (ft)	PM Peak Hour 95th Percentile Queue Length (ft)
		SBL	160	33	39
5	Austin Road / Project Driveway 1	EBR	50	50	42
6	Austin Road / Project Driveway 2	NBL	50	29	49

*= Left turn lane transitions to a two way left turn lane that extends to the nearest intersection

7.3 PROJECT FAIR SHARE

Due to the existing construction within the project study area, the volume development for this analysis utilized volumes derived from a Caltrans study that utilized a regional travel demand model. The regional travel demand model includes the City's General Plan Build Out assumptions and does not provide a breakdown of cumulative projects. Without a breakdown of cumulative projects, a fair share calculation cannot be determined. It is recommended to coordinate with City staff to determine an appropriate fair share for the identified improvements.



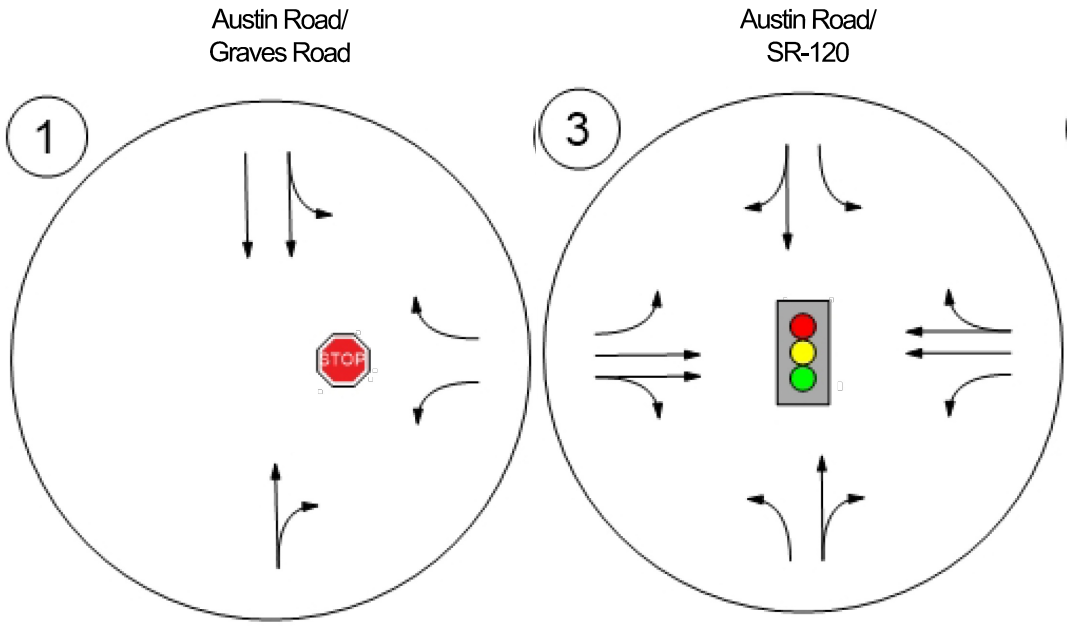


Exhibit 14: Full Build with Project (Stop Control) with Improvements Lane Geometry and Intersection Controls

APPENDIX

Appendix A: Glossary of Terminology
Appendix B: Scoping Agreement and City Documents
Appendix C: Existing Traffic Counts
Appendix D: HCM Analysis Sheets
Appendix E: Signal Warrant Analysis Sheets
Appendix F: Queue Analysis Sheets

APPENDIX A

GLOSSARY OF TERMINOLOGY

Glossary of Terminology

ACRONYMS:

ADT	Average Daily Traffic
Caltrans	California Department of Transportation
DU	Dwelling Unit
LOS	Level of Service
TSF	Thousand Square Feet

TERMS

AVERAGE DAILY TRAFFIC – *The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.*

CAPACITY – T*he maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.*

CORNER SIGHT DISTANCE – *The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic travelling at a given speed to radically alter their speed or trajectory. Corner sight distance is measured from the driver's eye at 42 inches above the pavement to an object height of 36 inches above the pavement in the center of the nearest approach lane.*

CYCLE LENGTH – *The time period in seconds required for a traffic signal to complete one full cycle of indications.*

DELAY – *The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.*

FREE FLOW – *Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.*

LEVEL OF SERVICE – *A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.*

PEAK HOUR – *The 60 consecutive minutes with the highest number of vehicles.*

QUEUE LENGTH – *The length of vehicle queue, typically expressed in feet, waiting at a service area such as a Traffic signal, stop sign, or access gate.*

SIGHT DISTANCE – *The continuous length of roadway visible to a driver or roadway user.*

SIGNAL CYCLE – *The time period in seconds required for one complete sequence of signal indications.*

SIGNAL PHASE – *The part of the signal cycle allocated to one or more traffic movements.*

STARTING DELAY – *The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through an intersection.*

TRAFFIC-ACTUATED SIGNAL – *A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.*

TRIP – *The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.*

TRIP GENERATION RATE – *The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.*

TURNING RADIUS – *The circular arc formed by the smallest turning path radius of the front outside tire of a vehicle, such as that performed by a U-turn maneuver. This is based on the length and width of the wheel base as well as the steering mechanism of the vehicle.*

APPENDIX B

SCOPING AGREEMENT AND CITY DOCUMENTS

Scoping Agreement for Traffic Impact Analysis

This form acknowledges the requirements for the traffic impact analysis of the following project. The analysis will follow the local jurisdiction's traffic impact analysis guidelines.

Project Name:	Cornerstone Community Church
Project Address:	449 S Austin Road, City of Manteca (APN 22802044)
Project Description:	Construction of a new 32,834 sq ft Church facility that would replace the existing Cornerstone
	Community Church located at 10948 S Airport Way

	Consultant	Developer
Name:	TJW Engineering	DEGRAFF DEVELOPMENT, INC
Address:	9841 Irvine Center Drive, Suite 200	501 S. Stockton
	Irvine, CA	Ripon, CA 95366
Telephone:	949-878-3509	
Email:	Tiffany@tjwengineering.com	

Trip Generation Source: Operations Data / ITE Trip Generation Manual, 12th Edition (2025)

Current GP Land Use:	LDR	Proposed Land Use:	Commercial
Current Zoning:	CMU	Proposed Zoning:	Commercial

Is the project screened from LOS analysis? [ ] Yes [X] No

More Information:	A focus traffic impact study for Wednesday evenings and Sunday mornings. Operations will occur on Wednesdays from 6:30 PM – 8:00 PM and Sundays from 8:00 AM – 12:00PM.

Is the project screened from VMT analysis? [X] Yes [ ] No

Justification:	VMT is screened out as this is a local serving project.

	Wednesday Trip Generation			Sunday Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips				134	134	268
PM Trips	150	150	300			
Daily						

Internal Trip Capture: [ ] Yes [X] No _____ % Trip Discount

Pass-By Allowance: [ ] Yes [X] No _____ % Trip Discount

Trip Distribution: See attached exhibit

Project Build-out Year: 2027 (to be verified) Annual Ambient Growth Rate: 2 %

Study Intersections:

1. Austin Road / Graves Road
2. Austin Road / 99 Frontage Road
3. Austin Road / SR-120
4. Vasconcellos Avenue / SR-120
5. Austin Road / Project Driveway 1
6. Austin Road / Project Driveway 2
7.
8.
9.
10.

Study Roadway Segments:

1.
2.

Analysis Scenarios:

1. *Existing Traffic Conditions (Existing)*
2. *Existing Year with Project Traffic Conditions (Existing + Project)(including Yosemite Square)*
3. *Full Build with Project and No Signal on Project Driveway Traffic Conditions (Existing + Ambient + Cumulative + Project) (including Yosemite Square Subdivision, and properties East of S Austin Road)*
4. *Full Build with Project and Signal on Project Driveway Traffic Conditions (Existing + Ambient + Cumulative + Project) (including Yosemite Square Subdivision, and properties East of S Austin Road)*
5.
6.
7.
8.

Other Jurisdiction Analyzed? [ ] Yes [X] No Name of Jurisdiction: _____

Date of Traffic Counts: Due to the current construction of both Austin Rd and SR-99 interchange, collection of new counts would not be representative of typical conditions. TJW would coordinate with City staff to utilize previous data from adjacent project traffic analyses (Any traffic counts must include Sunday per Caltrans request)

Additional Items to be Addressed:	- TJW will coordinate with City staff for assumptions of nearby/adjacent development to be included in the study. Cumulative Projects, (Austin Point Subdivision and properties east of Austin Road), will be included in Full Build Scenarios - TJW will prepare a concept striping plan for the proposed driveways illustrating lane geometry and traffic control. - Signal warrant analysis will be done for the project driveway #2 during the scenario *Existing Plus Project* and *Full Build*. If signal is needed, a lane geometry configuration will be provided. - Queue analysis will be provided for all study intersections utilizing Simtraffic

Additional Notes:	- TIS should consider if Sunday retail traffic will coincide with these operational hours. - Synchro must be used for LOS analysis

Signatures:

Consultant's Representative	City (Approved By)
Tiffany Chang	
Print Name	Print Name
01/26/2026	
Date	Date

Proposed Project

The site for the proposed project is located at 449 S Austin Road in the City of Manteca. The proposed project is for the replacement of an existing Cornerstone Community Church located at 10948 S. Airport Way to construct a new 32,834 square feet church. The traffic impact analysis will analyze phase 1 of the proposed project. Operations will occur on Wednesdays from 6:30 PM – 8:00 PM and Sundays from 8:00 AM – 12:00. The existing church currently has 150 people attending the church on Wednesday nights. Additionally, 400 people will attend the Sunday service throughout the three services. By dividing the attendees by 3, each sermon is expected to have 134 attendees per service. The services occur at 8:00 AM-9:00 AM, 9:30 AM – 10:30 AM, and 11:00 AM – 12:00 PM. The operation hours are outside of typical peak hours of traffic (i.e. 4:00 PM – 6:00 PM Peak traffic) and therefore, will not affect the peak hour traffic volumes. With the operations of the church, it is determined that Wednesday Peak Hours will be from 5:00 PM – 9:00 PM and Sunday Peak Hours will be from 7:00 AM – 2:00 PM. It should be noted, this study assumes single occupancy drivers and is therefore a conservative estimate on the trip generation; operationally, many patrons would be carpooling to and from the establishment.

The proposed church is projected to grow 3% annually.

Phase 1 – Main Building

1. Worship Center (Sanctuary): 18,692 sq. ft. (600 seats)
2. Administration: 6,905 sq. ft.
3. Classrooms: 7,300 sq. ft.
4. Maintenance/Storage: 1,500 sq. ft.

Table 1

Proposed Project Trip Generation (Wednesday)

Proposed Land Use[1]	PM Peak Period		
	Volume		
	In	Out	Total
Church	150	150	300

1: Trip generation from Proposed Project operations

Table 2

Proposed Project Trip Generation (Sunday)

Proposed Land Use[1]	AM Peak Period		
	Volume		
	In	Out	Total
Church	134	134	268

1: Trip generation from proposed project operations

ITE Trip Generation Comparison

The *Institute of Transportation Engineers (ITE) Trip Generation Manual* (12th Edition, 2025) was used to determine the trips generated by the proposed project, a 32,834 sq ft church. The land Use Code 560 for Church was used and determined to have 12 Weekday PM peak hour trips and 368 Sunday peak hour trips. **Table 3** shows the trip generation for the church using the *ITE Trip Generation Manual* rates.

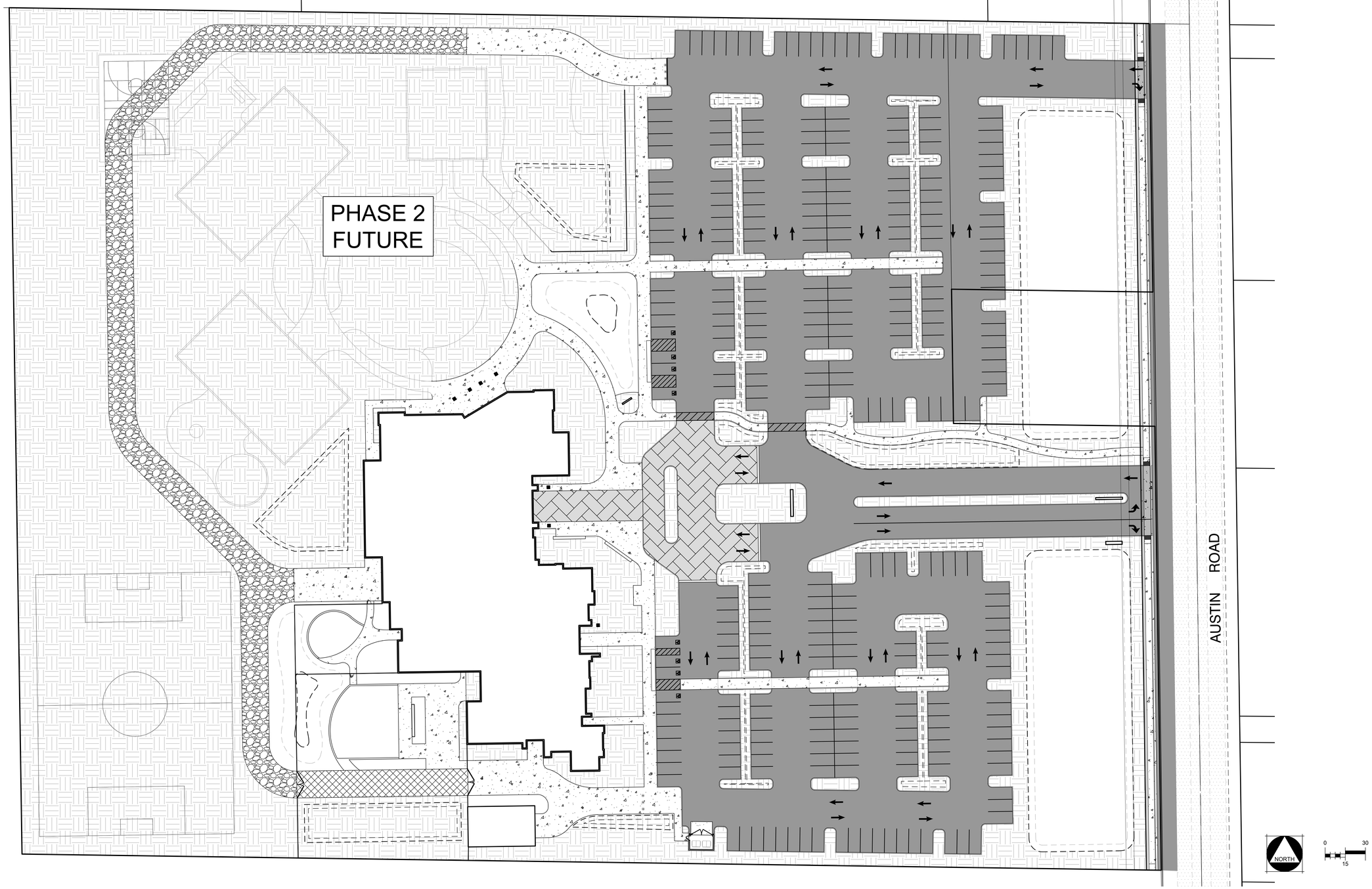
Table 3
ITE Project Trip Generation

Proposed Land Use[1]	ITE Code	Qty	Unit[2]	Weekday PM Peak Hour					Sunday Peak Hour				
				Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Church	560	32.834	TSF	0.37	62:38	8	4	12	11.20	47:53	173	195	368
Net Total						**8**	**4**	**12**			**173**	**195**	**368**

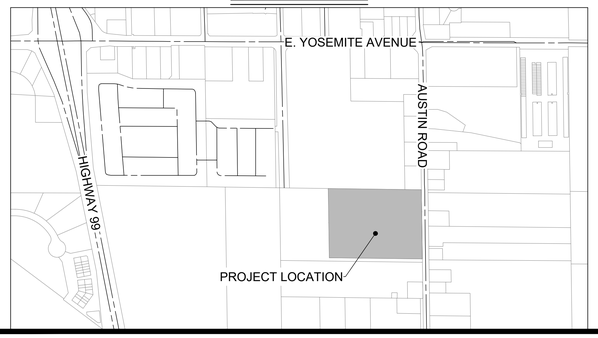
1: Trip generation and pass-by rates are from the ITE Trip Generation Manual (12th Edition, 2025).
2: TSF = Thousand Square Feet

However, the church has existing operations that will be incorporated into the proposed project. The church's operations in comparison to the *ITE Trip Generation Manual* will generate 288 additional Wednesday PM trips and 100 less Sunday Peak Hour trips. The church's existing operations will give a more accurate insight into the expected trips generated from the proposed project.

SITE PLAN



VICINITY MAP



INFORMATION

ASSESSOR'S INFORMATION

APN #: 228-020-440

ADDRESS: 449 S. AUSTIN ROAD

LOT ACRES: ±11.25 ACRES

CURRENT ZONING: R1

CURRENT GENERAL PLAN: LDR

SITE PLAN LEGEND

- CONCRETE (PROPOSED)
- PAVEMENT (PROPOSED)
- GRAVEL (PROPOSED)
- LANDSCAPE (PROPOSED)
- PAVERS (PROPOSED)
- GRASS PAVERS (PROPOSED)

Sheet List Table

SHEET NUMBER	SHEET TITLE
SP1	COVER SHEET
SP2	TOPOGRAPHIC SURVEY & AERIAL IMAGERY
SP3	GRADING, DRAINAGE & UTILITY PLAN
SP4	PHASING PLAN - PHASE 1
SP5	PHASING PLAN - PHASE 2

mcr ENGINEERING
www.mcreng.com
1242 DUPONT COURT
MANTECA, CA 95336
TEL: (209) 239 - 6229
FAX: (209) 239 - 8839

REGISTERED PROFESSIONAL ENGINEER
MARSHALL T. SMITH
No. C87499
CIVIL
STATE OF CALIFORNIA

APPROVED:

PLAN REVISIONS

NO.	DESCRIPTIONS	DATE
1		
2		
3		
4		
5		
6		
7		

SITE PLANS FOR:
CORNERSTONE COMMUNITY CHURCH
MANTECA, CA

COVER SHEET

APN: 228-020-440

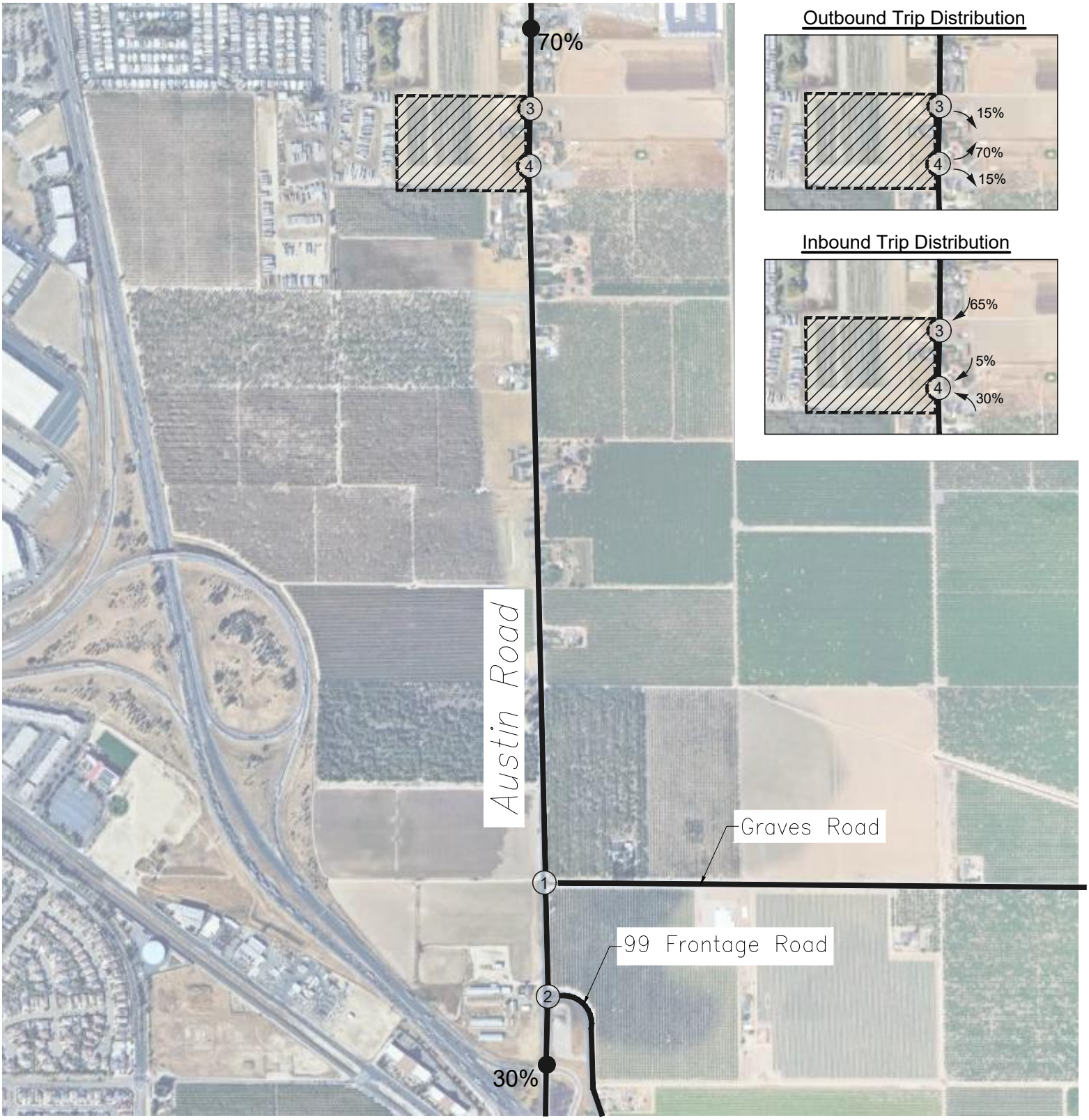
811 Know what's below. Call before you dig. 811 / 800-227-2600

JOB NO.:	23-136
DATE:	05/12/2025
SCALE:	AS SHOWN
DR. BY:	KE
CK. BY:	MTS

SHEET NO.

SP1

OF 5 SHEETS



Outbound Trip Distribution

Inbound Trip Distribution

Legend:

▨	Project Site
(#)	Study Intersection Location
(XX%)	Percent Trip Distribution

Trip Distribution Exhibit

Not to Scale

Figure LU-2: Land Use Map

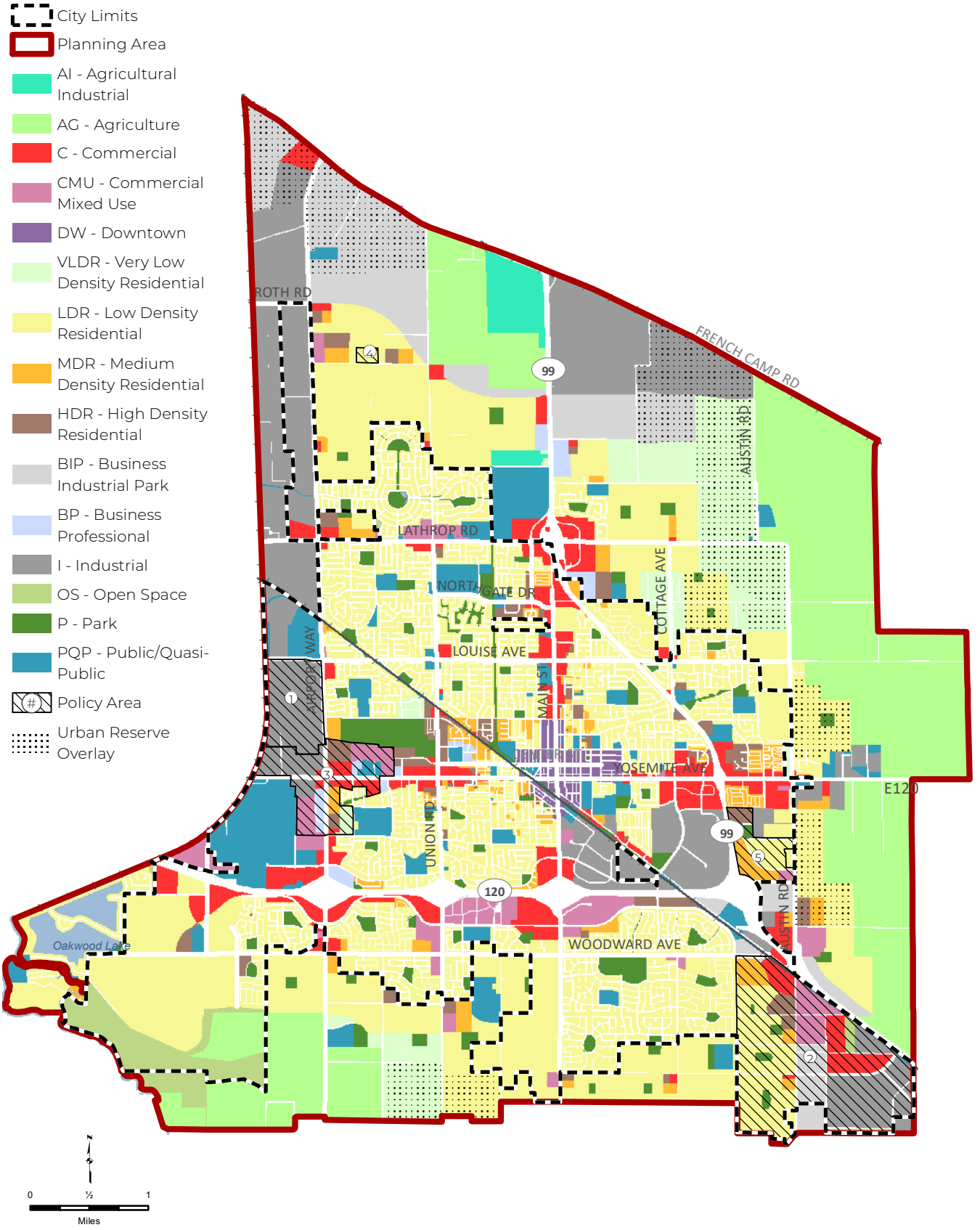
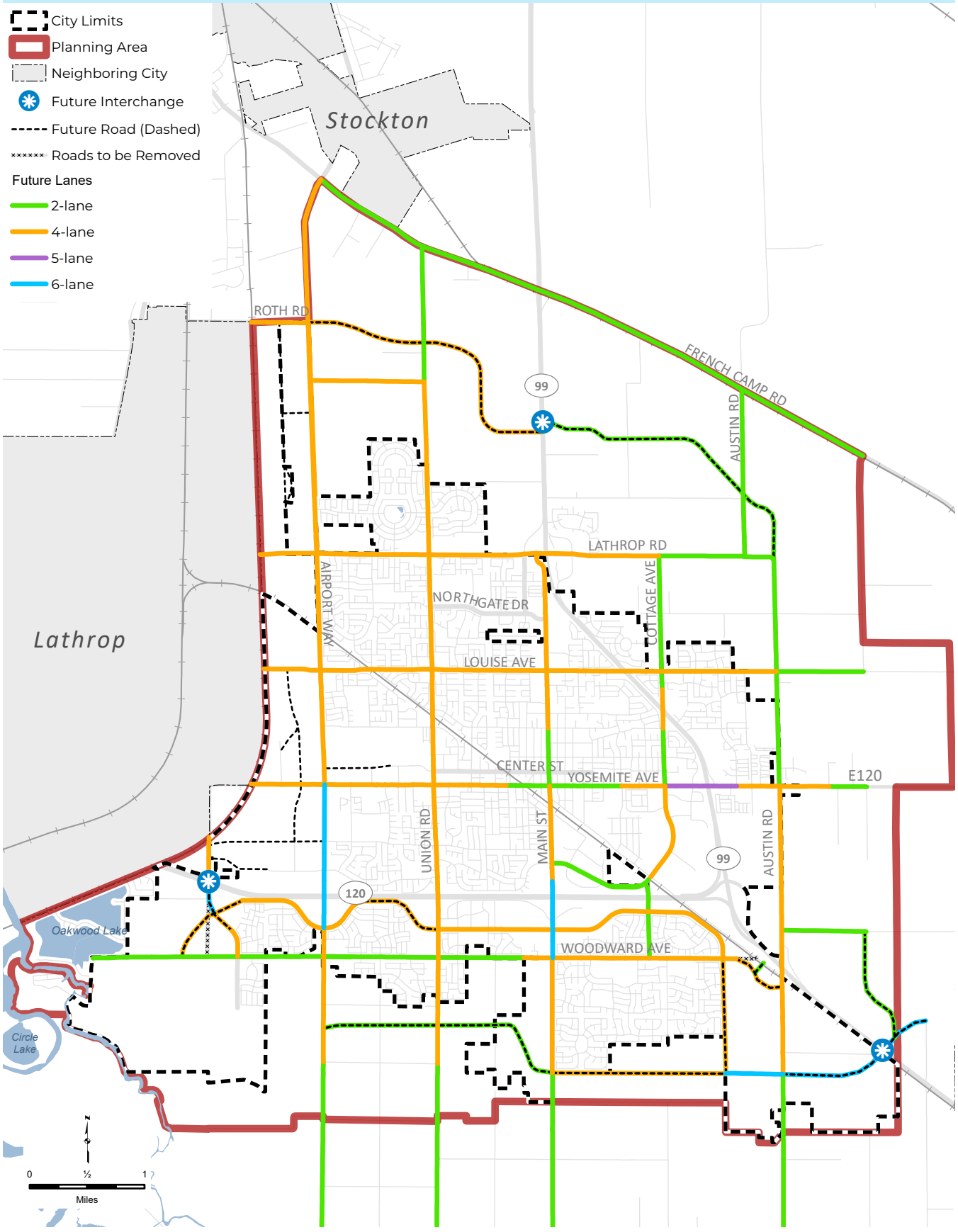


Figure C-1: Major Streets Circulation Plan



Future alignments are conceptual and will be refined at the time the improvement is planned for funding.

Figure C-2: Active Transportation Plan - Pedestrian Network

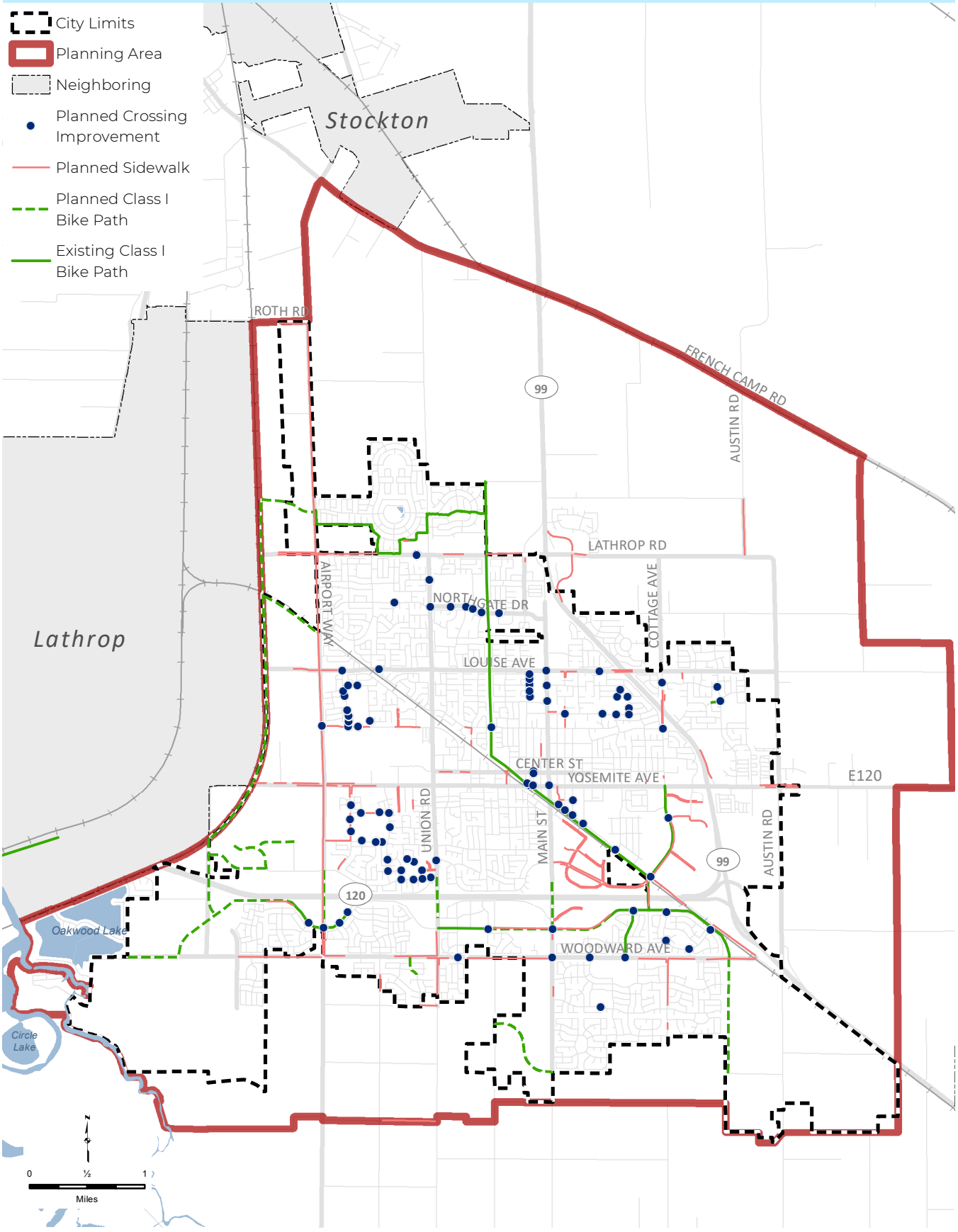
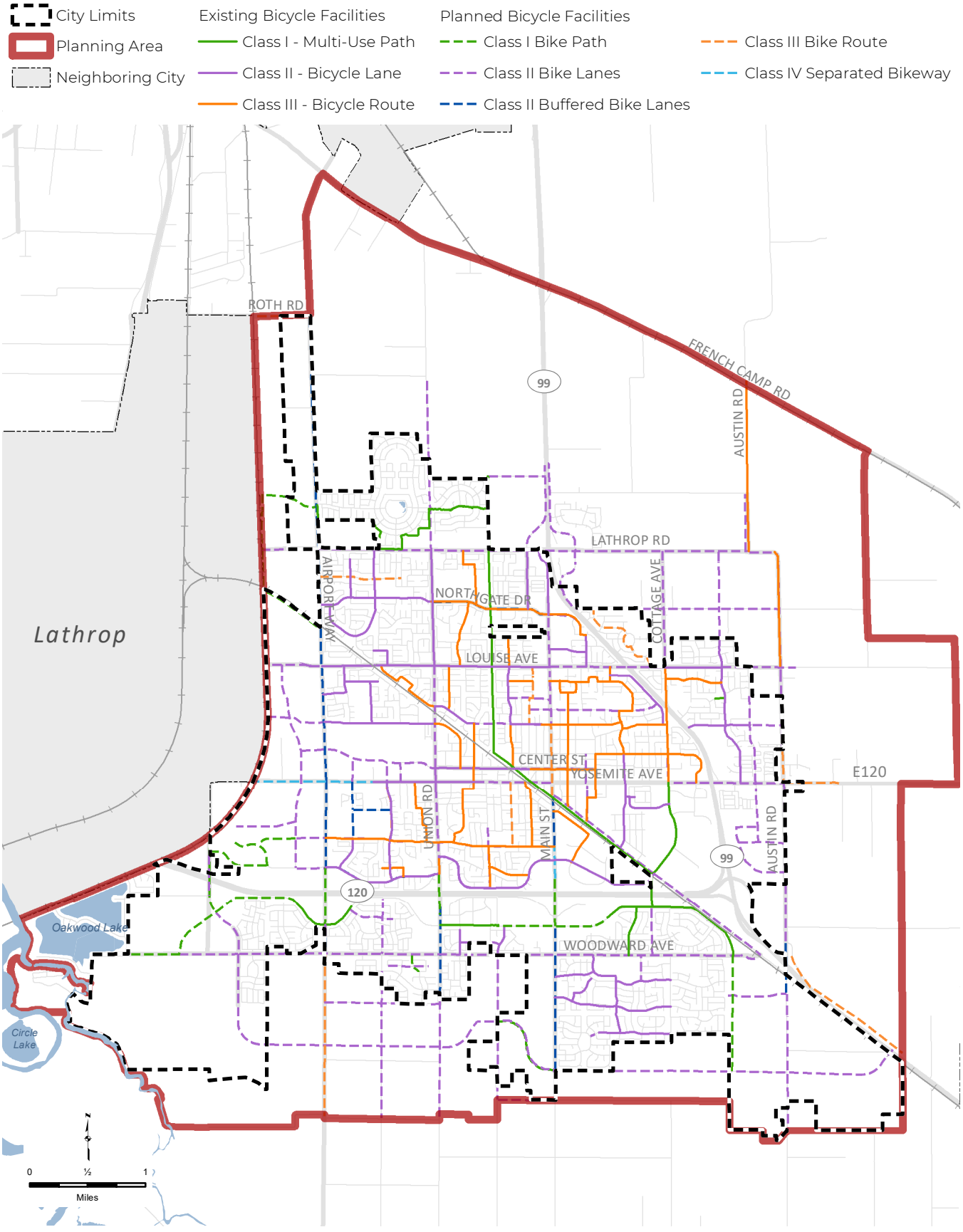


Figure C-3: Active Transportation Plan - Bicycle Network



Service Finder

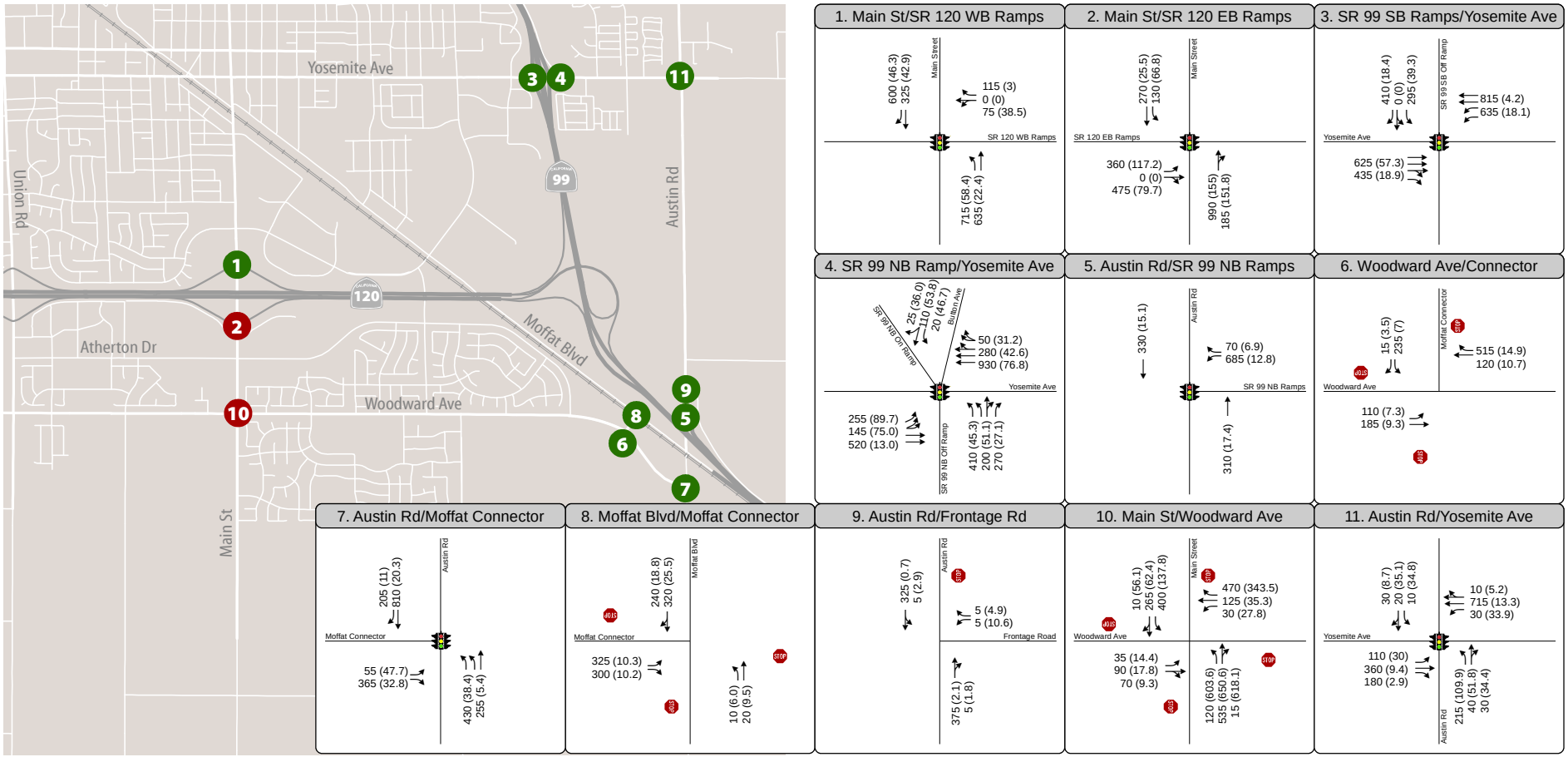
Route 1 Schedule

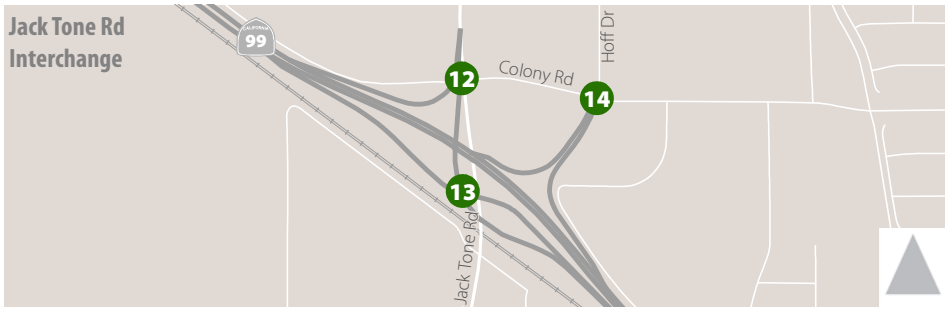
Transit Center 1	E North St At Cottage Ave 2	E Yosemite Ave At El Rancho Dr 3	Pestana Ave At E Yosemite Ave 4	Spreckles Ave At Norman Ave 5	E Yosemite Ave At S Sherman Ave 6
6:00am	6:06am	6:09am	6:14am	6:19am	6:23am
7:00am	7:06am	7:09am	7:14am	7:19am	7:23am
8:00am	8:06am	8:09am	8:14am	8:19am	8:23am
9:00am	9:06am	9:09am	9:14am	9:19am	9:23am
10:00am	10:06am	10:09am	10:14am	10:19am	10:23am
11:00am	11:06am	11:09am	11:14am	11:19am	11:23am
12:00pm	12:06pm	12:09pm	12:14pm	12:19pm	12:23pm
1:00pm	1:06pm	1:09pm	1:14pm	1:19pm	1:23pm
2:00pm	2:06pm	2:09pm	2:14pm	2:19pm	2:23pm
3:00pm	3:06pm	3:09pm	3:14pm	3:19pm	3:23pm
4:00pm	4:06pm	4:09pm	4:14pm	4:19pm	4:23pm
5:00pm	5:06pm	5:09pm	5:14pm	5:19pm	5:23pm
6:00pm	6:06pm	6:09pm	6:14pm	6:19pm	6:23pm

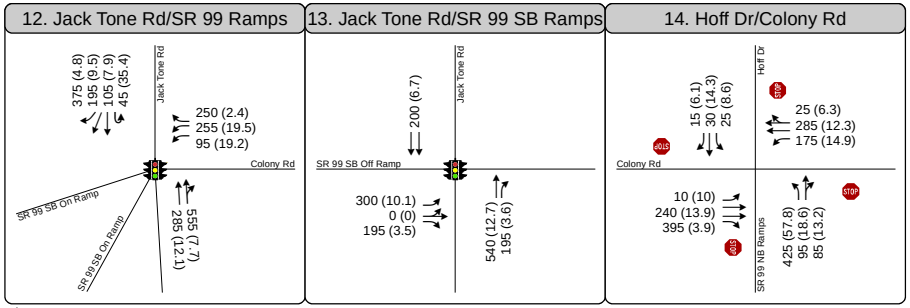
E Yosemite Ave At S Sherman Ave 6	Center St At Magnolia Ave 7	W. Yosemite Ave At St Dominics Dr 34	Stadium Center At Daniels St 8	Thomas St At Enrico Ln 23	W. Yosemite Ave At Union Rd 9	Transit Center 1
6:23am	6:29am	6:32am	6:39am	6:42am	6:46am	6:54am
7:23am	7:29am	7:32am	7:39am	7:42am	7:46am	7:54am
8:23am	8:29am	8:32am	8:39am	8:42am	8:46am	8:54am
9:23am	9:29am	9:32am	9:39am	9:42am	9:46am	9:54am
10:23am	10:29am	10:32am	10:39am	10:42am	10:46am	10:54am
11:23am	11:29am	11:32am	11:39am	11:42am	11:46am	11:54am
12:23pm	12:29pm	12:32pm	12:39pm	12:42pm	12:46pm	12:54pm
1:23pm	1:29pm	1:32pm	1:39pm	1:42pm	1:46pm	1:54pm
2:23pm	2:29pm	2:32pm	2:39pm	2:42pm	2:46pm	2:54pm
3:23pm	3:29pm	3:32pm	3:39pm	3:42pm	3:46pm	3:54pm
4:23pm	4:29pm	4:32pm	4:39pm	4:42pm	4:46pm	4:54pm
5:23pm	5:29pm	5:32pm	5:39pm	5:42pm	5:46pm	5:54pm
6:23pm	6:29pm	6:32pm	6:39pm	6:42pm	6:46pm	6:54pm

Transit Center 1	E North St At Cottage Ave 2	E Yosemite Ave At El Rancho Dr 3	Pestana Ave At E Yosemite Ave 4	Spreckles Ave At Norman Ave 5	E Yosemite Ave At S Sherman Ave 6
9:00am	9:06am	9:09am	9:14am	9:19am	9:23am
10:00am	10:06am	10:09am	10:14am	10:19am	10:23am
11:00am	11:06am	11:09am	11:14am	11:19am	11:23am
12:00pm	12:06pm	12:09pm	12:14pm	12:19pm	12:23pm
1:00pm	1:06pm	1:09pm	1:14pm	1:19pm	1:23pm
2:00pm	2:06pm	2:09pm	2:14pm	2:19pm	2:23pm
3:00pm	3:06pm	3:09pm	3:14pm	3:19pm	3:23pm

E Yosemite Ave At S Sherman Ave 6	Center St At Magnolia Ave 7	W. Yosemite Ave At St Dominics Dr 34	Stadium Center At Daniels St 8	Thomas St At Enrico Ln 23	W. Yosemite Ave At Union Rd 9	Transit Center 1
9:23am	9:29am	9:32am	9:39am	9:42am	9:46am	9:54am
10:23am	10:29am	10:32am	10:39am	10:42am	10:46am	10:54am
11:23am	11:29am	11:32am	11:39am	11:42am	11:46am	11:54am
12:23pm	12:29pm	12:32pm	12:39pm	12:42pm	12:46pm	12:54pm
1:23pm	1:29pm	1:32pm	1:39pm	1:42pm	1:46pm	1:54pm
2:23pm	2:29pm	2:32pm	2:39pm	2:42pm	2:46pm	2:54pm
3:23pm	3:29pm	3:32pm	3:39pm	3:42pm	3:46pm	3:54pm







1 Study Intersection Turn Lane AM (Delay) Peak Hour Traffic Volume and Delay

Traffic Signal Stop Sign

Acceptable Level of Service - A, B, C and D

Unacceptable Level of Service - E and F

Figure 12

Peak Hour Traffic Volumes and Lane Configurations - Construction Year 2023 With Phase 1A Project AM Peak Hour Conditions

N:\2015 Projects\3387_SR120andSR99_PAED\Graphics\Draft\GIS\MXD\Oct2018\Fig12_CYWP_PHTV_AM.mxd

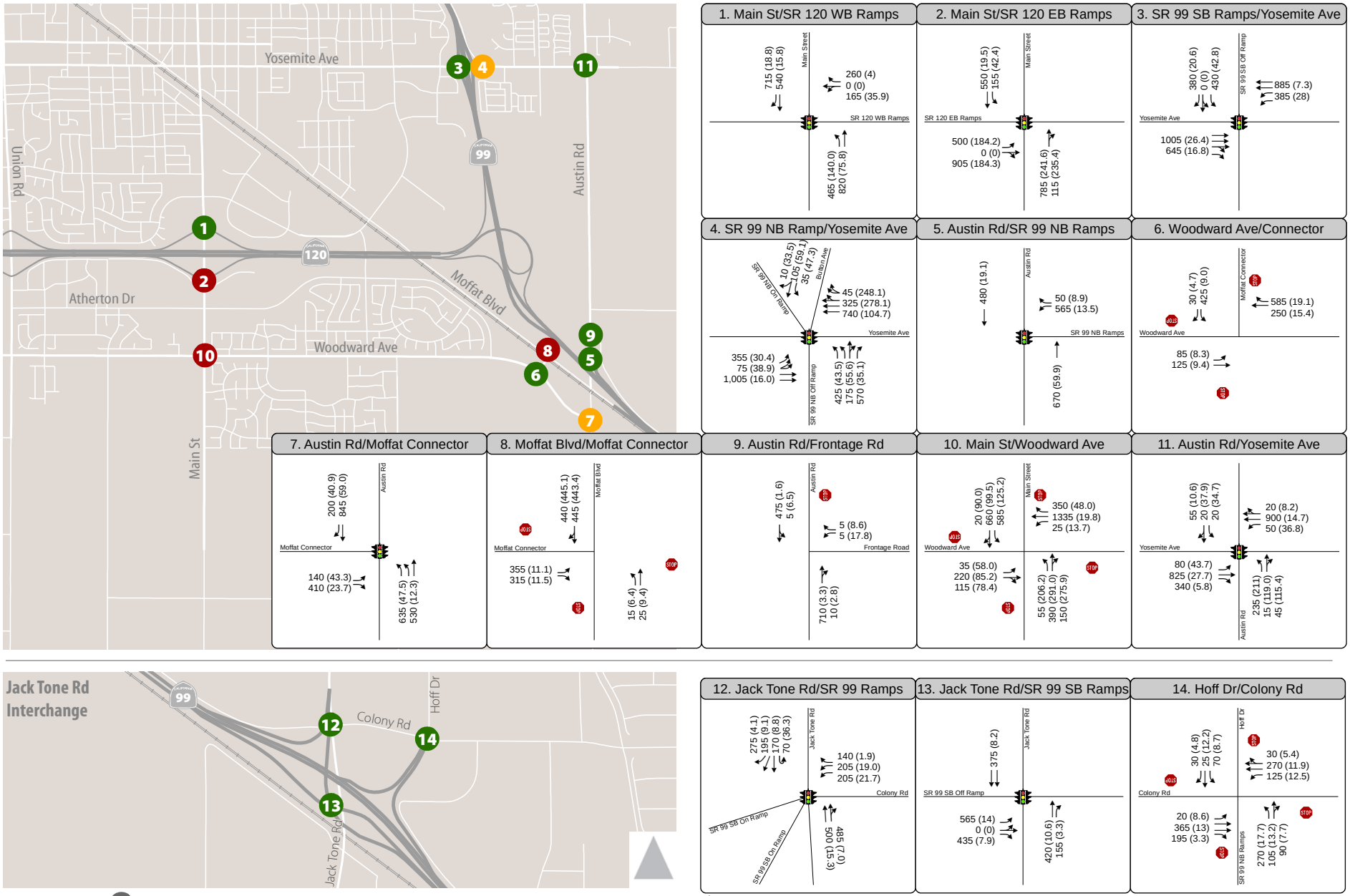


Figure 13

Peak Hour Traffic Volumes and Lane Configurations - Construction Year 2023 With Phase 1A Project PM Peak Hour Conditions

N:\2015 Projects\3387_SR120andSR99_PAED\Graphics\Draft\GIS\MXD\Oct2018\Fig13_CYWP_PHTV_PM.mxd

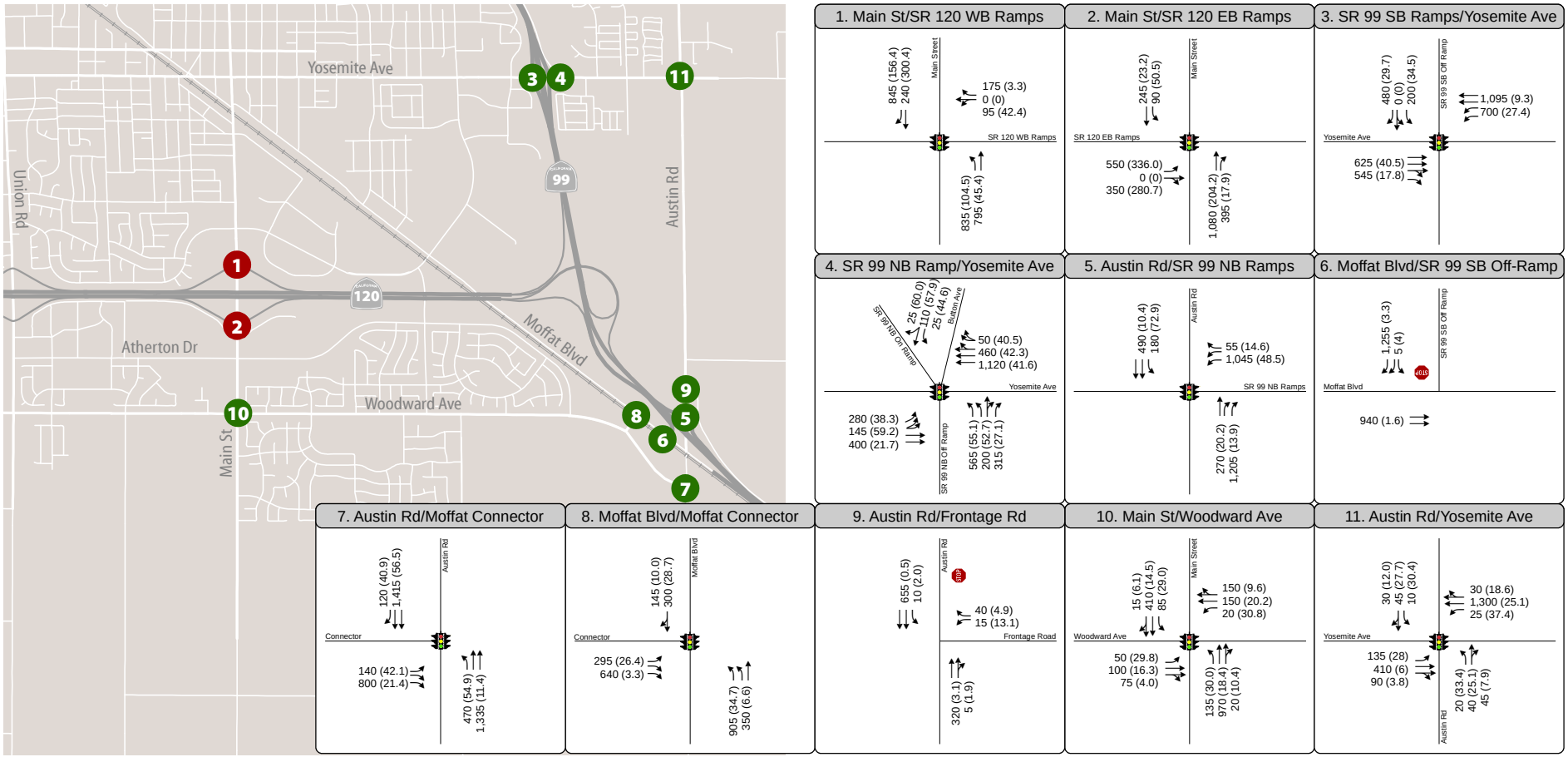
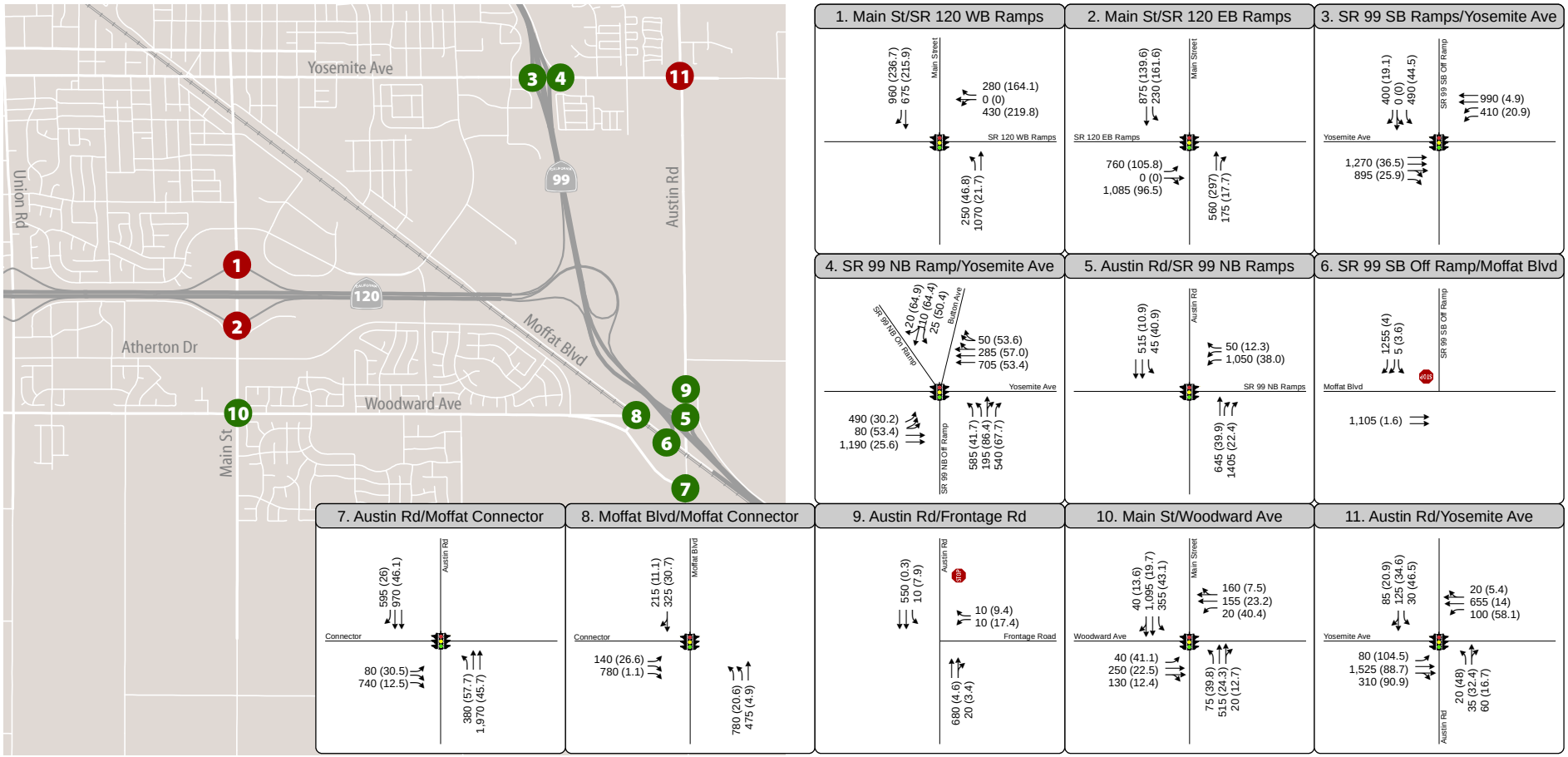
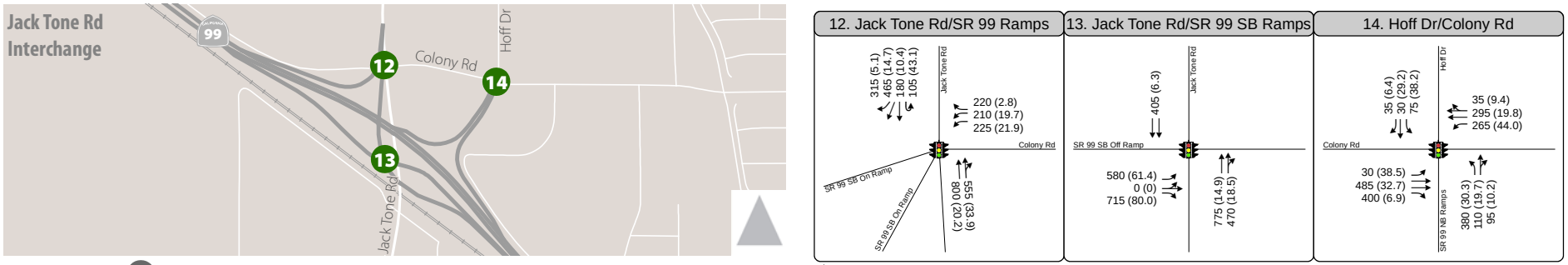


Figure 26

Peak Hour Traffic Volumes and Lane Configurations - Design Year 2043 With Ultimate Project AM Peak Hour Conditions

N:\2015 Projects\3387_SR120andSR99_PAED\Graphics\Draft\GIS\MXD\Oct2018\Fig24_DYUP_PHTV_AM.mxd





1 Study Intersection Turn Lane AM (Delay) Peak Hour Traffic Volume and Delay

Traffic Signal Stop Sign

Acceptable Level of Service - A, B, C and D

Unacceptable Level of Service - E and F

Figure 27

Peak Hour Traffic Volumes and Lane Configurations - Design Year 2043 With Ultimate Project PM Peak Hour Conditions

N:\2015 Projects\3387_SR120andSR99_PAED\Graphics\Draft\GIS\MXD\Oct2018\Fig25_DYUP_PHTV_PM.mxd

APPENDIX C

EXISTING TRAFFIC COUNTS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Joaquin
N/S: Austin Road
E/W: Graves Road
Weather: Clear

File Name : 01_CSJ_Aus_Gra AM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 1

Groups Printed- Total Volume

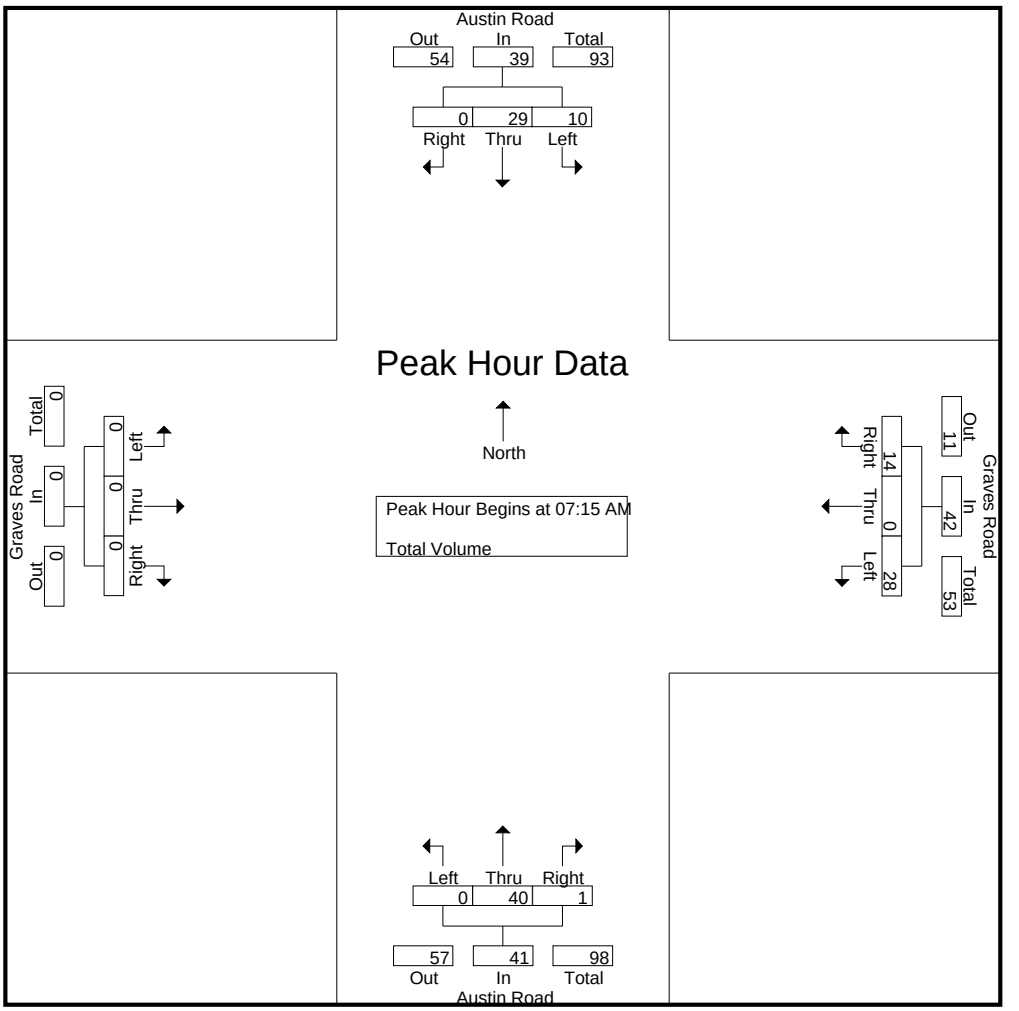
	Austin Road Southbound				Graves Road Westbound				Austin Road Northbound				Graves Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	6	0	8	2	0	1	3	0	5	1	6	0	0	0	0	17
07:15 AM	0	5	0	5	4	0	4	8	0	11	0	11	0	0	0	0	24
07:30 AM	4	8	0	12	12	0	3	15	0	11	0	11	0	0	0	0	38
07:45 AM	3	9	0	12	6	0	5	11	0	11	0	11	0	0	0	0	34
Total	9	28	0	37	24	0	13	37	0	38	1	39	0	0	0	0	113
08:00 AM	3	7	0	10	6	0	2	8	0	7	1	8	0	0	0	0	26
08:15 AM	1	3	0	4	9	0	3	12	0	4	1	5	0	0	0	0	21
08:30 AM	3	5	0	8	4	0	3	7	0	4	0	4	0	0	0	0	19
08:45 AM	5	1	0	6	3	0	5	8	0	6	0	6	0	0	0	0	20
Total	12	16	0	28	22	0	13	35	0	21	2	23	0	0	0	0	86
Grand Total	21	44	0	65	46	0	26	72	0	59	3	62	0	0	0	0	199
Apprch %	32.3	67.7	0		63.9	0	36.1		0	95.2	4.8		0	0	0		
Total %	10.6	22.1	0	32.7	23.1	0	13.1	36.2	0	29.6	1.5	31.2	0	0	0	0	

	Austin Road Southbound				Graves Road Westbound				Austin Road Northbound				Graves Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	5	0	5	4	0	4	8	0	**11**	0	**11**	0	0	0	0	24
07:30 AM	**4**	8	0	**12**	**12**	0	3	**15**	0	11	0	11	0	0	0	0	**38**
07:45 AM	3	**9**	0	12	6	0	**5**	11	0	11	0	11	0	0	0	0	34
08:00 AM	3	7	0	10	6	0	2	8	0	7	**1**	8	0	0	0	0	26
Total Volume	10	29	0	39	28	0	14	42	0	40	1	41	0	0	0	0	122
% App. Total	25.6	74.4	0		66.7	0	33.3		0	97.6	2.4		0	0	0		
PHF	.625	.806	.000	.813	.583	.000	.700	.700	.000	.909	.250	.932	.000	.000	.000	.000	.803

Counts Unlimited, Inc.
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County of San Joaquin
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E/W: Graves Road
Weather: Clear

File Name : 01_CSJ_Aus_Gra AM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:15 AM				07:00 AM			
+0 mins.	0	5	0	5	**12**	0	3	**15**	0	**11**	0	**11**	0	0	0	0
+15 mins.	**4**	8	0	**12**	6	0	**5**	11	0	11	0	11	0	0	0	0
+30 mins.	3	**9**	0	12	6	0	2	8	0	11	0	11	0	0	0	0
+45 mins.	3	7	0	10	9	0	3	12	0	7	**1**	8	0	0	0	0
Total Volume	10	29	0	39	33	0	13	46	0	40	1	41	0	0	0	0
% App. Total	25.6	74.4	0		71.7	0	28.3		0	97.6	2.4		0	0	0	
PHF	.625	.806	.000	.813	.688	.000	.650	.767	.000	.909	.250	.932	.000	.000	.000	.000

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County of San Joaquin
N/S: Austin Road
E/W: Graves Road
Weather: Clear

File Name : 01_CSJ_Aus_Gra PM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 1

Groups Printed- Total Volume

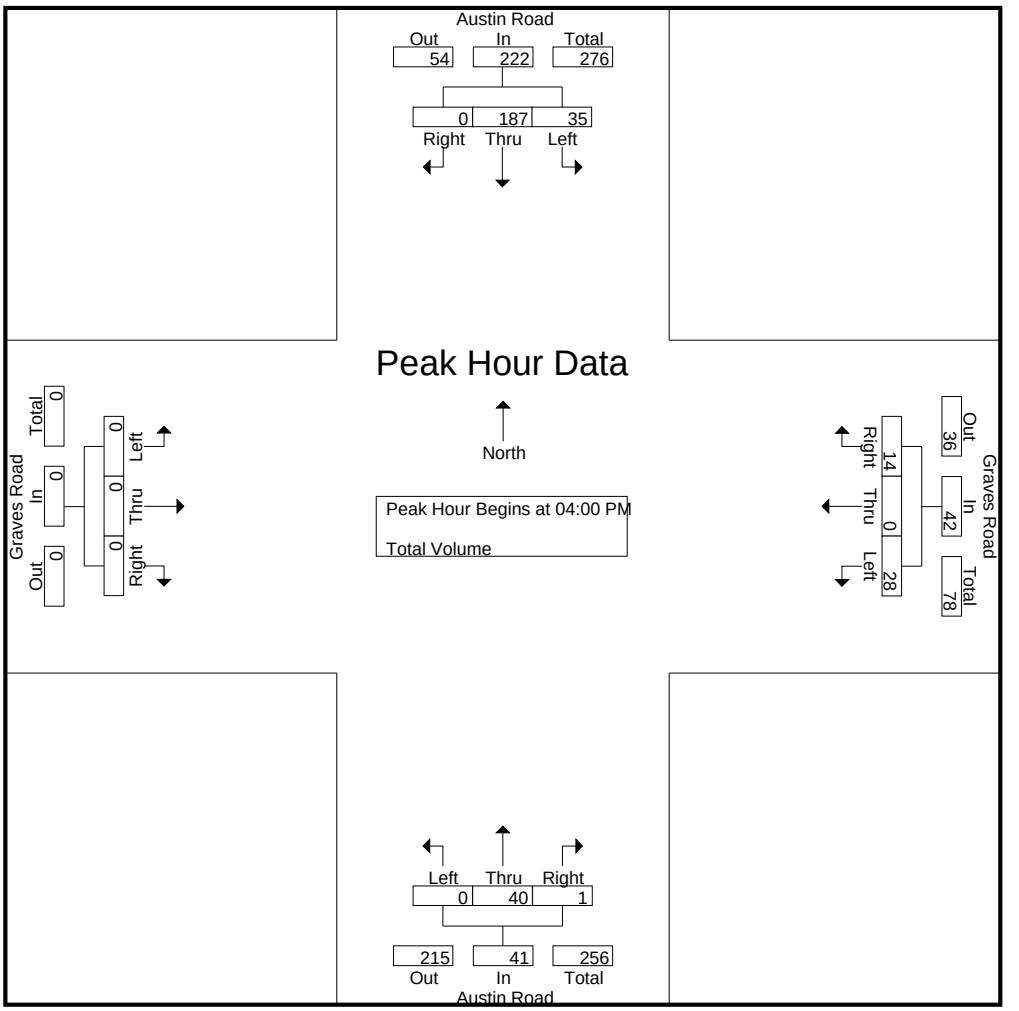
	Austin Road Southbound				Graves Road Westbound				Austin Road Northbound				Graves Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	7	51	0	58	9	0	5	14	0	10	1	11	0	0	0	0	83
04:15 PM	5	46	0	51	6	0	4	10	0	8	0	8	0	0	0	0	69
04:30 PM	10	39	0	49	7	0	3	10	0	13	0	13	0	0	0	0	72
04:45 PM	13	51	0	64	6	0	2	8	0	9	0	9	0	0	0	0	81
Total	35	187	0	222	28	0	14	42	0	40	1	41	0	0	0	0	305
05:00 PM	3	35	0	38	8	0	3	11	0	8	0	8	0	0	0	0	57
05:15 PM	3	22	0	25	5	0	4	9	0	4	0	4	0	0	0	0	38
05:30 PM	5	9	0	14	13	0	3	16	0	4	0	4	0	0	0	0	34
05:45 PM	2	18	0	20	4	0	4	8	0	6	0	6	0	0	0	0	34
Total	13	84	0	97	30	0	14	44	0	22	0	22	0	0	0	0	163
Grand Total	48	271	0	319	58	0	28	86	0	62	1	63	0	0	0	0	468
Apprch %	15	85	0		67.4	0	32.6		0	98.4	1.6		0	0	0		
Total %	10.3	57.9	0	68.2	12.4	0	6	18.4	0	13.2	0.2	13.5	0	0	0	0	

	Austin Road Southbound				Graves Road Westbound				Austin Road Northbound				Graves Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	7	**51**	0	58	**9**	0	**5**	**14**	0	10	**1**	11	0	0	0	0	**83**
04:15 PM	5	46	0	51	6	0	4	10	0	8	0	8	0	0	0	0	69
04:30 PM	10	39	0	49	7	0	3	10	0	**13**	0	**13**	0	0	0	0	72
04:45 PM	**13**	51	0	**64**	6	0	2	8	0	9	0	9	0	0	0	0	81
Total Volume	35	187	0	222	28	0	14	42	0	40	1	41	0	0	0	0	305
% App. Total	15.8	84.2	0		66.7	0	33.3		0	97.6	2.4		0	0	0		
PHF	.673	.917	.000	.867	.778	.000	.700	.750	.000	.769	.250	.788	.000	.000	.000	.000	.919

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File Name : 01_CSJ_Aus_Gra PM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:00 PM				04:00 PM			
+0 mins.	7	**51**	0	58	6	0	2	8	0	10	**1**	11	0	0	0	0
+15 mins.	5	46	0	51	8	0	3	11	0	8	0	8	0	0	0	0
+30 mins.	10	39	0	49	5	0	**4**	9	0	**13**	0	**13**	0	0	0	0
+45 mins.	**13**	51	0	**64**	**13**	0	3	**16**	0	9	0	9	0	0	0	0
Total Volume	35	187	0	222	32	0	12	44	0	40	1	41	0	0	0	0
% App. Total	15.8	84.2	0		72.7	0	27.3		0	97.6	2.4		0	0	0	
PHF	.673	.917	.000	.867	.615	.000	.750	.688	.000	.769	.250	.788	.000	.000	.000	.000

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County of San Joaquin
N/S: Austin Road
E/W: 99 Frontage Road
Weather: Clear

File Name : 02_CSJ_Aus_99F AM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 1

Groups Printed- Total Volume

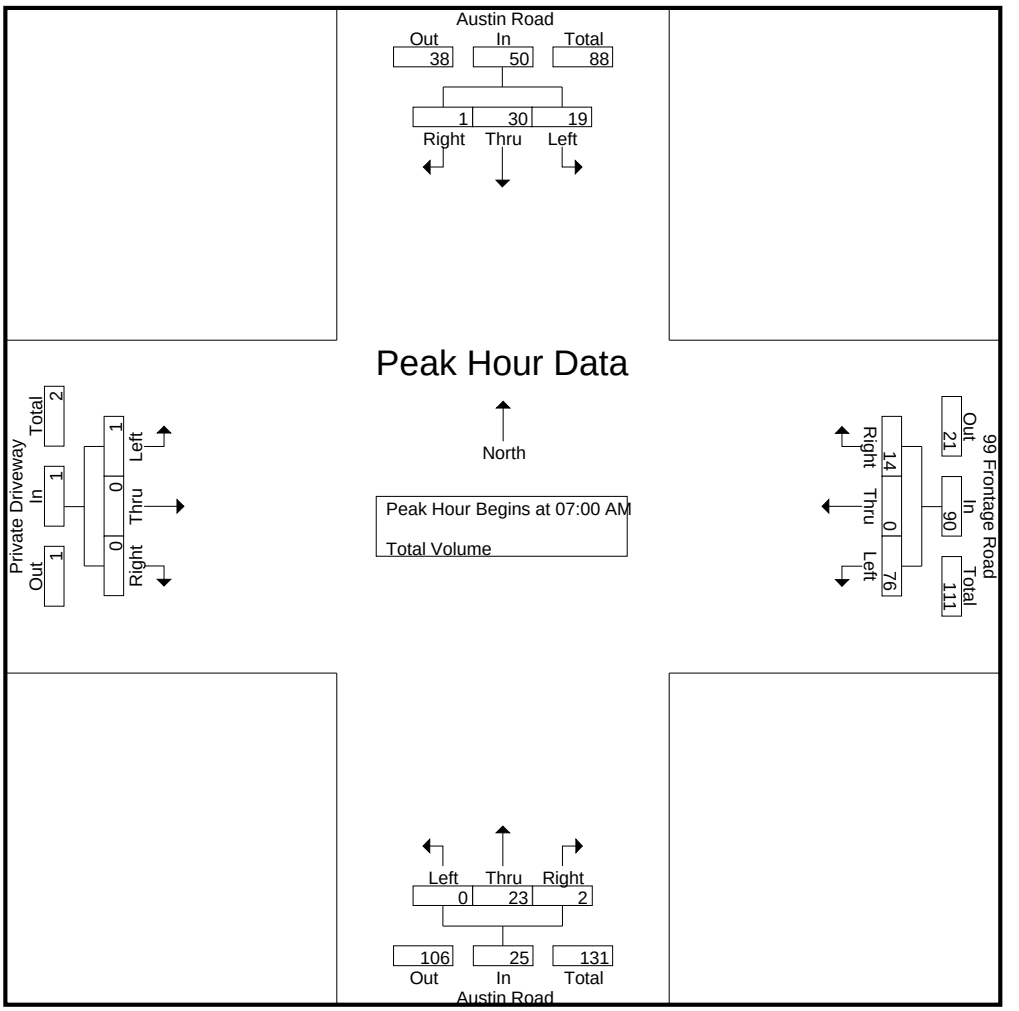
	Austin Road Southbound				99 Frontage Road Westbound				Austin Road Northbound				Private Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	4	0	8	23	0	4	27	0	3	1	4	0	0	0	0	39
07:15 AM	4	5	0	9	21	0	4	25	0	8	1	9	0	0	0	0	43
07:30 AM	5	15	0	20	19	0	4	23	0	7	0	7	0	0	0	0	50
07:45 AM	6	6	1	13	13	0	2	15	0	5	0	5	1	0	0	1	34
Total	19	30	1	50	76	0	14	90	0	23	2	25	1	0	0	1	166
08:00 AM	5	9	0	14	10	0	3	13	0	5	0	5	0	0	0	0	32
08:15 AM	3	9	0	12	14	0	1	15	0	4	0	4	0	0	0	0	31
08:30 AM	2	5	0	7	11	0	3	14	0	0	2	2	0	0	0	0	23
08:45 AM	1	4	0	5	5	0	2	7	0	5	0	5	0	0	1	1	18
Total	11	27	0	38	40	0	9	49	0	14	2	16	0	0	1	1	104
Grand Total	30	57	1	88	116	0	23	139	0	37	4	41	1	0	1	2	270
Apprch %	34.1	64.8	1.1		83.5	0	16.5		0	90.2	9.8		50	0	50		
Total %	11.1	21.1	0.4	32.6	43	0	8.5	51.5	0	13.7	1.5	15.2	0.4	0	0.4	0.7	

	Austin Road Southbound				99 Frontage Road Westbound				Austin Road Northbound				Private Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	4	4	0	8	**23**	0	**4**	**27**	0	3	**1**	4	0	0	0	0	39
07:15 AM	4	5	0	9	21	0	4	25	0	**8**	1	**9**	0	0	0	0	43
07:30 AM	5	**15**	0	**20**	19	0	4	23	0	7	0	7	0	0	0	0	**50**
07:45 AM	**6**	6	**1**	13	13	0	2	15	0	5	0	5	**1**	0	0	**1**	34
Total Volume	19	30	1	50	76	0	14	90	0	23	2	25	1	0	0	1	166
% App. Total	38	60	2		84.4	0	15.6		0	92	8		100	0	0		
PHF	.792	.500	.250	.625	.826	.000	.875	.833	.000	.719	.500	.694	.250	.000	.000	.250	.830

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County of San Joaquin
N/S: Austin Road
E/W: 99 Frontage Road
Weather: Clear

File Name : 02_CSJ_Aus_99F AM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:15 AM				07:00 AM			
+0 mins.	5	**15**	0	**20**	**23**	0	**4**	**27**	0	**8**	**1**	**9**	0	0	0	0
+15 mins.	**6**	6	**1**	13	21	0	4	25	0	7	0	7	0	0	0	0
+30 mins.	5	9	0	14	19	0	4	23	0	5	0	5	0	0	0	0
+45 mins.	3	9	0	12	13	0	2	15	0	5	0	5	**1**	0	0	**1**
Total Volume	19	39	1	59	76	0	14	90	0	25	1	26	1	0	0	1
% App. Total	32.2	66.1	1.7		84.4	0	15.6		0	96.2	3.8		100	0	0	
PHF	.792	.650	.250	.738	.826	.000	.875	.833	.000	.781	.250	.722	.250	.000	.000	.250

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County of San Joaquin
N/S: Austin Road
E/W: 99 Frontage Road
Weather: Clear

File Name : 02_CSJ_Aus_99F PM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 1

Groups Printed- Total Volume

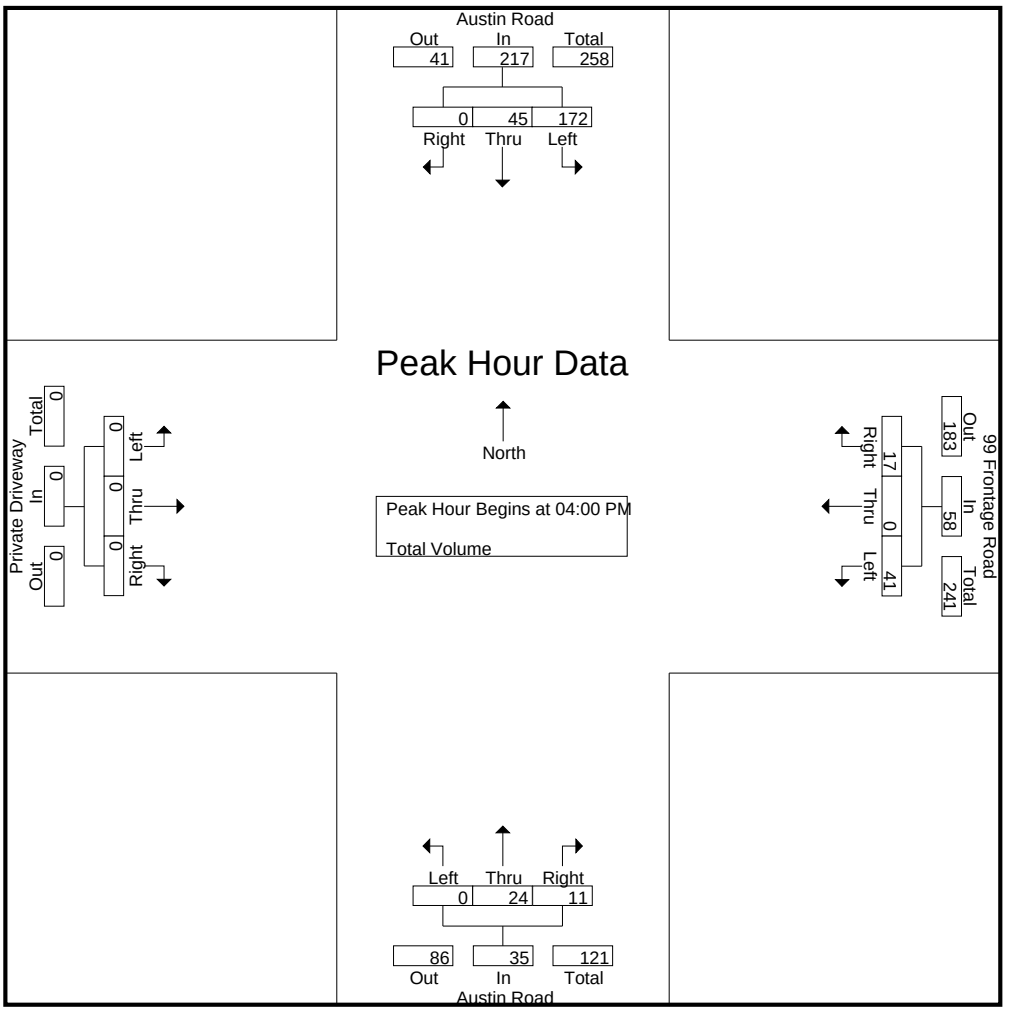
	Austin Road Southbound				99 Frontage Road Westbound				Austin Road Northbound				Private Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	45	17	0	62	11	0	7	18	0	4	2	6	0	0	0	0	86
04:15 PM	44	9	0	53	9	0	1	10	0	6	4	10	0	0	0	0	73
04:30 PM	33	11	0	44	14	0	3	17	0	11	1	12	0	0	0	0	73
04:45 PM	50	8	0	58	7	0	6	13	0	3	4	7	0	0	0	0	78
Total	172	45	0	217	41	0	17	58	0	24	11	35	0	0	0	0	310
05:00 PM	34	9	0	43	20	0	3	23	0	4	2	6	0	0	0	0	72
05:15 PM	21	7	0	28	21	0	3	24	0	1	1	2	0	0	0	0	54
05:30 PM	7	15	0	22	23	0	2	25	0	2	3	5	0	0	0	0	52
05:45 PM	15	7	0	22	22	0	2	24	0	4	3	7	0	0	0	0	53
Total	77	38	0	115	86	0	10	96	0	11	9	20	0	0	0	0	231
Grand Total	249	83	0	332	127	0	27	154	0	35	20	55	0	0	0	0	541
Apprch %	75	25	0		82.5	0	17.5		0	63.6	36.4		0	0	0		
Total %	46	15.3	0	61.4	23.5	0	5	28.5	0	6.5	3.7	10.2	0	0	0	0	

	Austin Road Southbound				99 Frontage Road Westbound				Austin Road Northbound				Private Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	45	**17**	0	**62**	11	0	**7**	**18**	0	4	2	6	0	0	0	0	**86**
04:15 PM	44	9	0	53	9	0	1	10	0	6	**4**	10	0	0	0	0	73
04:30 PM	33	11	0	44	**14**	0	3	17	0	**11**	1	**12**	0	0	0	0	73
04:45 PM	**50**	8	0	58	7	0	6	13	0	3	4	7	0	0	0	0	78
Total Volume	172	45	0	217	41	0	17	58	0	24	11	35	0	0	0	0	310
% App. Total	79.3	20.7	0		70.7	0	29.3		0	68.6	31.4		0	0	0		
PHF	.860	.662	.000	.875	.732	.000	.607	.806	.000	.545	.688	.729	.000	.000	.000	.000	.901

Counts Unlimited, Inc.
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County of San Joaquin
N/S: Austin Road
E/W: 99 Frontage Road
Weather: Clear

File Name : 02_CSJ_Aus_99F PM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:00 PM				04:00 PM			
+0 mins.	45	**17**	0	**62**	20	0	**3**	23	0	4	2	6	0	0	0	0
+15 mins.	44	9	0	53	21	0	3	24	0	6	**4**	10	0	0	0	0
+30 mins.	33	11	0	44	**23**	0	2	**25**	0	**11**	1	**12**	0	0	0	0
+45 mins.	**50**	8	0	58	22	0	2	24	0	3	4	7	0	0	0	0
Total Volume	172	45	0	217	86	0	10	96	0	24	11	35	0	0	0	0
% App. Total	79.3	20.7	0		89.6	0	10.4		0	68.6	31.4		0	0	0	
PHF	.860	.662	.000	.875	.935	.000	.833	.960	.000	.545	.688	.729	.000	.000	.000	.000

Counts Unlimited, Inc.
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City of Manteca
N/S: Austin Road
E/W: Yosemite Avenue
Weather: Clear

File Name : 03_MTC_Aus_Yos AM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 1

Groups Printed- Total Volume

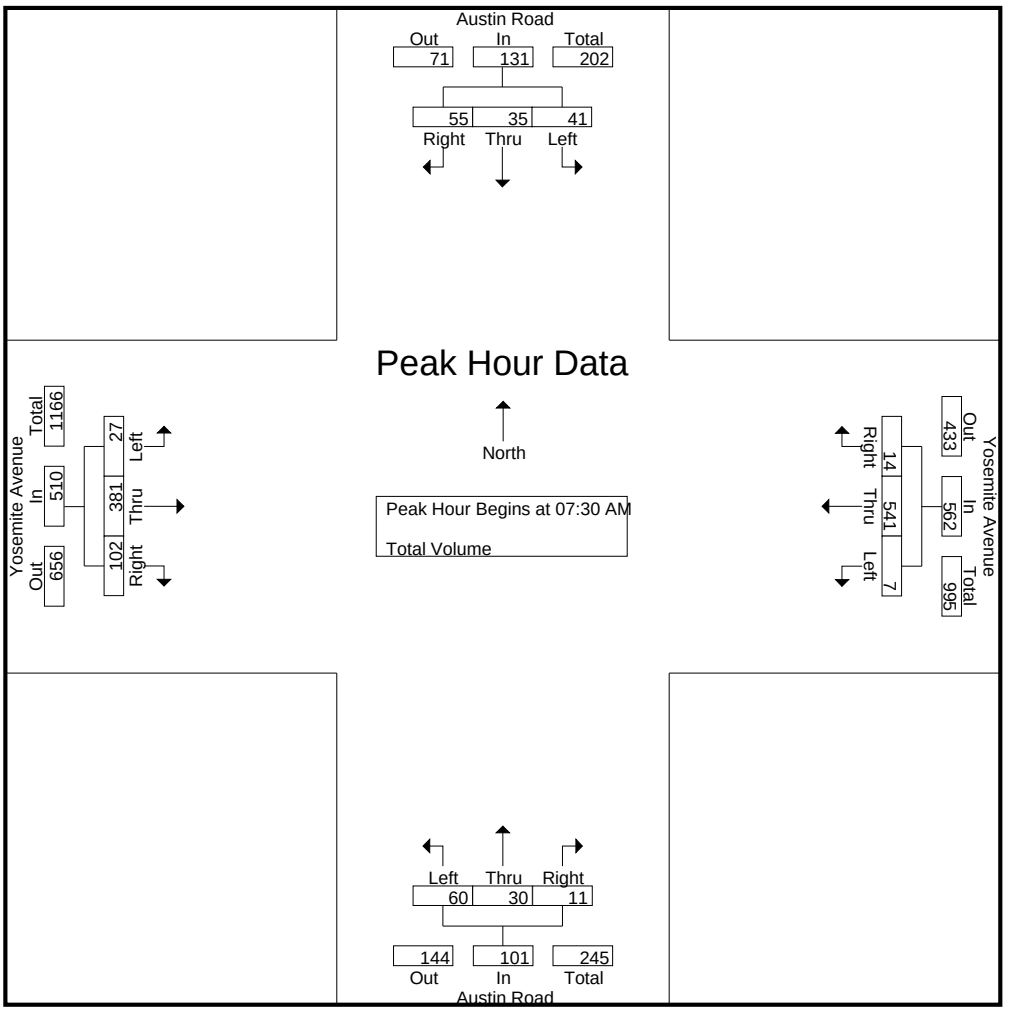
	Austin Road Southbound				Yosemite Avenue Westbound				Austin Road Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	5	12	22	2	97	6	105	6	1	3	10	3	71	16	90	227
07:15 AM	6	5	15	26	0	122	8	130	5	2	4	11	4	94	15	113	280
07:30 AM	8	5	17	30	1	157	4	162	3	5	6	14	6	106	22	134	340
07:45 AM	10	8	8	26	0	134	0	134	15	8	2	25	4	99	24	127	312
Total	29	23	52	104	3	510	18	531	29	16	15	60	17	370	77	464	1159
08:00 AM	15	6	18	39	2	125	4	131	19	5	2	26	8	92	26	126	322
08:15 AM	8	16	12	36	4	125	6	135	23	12	1	36	9	84	30	123	330
08:30 AM	9	6	9	24	0	110	7	117	20	1	2	23	10	93	14	117	281
08:45 AM	8	3	11	22	1	100	8	109	11	5	2	18	5	77	7	89	238
Total	40	31	50	121	7	460	25	492	73	23	7	103	32	346	77	455	1171
Grand Total	69	54	102	225	10	970	43	1023	102	39	22	163	49	716	154	919	2330
Apprch %	30.7	24	45.3		1	94.8	4.2		62.6	23.9	13.5		5.3	77.9	16.8		
Total %	3	2.3	4.4	9.7	0.4	41.6	1.8	43.9	4.4	1.7	0.9	7	2.1	30.7	6.6	39.4	

	Austin Road Southbound				Yosemite Avenue Westbound				Austin Road Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	8	5	17	30	1	**157**	4	**162**	3	5	**6**	14	6	**106**	22	**134**	**340**
07:45 AM	10	8	8	26	0	134	0	134	15	8	2	25	4	99	24	127	312
08:00 AM	**15**	6	**18**	**39**	2	125	4	131	19	5	2	26	8	92	26	126	322
08:15 AM	8	**16**	12	36	**4**	125	**6**	135	**23**	**12**	1	**36**	**9**	84	**30**	123	330
Total Volume	41	35	55	131	7	541	14	562	60	30	11	101	27	381	102	510	1304
% App. Total	31.3	26.7	42		1.2	96.3	2.5		59.4	29.7	10.9		5.3	74.7	20		
PHF	.683	.547	.764	.840	.438	.861	.583	.867	.652	.625	.458	.701	.750	.899	.850	.951	.959

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City of Manteca
N/S: Austin Road
E/W: Yosemite Avenue
Weather: Clear

File Name : 03_MTC_Aus_Yos AM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:45 AM				07:30 AM			
+0 mins.	8	5	17	30	1	**157**	4	**162**	15	8	**2**	25	6	**106**	22	**134**
+15 mins.	10	8	8	26	0	134	0	134	19	5	2	26	4	99	24	127
+30 mins.	**15**	6	**18**	**39**	2	125	4	131	**23**	**12**	1	**36**	8	92	26	126
+45 mins.	8	**16**	12	36	**4**	125	**6**	135	20	1	2	23	**9**	84	**30**	123
Total Volume	41	35	55	131	7	541	14	562	77	26	7	110	27	381	102	510
% App. Total	31.3	26.7	42		1.2	96.3	2.5		70	23.6	6.4		5.3	74.7	20	
PHF	.683	.547	.764	.840	.438	.861	.583	.867	.837	.542	.875	.764	.750	.899	.850	.951

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City of Manteca
N/S: Austin Road
E/W: Yosemite Avenue
Weather: Clear

File Name : 03_MTC_Aus_Yos PM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 1

Groups Printed- Total Volume

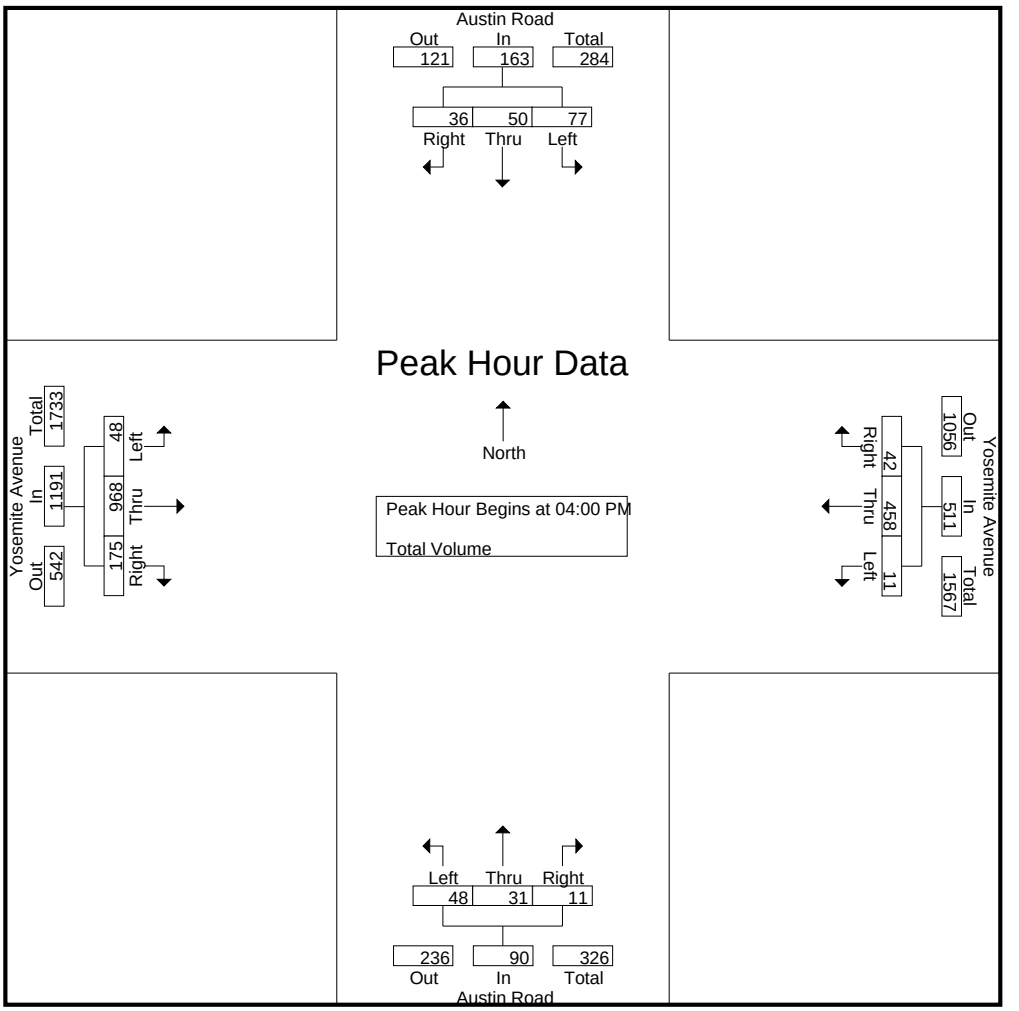
	Austin Road Southbound				Yosemite Avenue Westbound				Austin Road Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	21	8	8	37	2	118	12	132	14	7	3	24	14	259	50	323	516
04:15 PM	24	15	12	51	4	125	8	137	6	9	3	18	7	224	40	271	477
04:30 PM	14	14	8	36	1	108	10	119	12	10	3	25	5	241	34	280	460
04:45 PM	18	13	8	39	4	107	12	123	16	5	2	23	22	244	51	317	502
Total	77	50	36	163	11	458	42	511	48	31	11	90	48	968	175	1191	1955
05:00 PM	12	8	11	31	3	105	10	118	19	5	5	29	13	252	35	300	478
05:15 PM	15	6	14	35	2	114	10	126	10	6	1	17	10	187	17	214	392
05:30 PM	6	4	16	26	0	134	9	143	10	2	3	15	11	153	9	173	357
05:45 PM	10	7	12	29	0	94	9	103	8	1	1	10	12	157	19	188	330
Total	43	25	53	121	5	447	38	490	47	14	10	71	46	749	80	875	1557
Grand Total	120	75	89	284	16	905	80	1001	95	45	21	161	94	1717	255	2066	3512
Apprch %	42.3	26.4	31.3		1.6	90.4	8		59	28	13		4.5	83.1	12.3		
Total %	3.4	2.1	2.5	8.1	0.5	25.8	2.3	28.5	2.7	1.3	0.6	4.6	2.7	48.9	7.3	58.8	

	Austin Road Southbound				Yosemite Avenue Westbound				Austin Road Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	21	8	8	37	2	118	**12**	132	14	7	**3**	24	14	**259**	50	**323**	**516**
04:15 PM	**24**	**15**	**12**	**51**	**4**	**125**	8	**137**	6	9	3	18	7	224	40	271	477
04:30 PM	14	14	8	36	1	108	10	119	12	**10**	3	**25**	5	241	34	280	460
04:45 PM	18	13	8	39	4	107	12	123	**16**	5	2	23	**22**	244	**51**	317	502
Total Volume	77	50	36	163	11	458	42	511	48	31	11	90	48	968	175	1191	1955
% App. Total	47.2	30.7	22.1		2.2	89.6	8.2		53.3	34.4	12.2		4	81.3	14.7		
PHF	.802	.833	.750	.799	.688	.916	.875	.932	.750	.775	.917	.900	.545	.934	.858	.922	.947

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City of Manteca
N/S: Austin Road
E/W: Yosemite Avenue
Weather: Clear

File Name : 03_MTC_Aus_Yos PM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:15 PM				04:00 PM			
+0 mins.	21	8	8	37	2	118	**12**	132	6	9	3	18	14	**259**	50	**323**
+15 mins.	**24**	**15**	**12**	**51**	**4**	**125**	8	**137**	12	**10**	3	25	7	224	40	271
+30 mins.	14	14	8	36	1	108	10	119	16	5	2	23	5	241	34	280
+45 mins.	18	13	8	39	4	107	12	123	**19**	5	**5**	**29**	**22**	244	**51**	317
Total Volume	77	50	36	163	11	458	42	511	53	29	13	95	48	968	175	1191
% App. Total	47.2	30.7	22.1		2.2	89.6	8.2		55.8	30.5	13.7		4	81.3	14.7	
PHF	.802	.833	.750	.799	.688	.916	.875	.932	.697	.725	.650	.819	.545	.934	.858	.922

Counts Unlimited, Inc.
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City of Manteca
N/S: Vasconcellos Avenue
E/W: Yosemite Avenue
Weather: Clear

File Name : 04_MTC_Vas_Yos AM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 1

Groups Printed- Total Volume

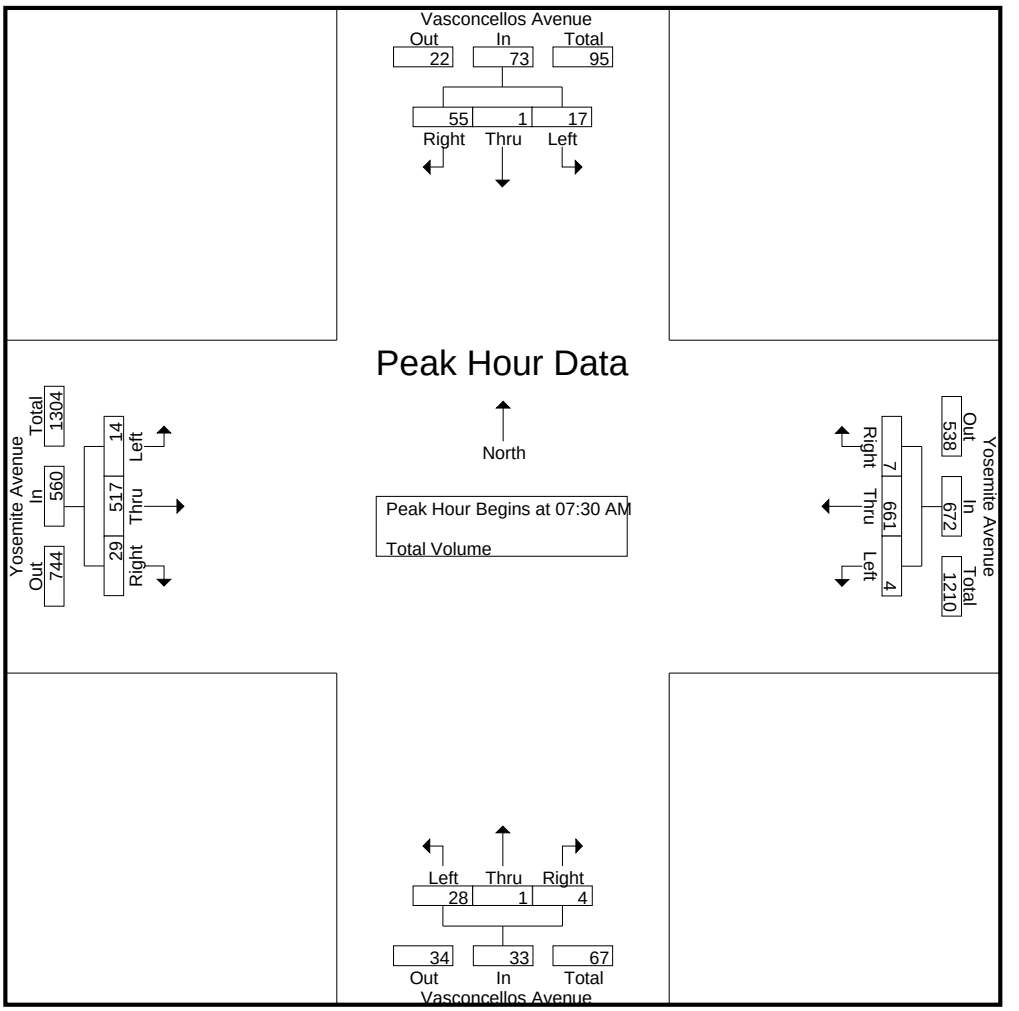
	Vasconcellos Avenue Southbound				Yosemite Avenue Westbound				Vasconcellos Avenue Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	0	9	12	1	124	0	125	4	0	0	4	5	89	6	100	241
07:15 AM	3	0	10	13	2	134	5	141	7	0	0	7	2	114	10	126	287
07:30 AM	6	0	19	25	2	172	1	175	8	0	0	8	0	127	6	133	341
07:45 AM	3	0	13	16	2	156	3	161	4	0	0	4	6	134	10	150	331
Total	15	0	51	66	7	586	9	602	23	0	0	23	13	464	32	509	1200
08:00 AM	4	1	9	14	0	154	2	156	7	1	1	9	3	124	6	133	312
08:15 AM	4	0	14	18	0	179	1	180	9	0	3	12	5	132	7	144	354
08:30 AM	1	0	12	13	1	140	0	141	9	0	1	10	7	114	2	123	287
08:45 AM	1	1	8	10	1	127	1	129	7	0	1	8	8	97	10	115	262
Total	10	2	43	55	2	600	4	606	32	1	6	39	23	467	25	515	1215
Grand Total	25	2	94	121	9	1186	13	1208	55	1	6	62	36	931	57	1024	2415
Apprch %	20.7	1.7	77.7		0.7	98.2	1.1		88.7	1.6	9.7		3.5	90.9	5.6		
Total %	1	0.1	3.9	5	0.4	49.1	0.5	50	2.3	0	0.2	2.6	1.5	38.6	2.4	42.4	

	Vasconcellos Avenue Southbound				Yosemite Avenue Westbound				Vasconcellos Avenue Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**6**	0	**19**	**25**	**2**	172	1	175	8	0	0	8	0	127	6	133	341
07:45 AM	3	0	13	16	2	156	**3**	161	4	0	0	4	**6**	**134**	**10**	**150**	331
08:00 AM	4	**1**	9	14	0	154	2	156	7	**1**	1	9	3	124	6	133	312
08:15 AM	4	0	14	18	0	**179**	1	**180**	**9**	0	**3**	**12**	5	132	7	144	**354**
Total Volume	17	1	55	73	4	661	7	672	28	1	4	33	14	517	29	560	1338
% App. Total	23.3	1.4	75.3		0.6	98.4	1		84.8	3	12.1		2.5	92.3	5.2		
PHF	.708	.250	.724	.730	.500	.923	.583	.933	.778	.250	.333	.688	.583	.965	.725	.933	.945

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City of Manteca
N/S: Vasconcellos Avenue
E/W: Yosemite Avenue
Weather: Clear

File Name : 04_MTC_Vas_Yos AM
Site Code : 23626220
Start Date : 3/12/2026



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	**6**	0	**19**	**25**	**2**	172	1	175	7	**1**	1	9	0	127	6	133
+15 mins.	3	0	13	16	2	156	**3**	161	**9**	0	**3**	**12**	**6**	**134**	**10**	**150**
+30 mins.	4	**1**	9	14	0	154	2	156	9	0	1	10	3	124	6	133
+45 mins.	4	0	14	18	0	**179**	1	**180**	7	0	1	8	5	132	7	144
Total Volume	17	1	55	73	4	661	7	672	32	1	6	39	14	517	29	560
% App. Total	23.3	1.4	75.3		0.6	98.4	1		82.1	2.6	15.4		2.5	92.3	5.2	
PHF	.708	.250	.724	.730	.500	.923	.583	.933	.889	.250	.500	.813	.583	.965	.725	.933

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City of Manteca
N/S: Vasconcellos Avenue
E/W: Yosemite Avenue
Weather: Clear

File Name : 04_MTC_Vas_Yos PM
Site Code : 23626220
Start Date : 3/12/2026
Page No : 1

Groups Printed- Total Volume

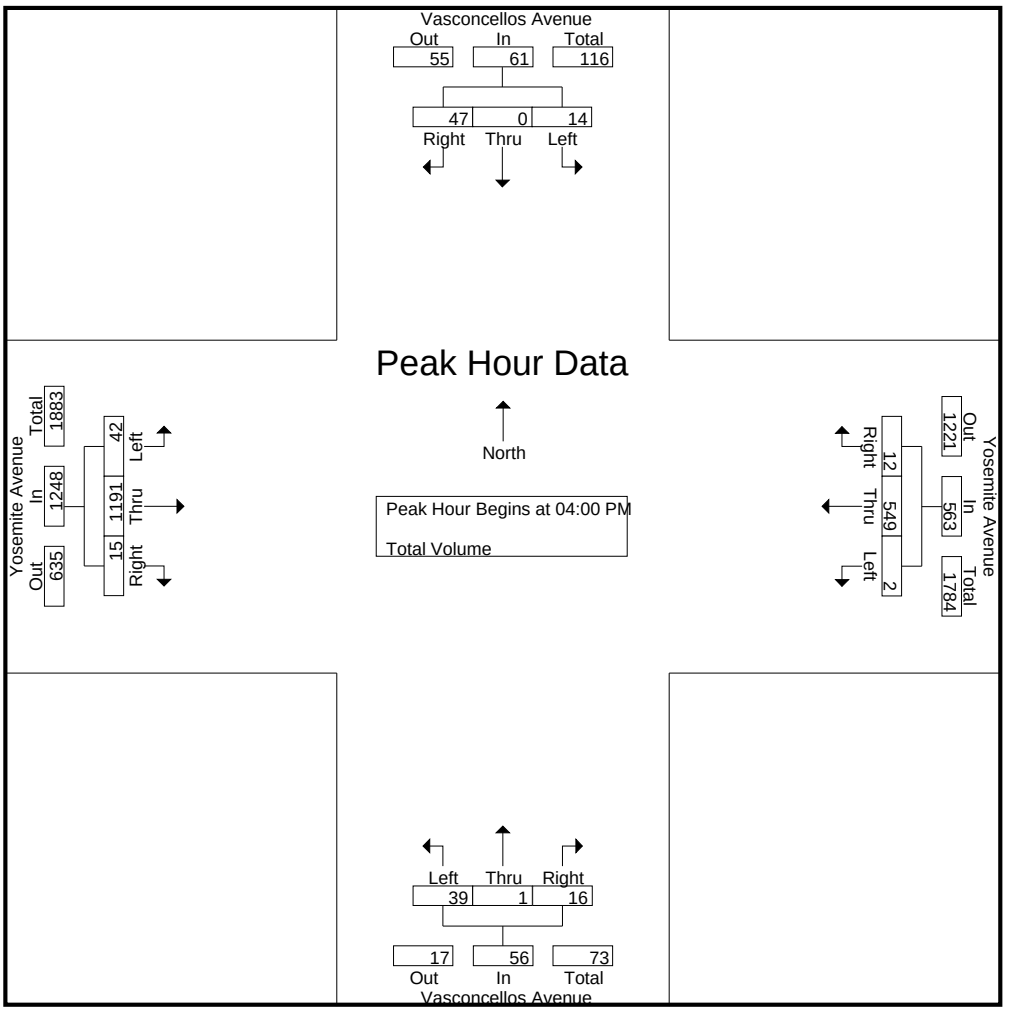
	Vasconcellos Avenue Southbound				Yosemite Avenue Westbound				Vasconcellos Avenue Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	0	9	13	0	144	1	145	11	0	8	19	8	325	3	336	513
04:15 PM	3	0	8	11	1	144	7	152	13	0	5	18	5	268	1	274	455
04:30 PM	2	0	15	17	0	136	2	138	8	1	1	10	16	286	7	309	474
04:45 PM	5	0	15	20	1	125	2	128	7	0	2	9	13	312	4	329	486
Total	14	0	47	61	2	549	12	563	39	1	16	56	42	1191	15	1248	1928
05:00 PM	8	0	6	14	0	126	3	129	10	0	8	18	11	264	1	276	437
05:15 PM	2	0	12	14	1	143	5	149	5	1	2	8	11	212	3	226	397
05:30 PM	4	0	10	14	0	159	4	163	7	0	1	8	7	168	3	178	363
05:45 PM	8	0	4	12	0	111	5	116	6	0	1	7	11	180	1	192	327
Total	22	0	32	54	1	539	17	557	28	1	12	41	40	824	8	872	1524
Grand Total	36	0	79	115	3	1088	29	1120	67	2	28	97	82	2015	23	2120	3452
Apprch %	31.3	0	68.7		0.3	97.1	2.6		69.1	2.1	28.9		3.9	95	1.1		
Total %	1	0	2.3	3.3	0.1	31.5	0.8	32.4	1.9	0.1	0.8	2.8	2.4	58.4	0.7	61.4	

	Vasconcellos Avenue Southbound				Yosemite Avenue Westbound				Vasconcellos Avenue Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	4	0	9	13	0	**144**	1	145	11	0	**8**	**19**	8	**325**	3	**336**	**513**
04:15 PM	3	0	8	11	**1**	144	**7**	**152**	**13**	0	5	18	5	268	1	274	455
04:30 PM	2	0	**15**	17	0	136	2	138	8	**1**	1	10	**16**	286	**7**	309	474
04:45 PM	**5**	0	15	**20**	1	125	2	128	7	0	2	9	13	312	4	329	486
Total Volume	14	0	47	61	2	549	12	563	39	1	16	56	42	1191	15	1248	1928
% App. Total	23	0	77		0.4	97.5	2.1		69.6	1.8	28.6		3.4	95.4	1.2		
PHF	.700	.000	.783	.763	.500	.953	.429	.926	.750	.250	.500	.737	.656	.916	.536	.929	.940

Counts Unlimited, Inc.
PO Box 1178
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City of Manteca
N/S: Vasconcellos Avenue
E/W: Yosemite Avenue
Weather: Clear

File Name : 04_MTC_Vas_Yos PM
Site Code : 23626220
Start Date : 3/12/2026



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				04:00 PM				04:00 PM			
+0 mins.	2	0	**15**	17	**1**	125	2	128	11	0	**8**	**19**	8	**325**	3	**336**
+15 mins.	5	0	15	**20**	0	126	3	129	**13**	0	5	18	5	268	1	274
+30 mins.	**8**	0	6	14	1	143	**5**	149	8	**1**	1	10	**16**	286	**7**	309
+45 mins.	2	0	12	14	0	**159**	4	**163**	7	0	2	9	13	312	4	329
Total Volume	17	0	48	65	2	553	14	569	39	1	16	56	42	1191	15	1248
% App. Total	26.2	0	73.8		0.4	97.2	2.5		69.6	1.8	28.6		3.4	95.4	1.2	
PHF	.531	.000	.800	.813	.500	.869	.700	.873	.750	.250	.500	.737	.656	.916	.536	.929

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County of San Joaquin
N/S: Austin Road
E/W: Graves Road
Weather: Clear

File Name : 01_CSJ_AUS_GRA SUN
Site Code : 23626268
Start Date : 3/29/2026
Page No : 1

Groups Printed- Total Volume

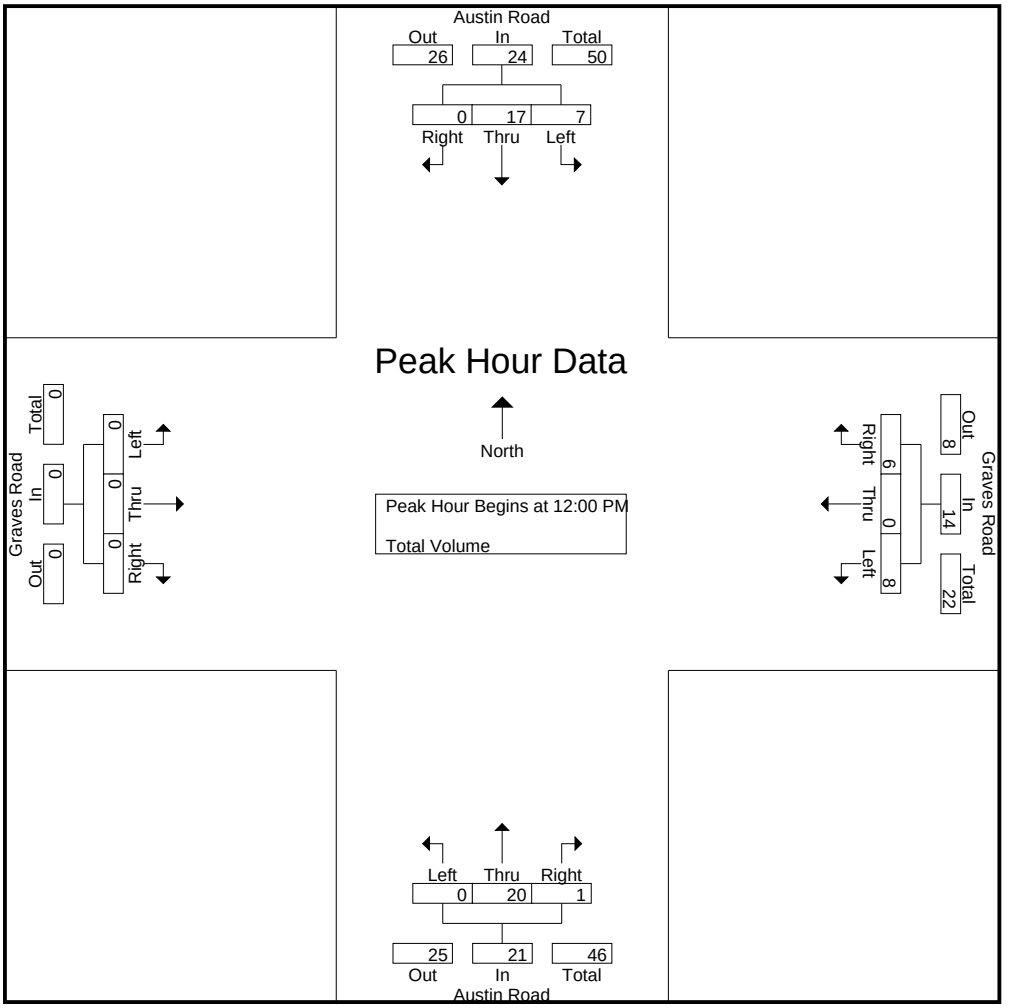
	Austin Road Southbound				Graves Road Westbound				Austin Road Northbound				Graves Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	1	0	0	1	1	0	0	1	0	3	0	3	0	0	0	0	5
07:30 AM	0	1	0	1	0	0	0	0	0	2	1	3	0	0	0	0	4
07:45 AM	1	1	0	2	1	0	0	1	0	2	0	2	0	0	0	0	5
Total	2	2	0	4	2	0	0	2	0	8	1	9	0	0	0	0	15
08:00 AM	2	2	0	4	1	0	0	1	0	5	0	5	0	0	0	0	10
08:15 AM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
08:30 AM	1	4	0	5	1	0	1	2	0	2	0	2	0	0	0	0	9
08:45 AM	1	2	0	3	0	0	1	1	0	3	1	4	0	0	0	0	8
Total	4	10	0	14	3	0	2	5	0	10	1	11	0	0	0	0	30
09:00 AM	1	2	0	3	3	0	1	4	0	2	0	2	0	0	0	0	9
09:15 AM	4	2	0	6	3	0	0	3	0	2	0	2	0	0	0	0	11
09:30 AM	1	3	0	4	3	0	1	4	0	2	0	2	0	0	0	0	10
09:45 AM	4	3	0	7	5	0	1	6	0	5	0	5	0	0	0	0	18
Total	10	10	0	20	14	0	3	17	0	11	0	11	0	0	0	0	48
10:00 AM	1	3	0	4	0	0	2	2	0	2	1	3	0	0	0	0	9
10:15 AM	1	5	0	6	1	0	0	1	0	2	1	3	0	0	0	0	10
10:30 AM	2	4	0	6	2	0	3	5	0	0	0	0	0	0	0	0	11
10:45 AM	1	11	0	12	2	0	1	3	0	6	0	6	0	0	0	0	21
Total	5	23	0	28	5	0	6	11	0	10	2	12	0	0	0	0	51
11:00 AM	1	4	0	5	4	0	0	4	0	2	0	2	0	0	0	0	11
11:15 AM	1	4	0	5	2	0	0	2	0	3	1	4	0	0	0	0	11
11:30 AM	0	2	0	2	2	0	0	2	0	3	0	3	0	0	0	0	7
11:45 AM	1	2	0	3	4	0	0	4	0	4	0	4	0	0	0	0	11
Total	3	12	0	15	12	0	0	12	0	12	1	13	0	0	0	0	40
12:00 PM	2	5	0	7	3	0	3	6	0	4	0	4	0	0	0	0	17
12:15 PM	2	3	0	5	3	0	0	3	0	5	0	5	0	0	0	0	13
12:30 PM	2	6	0	8	1	0	0	1	0	6	0	6	0	0	0	0	15
12:45 PM	1	3	0	4	1	0	3	4	0	5	1	6	0	0	0	0	14
Total	7	17	0	24	8	0	6	14	0	20	1	21	0	0	0	0	59
Grand Total	31	74	0	105	44	0	17	61	0	71	6	77	0	0	0	0	243
Apprch %	29.5	70.5	0		72.1	0	27.9		0	92.2	7.8		0	0	0		
Total %	12.8	30.5	0	43.2	18.1	0	7	25.1	0	29.2	2.5	31.7	0	0	0	0	

	Austin Road Southbound				Graves Road Westbound				Austin Road Northbound				Graves Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	2	5	0	7	3	0	3	6	0	4	0	4	0	0	0	0	17
12:15 PM	2	3	0	5	3	0	0	3	0	5	0	5	0	0	0	0	13
12:30 PM	2	6	0	8	1	0	0	1	0	6	0	6	0	0	0	0	15
12:45 PM	1	3	0	4	1	0	3	4	0	5	1	6	0	0	0	0	14
Total Volume	7	17	0	24	8	0	6	14	0	20	1	21	0	0	0	0	59
% App. Total	29.2	70.8	0		57.1	0	42.9		0	95.2	4.8		0	0	0		
PHF	.875	.708	.000	.750	.667	.000	.500	.583	.000	.833	.250	.875	.000	.000	.000	.000	.868

Counts Unlimited, Inc.
PO Box 1178
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County of San Joaquin
N/S: Austin Road
E/W: Graves Road
Weather: Clear

File Name : 01_CSJ_AUS_GRA SUN
Site Code : 23626268
Start Date : 3/29/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	10:15 AM				09:00 AM				12:00 PM				07:00 AM			
+0 mins.	1	5	0	6	3	0	1	4	0	4	0	4	0	0	0	0
+15 mins.	2	4	0	6	3	0	0	3	0	5	0	5	0	0	0	0
+30 mins.	1	11	0	12	3	0	1	4	0	6	0	6	0	0	0	0
+45 mins.	1	4	0	5	5	0	1	6	0	5	1	6	0	0	0	0
Total Volume	5	24	0	29	14	0	3	17	0	20	1	21	0	0	0	0
% App. Total	17.2	82.8	0		82.4	0	17.6		0	95.2	4.8		0	0	0	
PHF	.625	.545	.000	.604	.700	.000	.750	.708	.000	.833	.250	.875	.000	.000	.000	.000

Counts Unlimited, Inc.
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Corona, CA 92878
(951) 268-6268

County of San Joaquin
N/S: Austin Road
E/W: 99 Frontage Road
Weather: Clear

File Name : 02_CSJ_AUS_99F SUN
Site Code : 23626268
Start Date : 3/29/2026
Page No : 1

Groups Printed- Total Volume

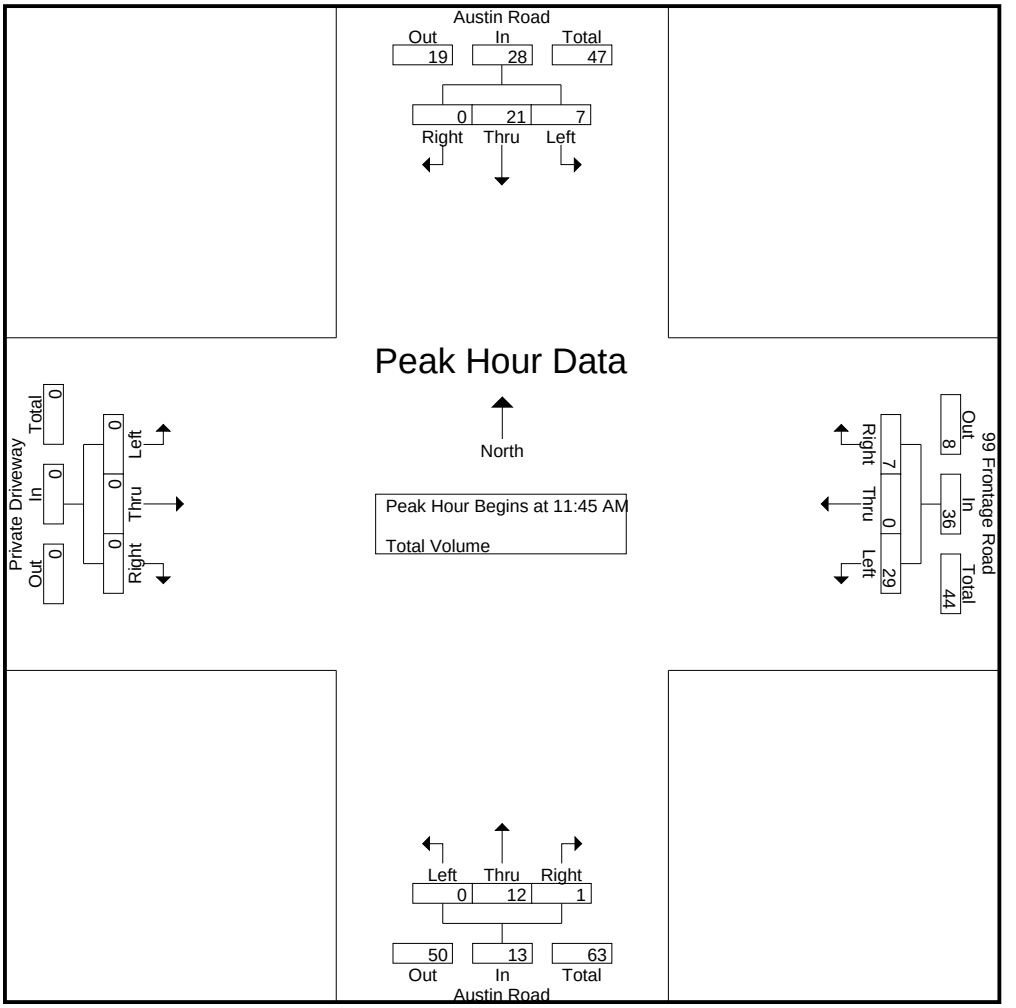
	Austin Road Southbound				99 Frontage Road Westbound				Austin Road Northbound				Private Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	1	0	1	2	0	1	3	0	2	0	2	0	0	0	0	6
07:30 AM	1	0	0	1	3	0	2	5	0	1	0	1	0	0	0	0	7
07:45 AM	1	1	0	2	2	0	0	2	0	2	0	2	0	0	0	0	6
Total	2	2	0	4	7	0	4	11	0	5	0	5	0	0	0	0	20
08:00 AM	1	2	0	3	2	0	2	4	0	1	0	1	1	0	0	1	9
08:15 AM	2	1	0	3	1	0	0	1	0	2	0	2	0	0	0	0	6
08:30 AM	3	2	0	5	2	0	0	2	0	2	1	3	0	0	0	0	10
08:45 AM	0	2	0	2	3	0	2	5	0	2	0	2	0	0	0	0	9
Total	6	7	0	13	8	0	4	12	0	7	1	8	1	0	0	1	34
09:00 AM	2	3	0	5	2	0	1	3	0	0	0	0	1	0	0	1	9
09:15 AM	2	3	0	5	5	0	1	6	0	1	0	1	0	0	0	0	12
09:30 AM	4	4	0	8	5	0	2	7	0	2	1	3	0	0	0	0	18
09:45 AM	0	7	0	7	6	0	1	7	0	3	1	4	0	0	0	0	18
Total	8	17	0	25	18	0	5	23	0	6	2	8	1	0	0	1	57
10:00 AM	2	1	1	4	9	0	1	10	0	2	0	2	0	0	0	0	16
10:15 AM	5	1	0	6	5	0	2	7	0	1	0	1	0	0	0	0	14
10:30 AM	1	5	0	6	5	0	0	5	0	0	0	0	0	0	0	0	11
10:45 AM	6	6	0	12	8	0	2	10	0	3	2	5	0	1	0	1	28
Total	14	13	1	28	27	0	5	32	0	6	2	8	0	1	0	1	69
11:00 AM	3	5	0	8	4	0	1	5	0	1	0	1	0	0	0	0	14
11:15 AM	2	3	0	5	5	0	1	6	0	2	0	2	0	0	0	0	13
11:30 AM	3	3	0	6	4	0	2	6	0	2	0	2	0	0	0	0	14
11:45 AM	0	6	0	6	6	0	3	9	0	1	0	1	0	0	0	0	16
Total	8	17	0	25	19	0	7	26	0	6	0	6	0	0	0	0	57
12:00 PM	2	6	0	8	7	0	1	8	0	3	0	3	0	0	0	0	19
12:15 PM	3	3	0	6	7	0	2	9	0	3	0	3	0	0	0	0	18
12:30 PM	2	6	0	8	9	0	1	10	0	5	1	6	0	0	0	0	24
12:45 PM	1	2	0	3	5	0	3	8	0	3	1	4	0	0	0	0	15
Total	8	17	0	25	28	0	7	35	0	14	2	16	0	0	0	0	76
Grand Total	46	73	1	120	107	0	32	139	0	44	7	51	2	1	0	3	313
Apprch %	38.3	60.8	0.8		77	0	23		0	86.3	13.7		66.7	33.3	0		
Total %	14.7	23.3	0.3	38.3	34.2	0	10.2	44.4	0	14.1	2.2	16.3	0.6	0.3	0	1	

	Austin Road Southbound				99 Frontage Road Westbound				Austin Road Northbound				Private Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45 AM																	
11:45 AM	0	6	0	6	6	0	3	9	0	1	0	1	0	0	0	0	16
12:00 PM	2	6	0	8	7	0	1	8	0	3	0	3	0	0	0	0	19
12:15 PM	3	3	0	6	7	0	2	9	0	3	0	3	0	0	0	0	18
12:30 PM	2	6	0	8	9	0	1	10	0	5	1	6	0	0	0	0	24
Total Volume	7	21	0	28	29	0	7	36	0	12	1	13	0	0	0	0	77
% App. Total	25	75	0		80.6	0	19.4		0	92.3	7.7		0	0	0		
PHF	.583	.875	.000	.875	.806	.000	.583	.900	.000	.600	.250	.542	.000	.000	.000	.000	.802

Counts Unlimited, Inc.
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County of San Joaquin
N/S: Austin Road
E/W: 99 Frontage Road
Weather: Clear

File Name : 02_CSJ_AUS_99F SUN
Site Code : 23626268
Start Date : 3/29/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	10:15 AM				11:45 AM				12:00 PM				07:15 AM			
+0 mins.	5	1	0	6	6	0	3	9	0	3	0	3	0	0	0	0
+15 mins.	1	5	0	6	7	0	1	8	0	3	0	3	0	0	0	0
+30 mins.	6	6	0	12	7	0	2	9	0	5	1	6	0	0	0	0
+45 mins.	3	5	0	8	9	0	1	10	0	3	1	4	1	0	0	1
Total Volume	15	17	0	32	29	0	7	36	0	14	2	16	1	0	0	1
% App. Total	46.9	53.1	0		80.6	0	19.4		0	87.5	12.5		100	0	0	
PHF	.625	.708	.000	.667	.806	.000	.583	.900	.000	.700	.500	.667	.250	.000	.000	.250

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City of Manteca
N/S: Austin Road
E/W: Yosemite Avenue
Weather: Clear

File Name : 03_MTC_AUS_YOS SUN
Site Code : 23626268
Start Date : 3/29/2026
Page No : 1

Groups Printed- Total Volume

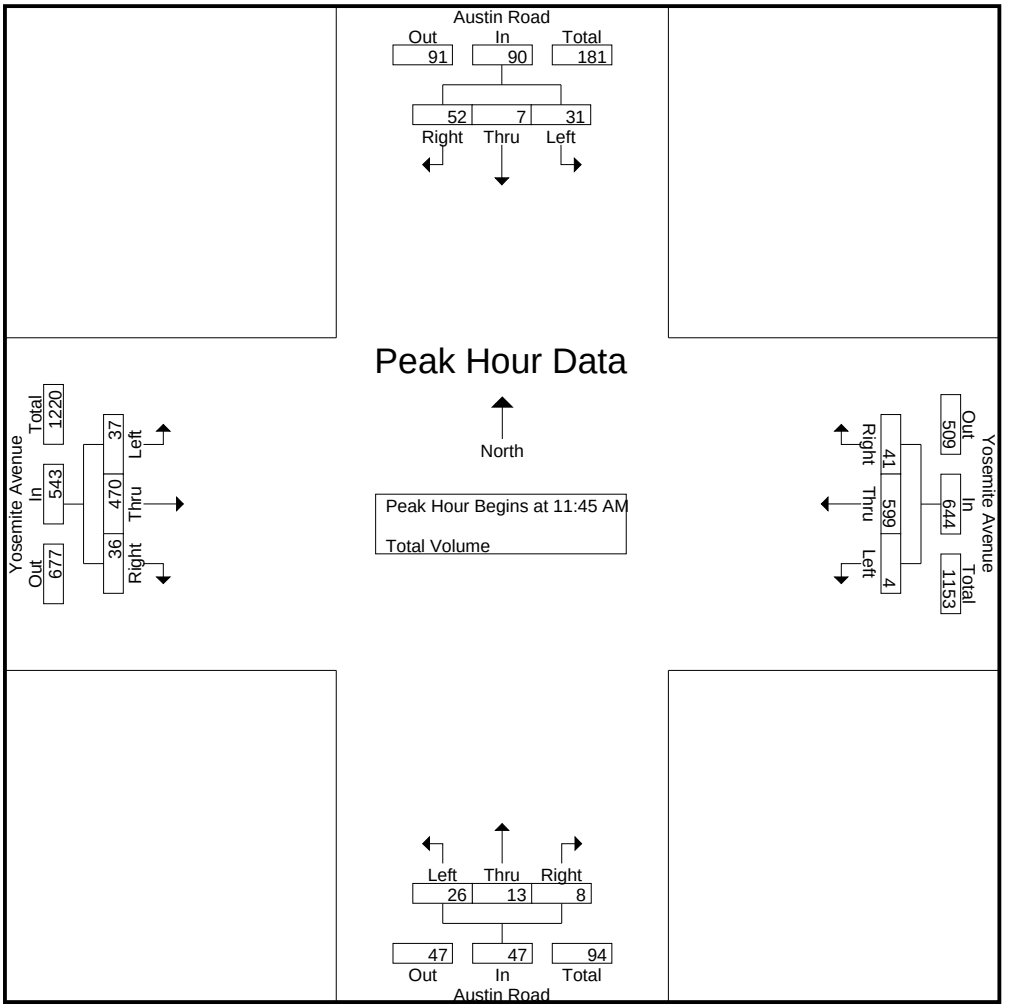
	Austin Road Southbound				Yosemite Avenue Westbound				Austin Road Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	4	5	0	23	1	24	1	0	0	1	3	31	2	36	66
07:15 AM	1	0	2	3	0	31	2	33	1	0	2	3	0	33	1	34	73
07:30 AM	4	1	6	11	0	41	0	41	1	2	0	3	3	38	5	46	101
07:45 AM	3	3	5	11	0	37	1	38	1	0	1	2	3	50	2	55	106
Total	9	4	17	30	0	132	4	136	4	2	3	9	9	152	10	171	346
08:00 AM	2	0	6	8	0	48	1	49	2	1	0	3	2	58	4	64	124
08:15 AM	6	1	5	12	0	53	2	55	4	1	0	5	2	62	2	66	138
08:30 AM	4	3	15	22	1	50	0	51	2	0	3	5	3	87	2	92	170
08:45 AM	4	0	9	13	0	65	0	65	4	1	1	6	5	84	4	93	177
Total	16	4	35	55	1	216	3	220	12	3	4	19	12	291	12	315	609
09:00 AM	6	0	11	17	0	61	4	65	4	2	0	6	2	82	7	91	179
09:15 AM	13	3	8	24	1	91	2	94	3	3	0	6	4	84	4	92	216
09:30 AM	12	3	13	28	0	80	1	81	4	0	3	7	4	100	7	111	227
09:45 AM	7	4	12	23	0	114	5	119	8	1	0	9	6	90	7	103	254
Total	38	10	44	92	1	346	12	359	19	6	3	28	16	356	25	397	876
10:00 AM	15	5	4	24	1	76	2	79	4	2	0	6	13	78	6	97	206
10:15 AM	9	4	10	23	1	90	3	94	4	1	0	5	2	100	4	106	228
10:30 AM	5	1	8	14	2	120	5	127	6	1	0	7	8	104	7	119	267
10:45 AM	8	3	12	23	0	115	5	120	9	4	2	15	10	118	11	139	297
Total	37	13	34	84	4	401	15	420	23	8	2	33	33	400	28	461	998
11:00 AM	6	1	7	14	2	105	3	110	4	1	2	7	7	91	4	102	233
11:15 AM	4	0	5	9	1	117	6	124	2	0	1	3	11	119	8	138	274
11:30 AM	16	1	12	29	1	135	4	140	3	1	3	7	4	94	6	104	280
11:45 AM	10	2	14	26	0	153	8	161	7	3	1	11	10	117	8	135	333
Total	36	4	38	78	4	510	21	535	16	5	7	28	32	421	26	479	1120
12:00 PM	6	1	16	23	0	186	16	202	9	5	2	16	9	113	8	130	371
12:15 PM	8	1	10	19	1	150	9	160	5	4	2	11	7	124	12	143	333
12:30 PM	7	3	12	22	3	110	8	121	5	1	3	9	11	116	8	135	287
12:45 PM	3	2	14	19	1	129	5	135	3	4	2	9	6	115	6	127	290
Total	24	7	52	83	5	575	38	618	22	14	9	45	33	468	34	535	1281
Grand Total	160	42	220	422	15	2180	93	2288	96	38	28	162	135	2088	135	2358	5230
Apprch %	37.9	10	52.1		0.7	95.3	4.1		59.3	23.5	17.3		5.7	88.5	5.7		
Total %	3.1	0.8	4.2	8.1	0.3	41.7	1.8	43.7	1.8	0.7	0.5	3.1	2.6	39.9	2.6	45.1	

	Austin Road Southbound				Yosemite Avenue Westbound				Austin Road Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45 AM																	
11:45 AM	10	2	14	26	0	153	8	161	7	3	1	11	10	117	8	135	333
12:00 PM	6	1	16	23	0	186	16	202	9	5	2	16	9	113	8	130	371
12:15 PM	8	1	10	19	1	150	9	160	5	4	2	11	7	124	12	143	333
12:30 PM	7	3	12	22	3	110	8	121	5	1	3	9	11	116	8	135	287
Total Volume	31	7	52	90	4	599	41	644	26	13	8	47	37	470	36	543	1324
% App. Total	34.4	7.8	57.8		0.6	93	6.4		55.3	27.7	17		6.8	86.6	6.6		
PHF	.775	.583	.813	.865	.333	.805	.641	.797	.722	.650	.667	.734	.841	.948	.750	.949	.892

Counts Unlimited, Inc.
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City of Manteca
N/S: Austin Road
E/W: Yosemite Avenue
Weather: Clear

File Name : 03_MTC_AUS_YOS SUN
Site Code : 23626268
Start Date : 3/29/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	09:15 AM				11:30 AM				11:45 AM				11:45 AM			
+0 mins.	13	3	8	24	1	135	4	140	7	3	1	11	10	117	8	135
+15 mins.	12	3	13	28	0	153	8	161	9	5	2	16	9	113	8	130
+30 mins.	7	4	12	23	0	186	16	202	5	4	2	11	7	124	12	143
+45 mins.	15	5	4	24	1	150	9	160	5	1	3	9	11	116	8	135
Total Volume	47	15	37	99	2	624	37	663	26	13	8	47	37	470	36	543
% App. Total	47.5	15.2	37.4		0.3	94.1	5.6		55.3	27.7	17		6.8	86.6	6.6	
PHF	.783	.750	.712	.884	.500	.839	.578	.821	.722	.650	.667	.734	.841	.948	.750	.949

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Corona, CA 92878
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City of Manteca
N/S: Vasconcellos Avenue
E/W: Yosemite Avenue
Weather: Clear

File Name : 04_MTC_VAS_YOS SUN
Site Code : 23626268
Start Date : 3/29/2026
Page No : 1

Groups Printed- Total Volume

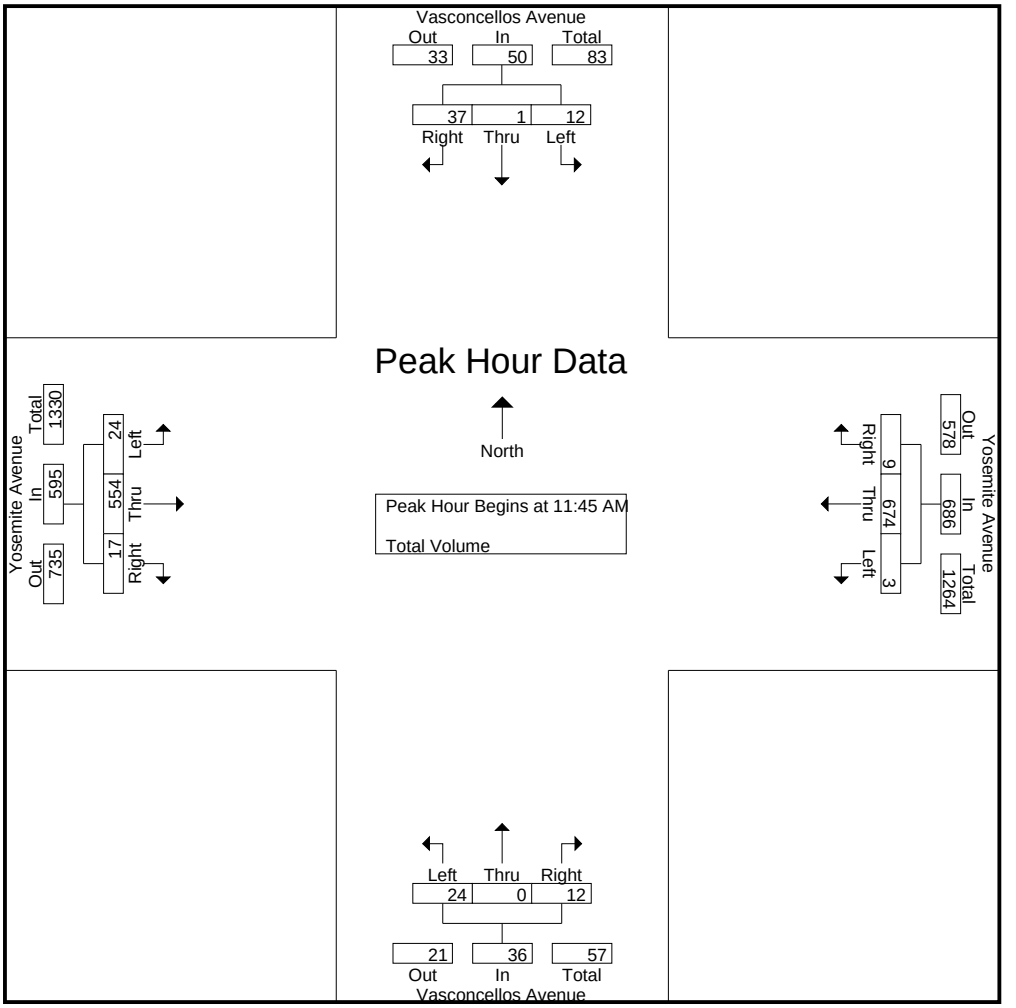
	Vasconcellos Avenue Southbound				Yosemite Avenue Westbound				Vasconcellos Avenue Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	2	2	0	30	0	30	1	0	0	1	1	37	1	39	72
07:15 AM	1	1	2	4	0	35	1	36	2	0	0	2	2	30	1	33	75
07:30 AM	1	1	2	4	0	48	0	48	1	0	0	1	1	44	1	46	99
07:45 AM	0	0	3	3	0	43	0	43	3	1	0	4	1	59	1	61	111
Total	2	2	9	13	0	156	1	157	7	1	0	8	5	170	4	179	357
08:00 AM	1	0	3	4	1	61	0	62	1	0	1	2	1	62	1	64	132
08:15 AM	1	1	6	8	0	64	0	64	1	0	0	1	1	67	3	71	144
08:30 AM	1	0	7	8	1	66	2	69	7	0	2	9	0	89	2	91	177
08:45 AM	1	0	5	6	0	70	2	72	7	1	2	10	3	88	1	92	180
Total	4	1	21	26	2	261	4	267	16	1	5	22	5	306	7	318	633
09:00 AM	3	1	13	17	0	80	2	82	6	0	1	7	5	91	1	97	203
09:15 AM	1	0	9	10	0	105	0	105	7	0	0	7	4	92	4	100	222
09:30 AM	0	0	11	11	0	97	1	98	4	0	1	5	4	111	5	120	234
09:45 AM	3	0	14	17	2	134	1	137	8	0	1	9	3	98	7	108	271
Total	7	1	47	55	2	416	4	422	25	0	3	28	16	392	17	425	930
10:00 AM	2	0	10	12	0	79	3	82	7	0	1	8	9	103	2	114	216
10:15 AM	2	0	9	11	0	108	1	109	9	0	0	9	6	106	0	112	241
10:30 AM	3	0	8	11	0	135	3	138	4	0	1	5	3	112	4	119	273
10:45 AM	1	0	8	9	0	141	2	143	5	0	1	6	2	145	1	148	306
Total	8	0	35	43	0	463	9	472	25	0	3	28	20	466	7	493	1036
11:00 AM	0	1	12	13	0	115	0	115	12	0	4	16	6	104	5	115	259
11:15 AM	2	1	8	11	1	131	0	132	6	1	0	7	7	133	5	145	295
11:30 AM	3	0	10	13	1	144	3	148	9	1	2	12	7	104	3	114	287
11:45 AM	4	0	9	13	1	175	2	178	6	0	4	10	5	136	5	146	347
Total	9	2	39	50	3	565	5	573	33	2	10	45	25	477	18	520	1188
12:00 PM	0	1	11	12	1	206	2	209	5	0	2	7	5	132	5	142	370
12:15 PM	6	0	4	10	1	167	3	171	8	0	2	10	7	145	3	155	346
12:30 PM	2	0	13	15	0	126	2	128	5	0	4	9	7	141	4	152	304
12:45 PM	2	0	10	12	0	164	0	164	8	0	1	9	7	140	3	150	335
Total	10	1	38	49	2	663	7	672	26	0	9	35	26	558	15	599	1355
Grand Total	40	7	189	236	9	2524	30	2563	132	4	30	166	97	2369	68	2534	5499
Apprch %	16.9	3	80.1		0.4	98.5	1.2		79.5	2.4	18.1		3.8	93.5	2.7		
Total %	0.7	0.1	3.4	4.3	0.2	45.9	0.5	46.6	2.4	0.1	0.5	3	1.8	43.1	1.2	46.1	

	Vasconcellos Avenue Southbound				Yosemite Avenue Westbound				Vasconcellos Avenue Northbound				Yosemite Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45 AM																	
11:45 AM	4	0	9	13	1	175	2	178	6	0	4	10	5	136	5	146	347
12:00 PM	0	1	11	12	1	206	2	209	5	0	2	7	5	132	5	142	370
12:15 PM	6	0	4	10	1	167	3	171	8	0	2	10	7	145	3	155	346
12:30 PM	2	0	13	15	0	126	2	128	5	0	4	9	7	141	4	152	304
Total Volume	12	1	37	50	3	674	9	686	24	0	12	36	24	554	17	595	1367
% App. Total	24	2	74		0.4	98.3	1.3		66.7	0	33.3		4	93.1	2.9		
PHF	.500	.250	.712	.833	.750	.818	.750	.821	.750	.000	.750	.900	.857	.955	.850	.960	.924

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File Name : 04_MTC_VAS_YOS SUN
Site Code : 23626268
Start Date : 3/29/2026
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Peak Hour Analysis From 07:00 AM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	09:00 AM				11:30 AM				11:00 AM				12:00 PM			
+0 mins.	3	1	13	17	1	144	3	148	12	0	4	16	5	132	5	142
+15 mins.	1	0	9	10	1	175	2	178	6	1	0	7	7	145	3	155
+30 mins.	0	0	11	11	1	206	2	209	9	1	2	12	7	141	4	152
+45 mins.	3	0	14	17	1	167	3	171	6	0	4	10	7	140	3	150
Total Volume	7	1	47	55	4	692	10	706	33	2	10	45	26	558	15	599
% App. Total	12.7	1.8	85.5		0.6	98	1.4		73.3	4.4	22.2		4.3	93.2	2.5	
PHF	.583	.250	.839	.809	1.000	.840	.833	.844	.688	.500	.625	.703	.929	.962	.750	.966

APPENDIX D

HCM ANALYSIS WORKSHEETS

EXISTING TRAFFIC CONDITIONS

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	80	380	20	92	224
Future Vol, veh/h	106	80	380	20	92	224
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	106	80	380	20	92	224

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	798	390	0	0	400	0
Stage 1	390	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	355	658	-	-	1159	-
Stage 1	684	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	323	658	-	-	1159	-
Mov Cap-2 Maneuver	323	-	-	-	-	-
Stage 1	684	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	20.63	0	2.44
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	414	524	-
HCM Lane V/C Ratio	-	-	0.45	0.079	-
HCM Ctrl Dly (s/v)	-	-	20.6	8.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.3	0.3	-

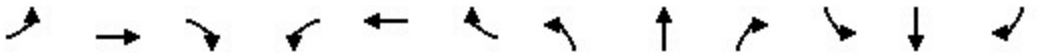
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	375	5	5	325
Future Vol, veh/h	5	5	375	5	5	325
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	375	5	5	325

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	713	378	0	0	380	0
Stage 1	378	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	399	669	-	-	1178	-
Stage 1	693	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	397	669	-	-	1178	-
Mov Cap-2 Maneuver	397	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	721	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.38	0	0.12
HCM LOS	B		

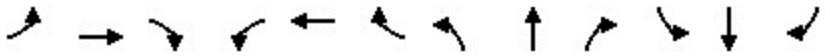
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	498	27	-
HCM Lane V/C Ratio	-	-	0.02	0.004	-
HCM Ctrl Dly (s/v)	-	-	12.4	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	360	180	30	715	10	215	40	30	10	20	30
Future Volume (veh/h)	110	360	180	30	715	10	215	40	30	10	20	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	360	180	30	715	10	215	40	30	10	20	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	752	637	60	1279	18	292	163	122	99	38	56
Arrive On Green	0.08	0.40	0.40	0.03	0.36	0.36	0.16	0.16	0.16	0.06	0.06	0.06
Sat Flow, veh/h	1781	1870	1585	1781	3588	50	1781	992	744	1781	675	1013
Grp Volume(v), veh/h	110	360	180	30	354	371	215	0	70	10	0	50
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1861	1781	0	1736	1781	0	1688
Q Serve(g_s), s	3.2	7.4	4.0	0.9	8.4	8.4	6.0	0.0	1.8	0.3	0.0	1.5
Cycle Q Clear(g_c), s	3.2	7.4	4.0	0.9	8.4	8.4	6.0	0.0	1.8	0.3	0.0	1.5
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.43	1.00		0.60
Lane Grp Cap(c), veh/h	141	752	637	60	633	664	292	0	285	99	0	94
V/C Ratio(X)	0.78	0.48	0.28	0.50	0.56	0.56	0.74	0.00	0.25	0.10	0.00	0.53
Avail Cap(c_a), veh/h	222	752	637	170	663	695	614	0	598	614	0	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	11.6	10.5	24.8	13.5	13.5	20.8	0.0	19.0	23.4	0.0	24.0
Incr Delay (d2), s/veh	8.9	2.2	1.1	6.3	1.0	0.9	3.6	0.0	0.4	0.4	0.0	4.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.8	1.3	0.4	2.8	3.0	2.5	0.0	0.7	0.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.5	13.7	11.6	31.1	14.5	14.4	24.4	0.0	19.5	23.9	0.0	28.6
LnGrp LOS	C	B	B	C	B	B	C		B	C		C
Approach Vol, veh/h		650			755			285			60	
Approach Delay, s/veh		16.3			15.1			23.2			27.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	25.5		7.4	8.6	23.1		13.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	21.0		18.0	6.5	19.5		18.0				
Max Q Clear Time (g_c+I1), s	2.9	9.4		3.5	5.2	10.4		8.0				
Green Ext Time (p_c), s	0.0	2.1		0.2	0.0	2.8		0.7				

Intersection Summary												
HCM 7th Control Delay, s/veh			17.3									
HCM 7th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	554	17	3	674	9	24	0	12	12	1	37
Future Volume (veh/h)	24	554	17	3	674	9	24	0	12	12	1	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	554	17	3	674	9	24	0	12	12	1	37
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	1708	52	7	1653	22	72	76	64	93	2	81
Arrive On Green	0.03	0.49	0.49	0.00	0.46	0.46	0.04	0.00	0.04	0.05	0.05	0.05
Sat Flow, veh/h	1781	3520	108	1781	3591	48	1781	1870	1585	1781	42	1550
Grp Volume(v), veh/h	24	279	292	3	333	350	24	0	12	12	0	38
Grp Sat Flow(s),veh/h/ln	1781	1777	1851	1781	1777	1862	1781	1870	1585	1781	0	1591
Q Serve(g_s), s	0.6	4.1	4.1	0.1	5.4	5.4	0.6	0.0	0.3	0.3	0.0	1.0
Cycle Q Clear(g_c), s	0.6	4.1	4.1	0.1	5.4	5.4	0.6	0.0	0.3	0.3	0.0	1.0
Prop In Lane	1.00		0.06	1.00		0.03	1.00		1.00	1.00		0.97
Lane Grp Cap(c), veh/h	52	862	898	7	818	857	72	76	64	93	0	83
V/C Ratio(X)	0.47	0.32	0.32	0.41	0.41	0.41	0.33	0.00	0.19	0.13	0.00	0.46
Avail Cap(c_a), veh/h	211	862	898	211	862	903	744	782	662	744	0	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	6.8	6.8	21.4	7.7	7.7	20.1	0.0	20.0	19.5	0.0	19.8
Incr Delay (d2), s/veh	6.4	1.0	1.0	33.1	0.3	0.3	2.6	0.0	1.4	0.6	0.0	3.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	1.2	0.1	1.5	1.6	0.3	0.0	0.1	0.1	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.0	7.8	7.7	54.5	8.1	8.0	22.7	0.0	21.4	20.1	0.0	23.7
LnGrp LOS	C	A	A	D	A	A	C		C	C		C
Approach Vol, veh/h		595			686			36			50	
Approach Delay, s/veh		8.5			8.2			22.3			22.8	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	25.4		6.8	5.7	24.3		6.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	20.9		18.0	5.1	20.9		18.0				
Max Q Clear Time (g_c+I1), s	2.1	6.1		3.0	2.6	7.4		2.6				
Green Ext Time (p_c), s	0.0	2.8		0.1	0.0	3.6		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	9.3	
HCM 7th LOS	A	

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1	1	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	4.13	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	0	1084	1621	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1084	1621	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	1022	1084	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1621	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	31	701	14	78	418
Future Vol, veh/h	62	31	701	14	78	418
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	31	701	14	78	418

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1282	708	0	0	715	0
Stage 1	708	-	-	-	-	-
Stage 2	574	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	182	435	-	-	885	-
Stage 1	488	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	435	-	-	885	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	488	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	36.55	0	1.49
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	204	283	-
HCM Lane V/C Ratio	-	-	0.455	0.088	-
HCM Ctrl Dly (s/v)	-	-	36.6	9.5	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	2.2	0.3	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	710	10	5	475
Future Vol, veh/h	5	5	710	10	5	475
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	710	10	5	475

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1200	715	0	0	720	0
Stage 1	715	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	204	431	-	-	882	-
Stage 1	485	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	203	431	-	-	882	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	614	-	-	-	-	-

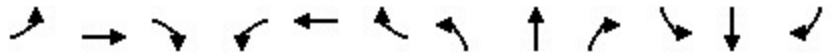
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	18.54	0	0.09
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	276	19	-
HCM Lane V/C Ratio	-	-	0.036	0.006	-
HCM Ctrl Dly (s/v)	-	-	18.5	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	825	340	50	900	20	235	15	45	20	20	55
Future Volume (veh/h)	80	825	340	50	900	20	235	15	45	20	20	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	825	340	50	900	20	235	15	45	20	20	55
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	955	810	75	1758	39	283	65	196	114	28	78
Arrive On Green	0.06	0.51	0.51	0.04	0.49	0.49	0.16	0.16	0.16	0.06	0.06	0.06
Sat Flow, veh/h	1781	1870	1585	1781	3554	79	1781	412	1236	1781	441	1212
Grp Volume(v), veh/h	80	825	340	50	450	470	235	0	60	20	0	75
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1856	1781	0	1648	1781	0	1652
Q Serve(g_s), s	3.6	31.0	10.7	2.2	13.8	13.8	10.3	0.0	2.6	0.9	0.0	3.6
Cycle Q Clear(g_c), s	3.6	31.0	10.7	2.2	13.8	13.8	10.3	0.0	2.6	0.9	0.0	3.6
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.75	1.00		0.73
Lane Grp Cap(c), veh/h	104	955	810	75	879	918	283	0	262	114	0	106
V/C Ratio(X)	0.77	0.86	0.42	0.67	0.51	0.51	0.83	0.00	0.23	0.17	0.00	0.71
Avail Cap(c_a), veh/h	224	955	810	111	879	918	399	0	370	399	0	371
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.3	17.2	12.2	37.9	13.7	13.7	32.7	0.0	29.5	35.5	0.0	36.8
Incr Delay (d2), s/veh	11.5	10.2	1.6	9.9	0.5	0.5	9.8	0.0	0.4	0.7	0.0	8.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	13.9	3.6	1.1	4.9	5.1	5.1	0.0	1.0	0.4	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.8	27.4	13.8	47.9	14.2	14.2	42.5	0.0	29.9	36.3	0.0	45.2
LnGrp LOS	D	C	B	D	B	B	D		C	D		D
Approach Vol, veh/h		1245			970			295			95	
Approach Delay, s/veh		25.1			16.0			39.9			43.3	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	45.5		9.7	9.2	44.2		17.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	41.0		18.0	10.1	35.9		18.0				
Max Q Clear Time (g_c+I1), s	4.2	33.0		5.6	5.6	15.8		12.3				
Green Ext Time (p_c), s	0.0	4.1		0.3	0.1	5.5		0.5				

Intersection Summary			
HCM 7th Control Delay, s/veh		24.0	
HCM 7th LOS		C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1191	15	2	549	12	39	1	16	14	0	47
Future Volume (veh/h)	42	1191	15	2	549	12	39	1	16	14	0	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1191	15	2	549	12	39	1	16	14	0	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	2016	25	5	1851	40	93	98	83	98	0	88
Arrive On Green	0.04	0.56	0.56	0.00	0.52	0.52	0.05	0.05	0.05	0.06	0.00	0.06
Sat Flow, veh/h	1781	3594	45	1781	3556	78	1781	1870	1585	1781	0	1585
Grp Volume(v), veh/h	42	589	617	2	274	287	39	1	16	14	0	47
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1856	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	1.3	11.9	11.9	0.1	4.8	4.8	1.2	0.0	0.5	0.4	0.0	1.6
Cycle Q Clear(g_c), s	1.3	11.9	11.9	0.1	4.8	4.8	1.2	0.0	0.5	0.4	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	997	1044	5	925	966	93	98	83	98	0	88
V/C Ratio(X)	0.55	0.59	0.59	0.41	0.30	0.30	0.42	0.01	0.19	0.14	0.00	0.54
Avail Cap(c_a), veh/h	212	997	1044	166	951	994	589	618	524	589	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	7.9	7.9	27.3	7.4	7.4	25.1	24.6	24.8	24.6	0.0	25.2
Incr Delay (d2), s/veh	5.9	2.6	2.5	47.2	0.2	0.2	3.0	0.0	1.1	0.7	0.0	5.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	3.8	0.1	1.5	1.5	0.5	0.0	0.2	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.6	10.5	10.4	74.4	7.6	7.6	28.1	24.6	25.9	25.3	0.0	30.2
LnGrp LOS	C	B	B	E	A	A	C	C	C	C		C
Approach Vol, veh/h		1248			563			56			61	
Approach Delay, s/veh		11.1			7.9			27.4			29.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	35.2		7.5	6.9	33.0		7.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	30.7		18.1	6.5	29.3		18.1				
Max Q Clear Time (g_c+I1), s	2.1	13.9		3.6	3.3	6.8		3.2				
Green Ext Time (p_c), s	0.0	7.1		0.2	0.0	3.4		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	11.2
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1	1	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	4.13	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	0	1084	1621	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1084	1621	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	1022	1084	1621	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1621	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	80	432	20	92	283
Future Vol, veh/h	106	80	432	20	92	283
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	106	80	432	20	92	283

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	909	442	0	0	452	0
Stage 1	442	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	305	615	-	-	1109	-
Stage 1	648	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	275	615	-	-	1109	-
Mov Cap-2 Maneuver	275	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	25.09	0	2.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	361	442	-
HCM Lane V/C Ratio	-	-	0.515	0.083	-
HCM Ctrl Dly (s/v)	-	-	25.1	8.5	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	2.8	0.3	-

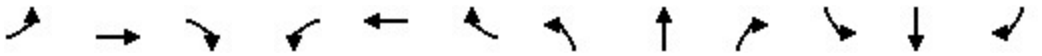
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	427	5	5	384
Future Vol, veh/h	5	5	427	5	5	384
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	427	5	5	384

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	824	430	0	0	432	0
Stage 1	430	-	-	-	-	-
Stage 2	394	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	343	626	-	-	1128	-
Stage 1	656	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	341	626	-	-	1128	-
Mov Cap-2 Maneuver	341	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	677	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.34	0	0.11
HCM LOS	B		

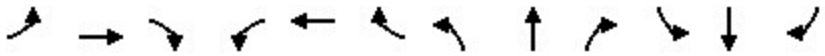
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	441	23	-
HCM Lane V/C Ratio	-	-	0.023	0.004	-
HCM Ctrl Dly (s/v)	-	-	13.3	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	360	284	30	715	10	331	60	30	10	37	30
Future Volume (veh/h)	110	360	284	30	715	10	331	60	30	10	37	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	360	284	30	715	10	331	60	30	10	37	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	675	572	59	1130	16	404	267	133	110	59	48
Arrive On Green	0.08	0.36	0.36	0.03	0.31	0.31	0.23	0.23	0.23	0.06	0.06	0.06
Sat Flow, veh/h	1781	1870	1585	1781	3588	50	1781	1176	588	1781	956	775
Grp Volume(v), veh/h	110	360	284	30	354	371	331	0	90	10	0	67
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1861	1781	0	1764	1781	0	1731
Q Serve(g_s), s	3.4	8.6	7.9	0.9	9.7	9.7	10.0	0.0	2.4	0.3	0.0	2.1
Cycle Q Clear(g_c), s	3.4	8.6	7.9	0.9	9.7	9.7	10.0	0.0	2.4	0.3	0.0	2.1
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.33	1.00		0.45
Lane Grp Cap(c), veh/h	141	675	572	59	560	586	404	0	400	110	0	107
V/C Ratio(X)	0.78	0.53	0.50	0.51	0.63	0.63	0.82	0.00	0.22	0.09	0.00	0.63
Avail Cap(c_a), veh/h	204	675	572	157	595	623	580	0	575	565	0	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	14.4	14.1	27.0	16.6	16.6	20.8	0.0	17.9	25.1	0.0	26.0
Incr Delay (d2), s/veh	11.2	3.0	3.1	6.6	2.0	1.9	6.1	0.0	0.3	0.4	0.0	5.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.6	2.8	0.5	3.6	3.8	4.5	0.0	0.9	0.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.9	17.4	17.2	33.6	18.6	18.6	27.0	0.0	18.2	25.5	0.0	31.8
LnGrp LOS	D	B	B	C	B	B	C		B	C		C
Approach Vol, veh/h		754			755			421			77	
Approach Delay, s/veh		20.1			19.2			25.1			31.0	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	25.0		8.0	9.0	22.4		17.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	20.5		18.0	6.5	19.0		18.5				
Max Q Clear Time (g_c+I1), s	2.9	10.6		4.1	5.4	11.7		12.0				
Green Ext Time (p_c), s	0.0	2.2		0.2	0.0	2.4		0.9				

Intersection Summary												
HCM 7th Control Delay, s/veh			21.2									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	658	17	3	790	9	24	0	12	12	1	37
Future Volume (veh/h)	24	658	17	3	790	9	24	0	12	12	1	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	658	17	3	790	9	24	0	12	12	1	37
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	1721	44	7	1661	19	72	76	64	93	2	81
Arrive On Green	0.03	0.49	0.49	0.00	0.46	0.46	0.04	0.00	0.04	0.05	0.05	0.05
Sat Flow, veh/h	1781	3539	91	1781	3599	41	1781	1870	1585	1781	42	1550
Grp Volume(v), veh/h	24	330	345	3	390	409	24	0	12	12	0	38
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1863	1781	1870	1585	1781	0	1591
Q Serve(g_s), s	0.6	5.1	5.1	0.1	6.5	6.5	0.6	0.0	0.3	0.3	0.0	1.0
Cycle Q Clear(g_c), s	0.6	5.1	5.1	0.1	6.5	6.5	0.6	0.0	0.3	0.3	0.0	1.0
Prop In Lane	1.00		0.05	1.00		0.02	1.00		1.00	1.00		0.97
Lane Grp Cap(c), veh/h	52	864	902	7	820	860	72	76	64	93	0	83
V/C Ratio(X)	0.47	0.38	0.38	0.41	0.48	0.48	0.33	0.00	0.19	0.13	0.00	0.46
Avail Cap(c_a), veh/h	210	864	902	206	860	902	742	780	661	742	0	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	7.0	7.0	21.5	8.0	8.0	20.1	0.0	20.0	19.5	0.0	19.9
Incr Delay (d2), s/veh	6.4	1.3	1.2	33.2	0.4	0.4	2.6	0.0	1.4	0.6	0.0	3.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.5	1.5	0.1	1.9	2.0	0.3	0.0	0.1	0.1	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.0	8.3	8.2	54.6	8.5	8.4	22.8	0.0	21.4	20.1	0.0	23.8
LnGrp LOS	C	A	A	D	A	A	C		C	C		C
Approach Vol, veh/h		699			802			36			50	
Approach Delay, s/veh		8.9			8.6			22.3			22.9	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	25.5		6.8	5.8	24.4		6.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	21.0		18.0	5.1	20.9		18.0				
Max Q Clear Time (g_c+I1), s	2.1	7.1		3.0	2.6	8.5		2.6				
Green Ext Time (p_c), s	0.0	3.3		0.1	0.0	4.0		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	9.5
HCM 7th LOS	A

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	30	0	421	291	61
Future Vol, veh/h	0	30	0	421	291	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	30	0	421	291	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	176	352	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	4.13	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	0	837	1205	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	837	1205	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.46	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1205	-	837	-	-
HCM Lane V/C Ratio	-	-	0.036	-	-
HCM Ctrl Dly (s/v)	0	-	9.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	136	30	52	285	260	61
Future Vol, veh/h	136	30	52	285	260	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	30	52	285	260	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	680	161	321	0	-	0
Stage 1	291	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	401	857	1237	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	384	857	1237	-	-	-
Mov Cap-2 Maneuver	384	-	-	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	684	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	18.73	1.24	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1237	-	426	-	-
HCM Lane V/C Ratio	0.042	-	0.389	-	-
HCM Ctrl Dly (s/v)	8	-	18.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.8	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	31	746	14	78	463
Future Vol, veh/h	62	31	746	14	78	463
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	31	746	14	78	463

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1372	753	0	0	760	0
Stage 1	753	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	161	410	-	-	852	-
Stage 1	465	-	-	-	-	-
Stage 2	537	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	141	410	-	-	852	-
Mov Cap-2 Maneuver	141	-	-	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	471	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	44.41	0	1.39
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	180	260	-
HCM Lane V/C Ratio	-	-	0.515	0.092	-
HCM Ctrl Dly (s/v)	-	-	44.4	9.7	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	2.6	0.3	-

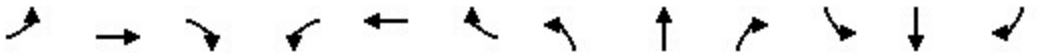
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	5	755	10	5	520
Future Vol, veh/h	5	5	755	10	5	520
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	755	10	5	520

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1290	760	0	0	765	0
Stage 1	760	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	180	406	-	-	848	-
Stage 1	462	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	179	406	-	-	848	-
Mov Cap-2 Maneuver	179	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	585	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	20.1	0	0.09
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	248	17	-
HCM Lane V/C Ratio	-	-	0.04	0.006	-
HCM Ctrl Dly (s/v)	-	-	20.1	9.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	825	430	50	900	20	325	30	45	20	35	55
Future Volume (veh/h)	80	825	430	50	900	20	325	30	45	20	35	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	825	430	50	900	20	325	30	45	20	35	55
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	939	796	68	1714	38	358	136	204	129	47	75
Arrive On Green	0.06	0.50	0.50	0.04	0.48	0.48	0.20	0.20	0.20	0.07	0.07	0.07
Sat Flow, veh/h	1781	1870	1585	1781	3554	79	1781	675	1013	1781	655	1030
Grp Volume(v), veh/h	80	825	430	50	450	470	325	0	75	20	0	90
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1856	1781	0	1688	1781	0	1685
Q Serve(g_s), s	4.3	38.0	17.9	2.7	17.0	17.0	17.2	0.0	3.6	1.0	0.0	5.1
Cycle Q Clear(g_c), s	4.3	38.0	17.9	2.7	17.0	17.0	17.2	0.0	3.6	1.0	0.0	5.1
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.60	1.00		0.61
Lane Grp Cap(c), veh/h	103	939	796	68	857	895	358	0	340	129	0	122
V/C Ratio(X)	0.78	0.88	0.54	0.73	0.53	0.53	0.91	0.00	0.22	0.16	0.00	0.74
Avail Cap(c_a), veh/h	194	939	796	92	857	895	378	0	358	332	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	21.4	16.4	46.0	17.3	17.3	37.7	0.0	32.3	42.0	0.0	43.9
Incr Delay (d2), s/veh	11.7	11.5	2.6	18.0	0.6	0.6	24.2	0.0	0.3	0.6	0.0	8.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	17.8	6.5	1.5	6.5	6.8	9.8	0.0	1.5	0.5	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.6	32.9	19.1	63.9	17.9	17.9	61.9	0.0	32.6	42.6	0.0	52.3
LnGrp LOS	E	C	B	E	B	B	E		C	D		D
Approach Vol, veh/h		1335			970			400			110	
Approach Delay, s/veh		29.9			20.3			56.4			50.5	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	53.0		11.5	10.1	51.1		23.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	48.5		18.0	10.5	43.0		20.5				
Max Q Clear Time (g_c+I1), s	4.7	40.0		7.1	6.3	19.0		19.2				
Green Ext Time (p_c), s	0.0	4.5		0.3	0.0	5.8		0.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	31.2
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1281	15	2	639	12	39	1	16	14	0	47
Future Volume (veh/h)	42	1281	15	2	639	12	39	1	16	14	0	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1281	15	2	639	12	39	1	16	14	0	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	2018	24	5	1857	35	93	98	83	98	0	88
Arrive On Green	0.04	0.56	0.56	0.00	0.52	0.52	0.05	0.05	0.05	0.06	0.00	0.06
Sat Flow, veh/h	1781	3598	42	1781	3568	67	1781	1870	1585	1781	0	1585
Grp Volume(v), veh/h	42	633	663	2	318	333	39	1	16	14	0	47
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1858	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	1.3	13.3	13.3	0.1	5.7	5.7	1.2	0.0	0.5	0.4	0.0	1.6
Cycle Q Clear(g_c), s	1.3	13.3	13.3	0.1	5.7	5.7	1.2	0.0	0.5	0.4	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	997	1045	5	925	967	93	98	83	98	0	88
V/C Ratio(X)	0.55	0.63	0.64	0.41	0.34	0.34	0.42	0.01	0.19	0.14	0.00	0.54
Avail Cap(c_a), veh/h	212	997	1045	166	951	995	589	618	524	589	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.7	8.2	8.2	27.3	7.7	7.7	25.1	24.6	24.8	24.6	0.0	25.2
Incr Delay (d2), s/veh	5.9	3.1	2.9	47.2	0.2	0.2	3.0	0.0	1.1	0.7	0.0	5.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.1	4.3	0.1	1.8	1.8	0.5	0.0	0.2	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.6	11.3	11.1	74.4	7.9	7.9	28.1	24.6	25.9	25.3	0.0	30.2
LnGrp LOS	C	B	B	E	A	A	C	C	C	C		C
Approach Vol, veh/h		1338			653			56			61	
Approach Delay, s/veh		11.8			8.1			27.4			29.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	35.2		7.5	6.9	33.0		7.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	30.7		18.1	6.5	29.3		18.1				
Max Q Clear Time (g_c+I1), s	2.1	15.3		3.6	3.3	7.7		3.2				
Green Ext Time (p_c), s	0.0	7.4		0.2	0.0	4.0		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	11.6
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	0	400	463	53
Future Vol, veh/h	0	23	0	400	463	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	0	400	463	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	258	516	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	4.13	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	0	742	1048	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	742	1048	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.01	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1048	-	742	-	-
HCM Lane V/C Ratio	-	-	0.031	-	-
HCM Ctrl Dly (s/v)	0	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	105	23	45	295	433	53
Future Vol, veh/h	105	23	45	295	433	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	105	23	45	295	433	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	845	243	486	0	-	0
Stage 1	460	-	-	-	-	-
Stage 2	385	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	317	758	1075	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	304	758	1075	-	-	-
Mov Cap-2 Maneuver	304	-	-	-	-	-
Stage 1	578	-	-	-	-	-
Stage 2	687	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	21.79	1.12	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1075	-	341	-	-
HCM Lane V/C Ratio	0.042	-	0.376	-	-
HCM Ctrl Dly (s/v)	8.5	-	21.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.7	-	-

FULL BUILD WITH PROJECT (STOP CONTROL) TRAFFIC CONDITIONS

Intersection	
Int Delay, s/veh	36.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	179	134	371	6	157	440
Future Vol, veh/h	179	134	371	6	157	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	179	134	371	6	157	440

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1128	374	0	0	377	0
Stage 1	374	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	226	672	-	-	1181	-
Stage 1	696	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	672	-	-	1181	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	383	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	145.51	0	2.24
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	270	473	-
HCM Lane V/C Ratio	-	-	1.161	0.133	-
HCM Ctrl Dly (s/v)	-	-	145.5	8.5	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	13.9	0.5	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	40	372	5	10	714
Future Vol, veh/h	15	40	372	5	10	714
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	40	372	5	10	714

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1109	375	0	0	377	0
Stage 1	375	-	-	-	-	-
Stage 2	734	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	232	672	-	-	1181	-
Stage 1	695	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	229	672	-	-	1181	-
Mov Cap-2 Maneuver	229	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	468	-	-	-	-	-

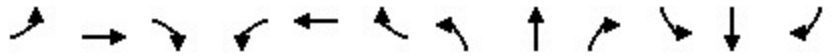
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.36	0	0.11
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	440	25	-
HCM Lane V/C Ratio	-	-	0.125	0.008	-
HCM Ctrl Dly (s/v)	-	-	14.4	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	410	194	25	1300	30	136	60	45	10	62	30
Future Volume (veh/h)	135	410	194	25	1300	30	136	60	45	10	62	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	410	194	25	1300	30	136	60	45	10	62	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	1022	866	48	1698	39	195	108	81	129	86	42
Arrive On Green	0.10	0.55	0.55	0.03	0.48	0.48	0.11	0.11	0.11	0.07	0.07	0.07
Sat Flow, veh/h	1781	1870	1585	1781	3551	82	1781	992	744	1781	1191	576
Grp Volume(v), veh/h	135	410	194	25	650	680	136	0	105	10	0	92
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1856	1781	0	1736	1781	0	1767
Q Serve(g_s), s	5.5	9.4	4.7	1.0	22.1	22.2	5.4	0.0	4.2	0.4	0.0	3.7
Cycle Q Clear(g_c), s	5.5	9.4	4.7	1.0	22.1	22.2	5.4	0.0	4.2	0.4	0.0	3.7
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.43	1.00		0.33
Lane Grp Cap(c), veh/h	170	1022	866	48	850	888	195	0	190	129	0	128
V/C Ratio(X)	0.79	0.40	0.22	0.52	0.77	0.77	0.70	0.00	0.55	0.08	0.00	0.72
Avail Cap(c_a), veh/h	211	1022	866	138	899	939	438	0	427	436	0	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.6	9.7	8.6	35.3	15.8	15.8	31.6	0.0	31.1	31.8	0.0	33.4
Incr Delay (d2), s/veh	15.3	1.2	0.6	8.3	3.8	3.6	4.5	0.0	2.5	0.3	0.0	7.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.4	1.4	0.5	8.4	8.7	2.5	0.0	1.8	0.2	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.9	10.9	9.2	43.6	19.6	19.4	36.1	0.0	33.6	32.1	0.0	40.8
LnGrp LOS	D	B	A	D	B	B	D		C	C		D
Approach Vol, veh/h		739			1355			241			102	
Approach Delay, s/veh		17.2			19.9			35.0			40.0	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	44.7		9.8	11.5	39.7		12.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.7	40.2		18.0	8.7	37.2		18.1				
Max Q Clear Time (g_c+I1), s	3.0	11.4		5.7	7.5	24.2		7.4				
Green Ext Time (p_c), s	0.0	3.1		0.3	0.0	6.9		0.7				

Intersection Summary												
HCM 7th Control Delay, s/veh			21.4									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	760	20	4	914	11	28	0	14	14	1	44
Future Volume (veh/h)	28	760	20	4	914	11	28	0	14	14	1	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	760	20	4	914	11	28	0	14	14	1	44
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	1696	45	10	1625	20	81	85	72	104	2	91
Arrive On Green	0.03	0.48	0.48	0.01	0.45	0.45	0.05	0.00	0.05	0.06	0.06	0.06
Sat Flow, veh/h	1781	3537	93	1781	3596	43	1781	1870	1585	1781	35	1555
Grp Volume(v), veh/h	28	382	398	4	452	473	28	0	14	14	0	45
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1863	1781	1870	1585	1781	0	1590
Q Serve(g_s), s	0.7	6.2	6.2	0.1	8.2	8.2	0.7	0.0	0.4	0.3	0.0	1.2
Cycle Q Clear(g_c), s	0.7	6.2	6.2	0.1	8.2	8.2	0.7	0.0	0.4	0.3	0.0	1.2
Prop In Lane	1.00		0.05	1.00		0.02	1.00		1.00	1.00		0.98
Lane Grp Cap(c), veh/h	59	852	889	10	803	842	81	85	72	104	0	93
V/C Ratio(X)	0.48	0.45	0.45	0.41	0.56	0.56	0.34	0.00	0.19	0.13	0.00	0.48
Avail Cap(c_a), veh/h	207	852	889	203	848	889	732	769	651	732	0	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.8	7.6	7.6	21.7	8.8	8.8	20.3	0.0	20.1	19.6	0.0	20.0
Incr Delay (d2), s/veh	5.9	1.7	1.6	25.9	0.8	0.7	2.5	0.0	1.3	0.6	0.0	3.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.9	1.9	0.1	2.5	2.6	0.3	0.0	0.1	0.1	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.7	9.3	9.2	47.6	9.6	9.6	22.8	0.0	21.4	20.1	0.0	23.8
LnGrp LOS	C	A	A	D	A	A	C		C	C		C
Approach Vol, veh/h		808			929			42			59	
Approach Delay, s/veh		9.8			9.7			22.3			23.0	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	25.5		7.1	5.9	24.3		6.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.6	21.0		18.0	5.1	20.9		18.0				
Max Q Clear Time (g_c+I1), s	2.1	8.2		3.2	2.7	10.2		2.7				
Green Ext Time (p_c), s	0.0	3.7		0.2	0.0	4.4		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	10.5
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	30	0	241	221	61
Future Vol, veh/h	0	30	0	241	221	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	30	0	241	221	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	141	282	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	4.13	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	0	882	1279	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	882	1279	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.23	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1279	-	882	-	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Ctrl Dly (s/v)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	136	30	52	105	190	61
Future Vol, veh/h	136	30	52	105	190	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	30	52	105	190	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	430	126	251	0	-	0
Stage 1	221	-	-	-	-	-
Stage 2	209	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	568	902	1313	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	825	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	545	902	1313	-	-	-
Mov Cap-2 Maneuver	545	-	-	-	-	-
Stage 1	764	-	-	-	-	-
Stage 2	825	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.52	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1313	-	587	-	-
HCM Lane V/C Ratio	0.04	-	0.283	-	-
HCM Ctrl Dly (s/v)	7.9	-	13.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	36	721	14	91	532
Future Vol, veh/h	73	36	721	14	91	532
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	36	721	14	91	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1442	728	0	0	735	0
Stage 1	728	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	146	423	-	-	870	-
Stage 1	478	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	124	423	-	-	870	-
Mov Cap-2 Maneuver	124	-	-	-	-	-
Stage 1	478	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	63.84	0	1.41
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	162	263	-
HCM Lane V/C Ratio	-	-	0.673	0.105	-
HCM Ctrl Dly (s/v)	-	-	63.8	9.6	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	3.9	0.3	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	725	20	10	595
Future Vol, veh/h	10	10	725	20	10	595
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	10	725	20	10	595

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1350	735	0	0	745	0
Stage 1	735	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	166	420	-	-	863	-
Stage 1	474	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	163	420	-	-	863	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	474	-	-	-	-	-
Stage 2	530	-	-	-	-	-

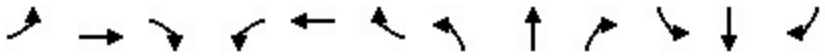
Approach	WB	NB	SB
HCM Ctrl Dly, s/v	21.75	0	0.15
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	235	30	-
HCM Lane V/C Ratio	-	-	0.085	0.012	-
HCM Ctrl Dly (s/v)	-	-	21.8	9.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1525	400	100	655	20	110	50	60	30	140	85
Future Volume (veh/h)	80	1525	400	100	655	20	110	50	60	30	140	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	1525	400	100	655	20	110	50	60	30	140	85
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1153	977	93	2155	66	144	63	75	223	137	83
Arrive On Green	0.06	0.62	0.62	0.05	0.61	0.61	0.08	0.08	0.08	0.13	0.13	0.13
Sat Flow, veh/h	1781	1870	1585	1781	3520	107	1781	774	929	1781	1090	662
Grp Volume(v), veh/h	80	1525	400	100	330	345	110	0	110	30	0	225
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1851	1781	0	1703	1781	0	1751
Q Serve(g_s), s	6.4	88.5	18.6	7.5	12.7	12.7	8.7	0.0	9.1	2.2	0.0	18.0
Cycle Q Clear(g_c), s	6.4	88.5	18.6	7.5	12.7	12.7	8.7	0.0	9.1	2.2	0.0	18.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.55	1.00		0.38
Lane Grp Cap(c), veh/h	100	1153	977	93	1088	1133	144	0	138	223	0	220
V/C Ratio(X)	0.80	1.32	0.41	1.07	0.30	0.30	0.76	0.00	0.80	0.13	0.00	1.02
Avail Cap(c_a), veh/h	165	1153	977	93	1088	1133	223	0	213	223	0	220
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.9	27.5	14.1	68.0	13.3	13.3	64.7	0.0	64.9	55.9	0.0	62.8
Incr Delay (d2), s/veh	13.4	151.5	1.3	115.0	0.2	0.1	8.2	0.0	11.2	0.3	0.0	67.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	84.5	6.7	6.4	5.0	5.2	4.3	0.0	4.4	1.0	0.0	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	80.3	179.0	15.4	183.1	13.4	13.4	72.8	0.0	76.0	56.1	0.0	130.2
LnGrp LOS	F	F	B	F	B	B	E		E	E		F
Approach Vol, veh/h		2005			775			220			255	
Approach Delay, s/veh		142.4			35.3			74.4			121.4	
Approach LOS		F			D			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	93.0		22.5	12.6	92.4		16.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	88.5		18.0	13.3	82.7		18.0				
Max Q Clear Time (g_c+I1), s	9.5	90.5		20.0	8.4	14.7		11.1				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	4.3		0.5				

Intersection Summary												
HCM 7th Control Delay, s/veh			110.7									
HCM 7th LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	1354	16	2	673	13	41	1	17	15	0	50
Future Volume (veh/h)	45	1354	16	2	673	13	41	1	17	15	0	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	1354	16	2	673	13	41	1	17	15	0	50
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	2017	24	5	1848	36	96	101	85	102	0	91
Arrive On Green	0.05	0.56	0.56	0.00	0.52	0.52	0.05	0.05	0.05	0.06	0.00	0.06
Sat Flow, veh/h	1781	3597	42	1781	3566	69	1781	1870	1585	1781	0	1585
Grp Volume(v), veh/h	45	669	701	2	335	351	41	1	17	15	0	50
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1858	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	1.4	14.7	14.7	0.1	6.2	6.2	1.2	0.0	0.6	0.4	0.0	1.7
Cycle Q Clear(g_c), s	1.4	14.7	14.7	0.1	6.2	6.2	1.2	0.0	0.6	0.4	0.0	1.7
Prop In Lane	1.00		0.02	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	80	996	1044	5	921	963	96	101	85	102	0	91
V/C Ratio(X)	0.56	0.67	0.67	0.41	0.36	0.36	0.43	0.01	0.20	0.15	0.00	0.55
Avail Cap(c_a), veh/h	209	996	1044	161	948	991	580	609	516	580	0	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	8.6	8.6	27.5	7.9	7.9	25.3	24.8	25.0	24.8	0.0	25.4
Incr Delay (d2), s/veh	6.0	3.6	3.4	47.2	0.2	0.2	3.0	0.0	1.1	0.7	0.0	5.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.7	4.8	0.1	1.9	2.0	0.6	0.0	0.2	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.8	12.2	12.0	74.7	8.1	8.1	28.3	24.8	26.1	25.4	0.0	30.5
LnGrp LOS	C	B	B	E	A	A	C	C	C	C		C
Approach Vol, veh/h		1415			688			59			65	
Approach Delay, s/veh		12.7			8.3			27.6			29.4	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	35.5		7.7	7.0	33.2		7.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	31.0		18.0	6.5	29.5		18.0				
Max Q Clear Time (g_c+I1), s	2.1	16.7		3.7	3.4	8.2		3.2				
Green Ext Time (p_c), s	0.0	7.5		0.2	0.0	4.3		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	12.2
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	0	220	588	53
Future Vol, veh/h	0	23	0	220	588	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	0	220	588	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	321	641	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	4.13	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	0	676	941	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	676	941	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.51	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	941	-	676	-	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Ctrl Dly (s/v)	0	-	10.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	105	23	45	115	558	53
Future Vol, veh/h	105	23	45	115	558	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	105	23	45	115	558	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	790	306	611	0	-	0
Stage 1	585	-	-	-	-	-
Stage 2	205	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	343	691	966	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	327	691	966	-	-	-
Mov Cap-2 Maneuver	327	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	829	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	20.34	2.51	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	966	-	361	-	-
HCM Lane V/C Ratio	0.047	-	0.354	-	-
HCM Ctrl Dly (s/v)	8.9	-	20.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.6	-	-

FULL BUILD WITH PROJECT (STOP CONTROL) RECOMMENDED IMPROVEMENTS

Intersection	
Int Delay, s/veh	9.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	179	134	371	6	157	440
Future Vol, veh/h	179	134	371	6	157	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	179	134	371	6	157	440

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	908	374	0	0	377	0
Stage 1	374	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	290	671	-	-	1180	-
Stage 1	695	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	246	671	-	-	1180	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	34.08	0	2.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	246	671	947	-
HCM Lane V/C Ratio	-	-	0.728	0.2	0.133	-
HCM Ctrl Dly (s/v)	-	-	50.8	11.7	8.5	0.8
HCM Lane LOS	-	-	F	B	A	A
HCM 95th %tile Q(veh)	-	-	5	0.7	0.5	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	410	194	25	1300	30	136	60	45	10	62	30
Future Volume (veh/h)	135	410	194	25	1300	30	136	60	45	10	62	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	410	194	25	1300	30	136	60	45	10	62	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	1290	603	49	1707	39	171	163	122	22	96	47
Arrive On Green	0.10	0.55	0.55	0.03	0.48	0.48	0.10	0.16	0.16	0.01	0.08	0.08
Sat Flow, veh/h	1781	2350	1099	1781	3551	82	1781	992	744	1781	1191	576
Grp Volume(v), veh/h	135	309	295	25	650	680	136	0	105	10	0	92
Grp Sat Flow(s),veh/h/ln	1781	1777	1673	1781	1777	1856	1781	0	1736	1781	0	1767
Q Serve(g_s), s	5.4	6.9	7.0	1.0	21.8	21.9	5.4	0.0	3.9	0.4	0.0	3.7
Cycle Q Clear(g_c), s	5.4	6.9	7.0	1.0	21.8	21.9	5.4	0.0	3.9	0.4	0.0	3.7
Prop In Lane	1.00		0.66	1.00		0.04	1.00		0.43	1.00		0.33
Lane Grp Cap(c), veh/h	170	975	918	49	854	892	171	0	285	22	0	143
V/C Ratio(X)	0.79	0.32	0.32	0.52	0.76	0.76	0.79	0.00	0.37	0.45	0.00	0.65
Avail Cap(c_a), veh/h	208	975	918	134	902	942	208	0	512	122	0	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.3	9.0	9.0	35.0	15.5	15.5	32.2	0.0	27.1	35.7	0.0	32.5
Incr Delay (d2), s/veh	15.7	0.9	0.9	8.2	3.7	3.5	15.9	0.0	0.8	13.3	0.0	4.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.4	2.3	0.5	8.2	8.6	3.0	0.0	1.6	0.3	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.0	9.8	9.9	43.2	19.1	19.0	48.1	0.0	27.9	49.0	0.0	37.3
LnGrp LOS	D	A	A	D	B	B	D		C	D		D
Approach Vol, veh/h		739			1355			241			102	
Approach Delay, s/veh		16.8			19.5			39.3			38.4	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	44.5	11.5	10.4	11.5	39.5	5.4	16.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	40.0	8.5	18.0	8.5	37.0	5.0	21.5
Max Q Clear Time (g_c+I1), s	3.0	9.0	7.4	5.7	7.4	23.9	2.4	5.9
Green Ext Time (p_c), s	0.0	3.8	0.0	0.3	0.0	6.9	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	21.5
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	36	721	14	91	532
Future Vol, veh/h	73	36	721	14	91	532
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	36	721	14	91	532

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1176	728	0	0	735	0
Stage 1	728	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	197	422	-	-	868	-
Stage 1	477	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	177	422	-	-	868	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	547	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	30.86	0	1.41
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	177	422	868	-
HCM Lane V/C Ratio	-	-	0.413	0.085	0.105	-
HCM Ctrl Dly (s/v)	-	-	39	14.3	9.6	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.3	0.4	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1525	400	100	655	20	110	50	60	30	140	85
Future Volume (veh/h)	80	1525	400	100	655	20	110	50	60	30	140	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	1525	400	100	655	20	110	50	60	30	140	85
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	1620	407	122	2069	63	147	64	76	245	150	91
Arrive On Green	0.06	0.58	0.58	0.07	0.59	0.59	0.08	0.08	0.08	0.14	0.14	0.14
Sat Flow, veh/h	1781	2813	707	1781	3520	107	1781	774	929	1781	1090	662
Grp Volume(v), veh/h	80	939	986	100	330	345	110	0	110	30	0	225
Grp Sat Flow(s),veh/h/ln	1781	1777	1743	1781	1777	1851	1781	0	1703	1781	0	1751
Q Serve(g_s), s	5.9	63.2	73.3	7.4	12.5	12.5	8.0	0.0	8.4	2.0	0.0	16.9
Cycle Q Clear(g_c), s	5.9	63.2	73.3	7.4	12.5	12.5	8.0	0.0	8.4	2.0	0.0	16.9
Prop In Lane	1.00		0.41	1.00		0.06	1.00		0.55	1.00		0.38
Lane Grp Cap(c), veh/h	101	1023	1004	122	1044	1088	147	0	140	245	0	241
V/C Ratio(X)	0.79	0.92	0.98	0.82	0.32	0.32	0.75	0.00	0.78	0.12	0.00	0.93
Avail Cap(c_a), veh/h	176	1023	1004	122	1044	1088	243	0	232	245	0	241
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	61.9	25.3	27.5	61.1	13.9	13.9	59.6	0.0	59.8	50.2	0.0	56.7
Incr Delay (d2), s/veh	12.9	14.2	24.4	33.9	0.2	0.2	7.5	0.0	9.2	0.2	0.0	39.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	28.6	34.7	4.4	4.9	5.1	3.9	0.0	4.0	0.9	0.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.7	39.5	51.9	94.9	14.0	14.0	67.1	0.0	69.0	50.4	0.0	96.5
LnGrp LOS	E	D	D	F	B	B	E		E	D		F
Approach Vol, veh/h		2005			775			220			255	
Approach Delay, s/veh		47.0			24.5			68.1			91.1	
Approach LOS		D			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.6	81.0		22.8	12.0	82.6		15.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.1	76.5		18.3	13.1	72.5		18.1				
Max Q Clear Time (g_c+I1), s	9.4	75.3		18.9	7.9	14.5		10.4				
Green Ext Time (p_c), s	0.0	1.1		0.0	0.1	4.3		0.5				

Intersection Summary												
HCM 7th Control Delay, s/veh			46.5									
HCM 7th LOS			D									

APPENDIX E

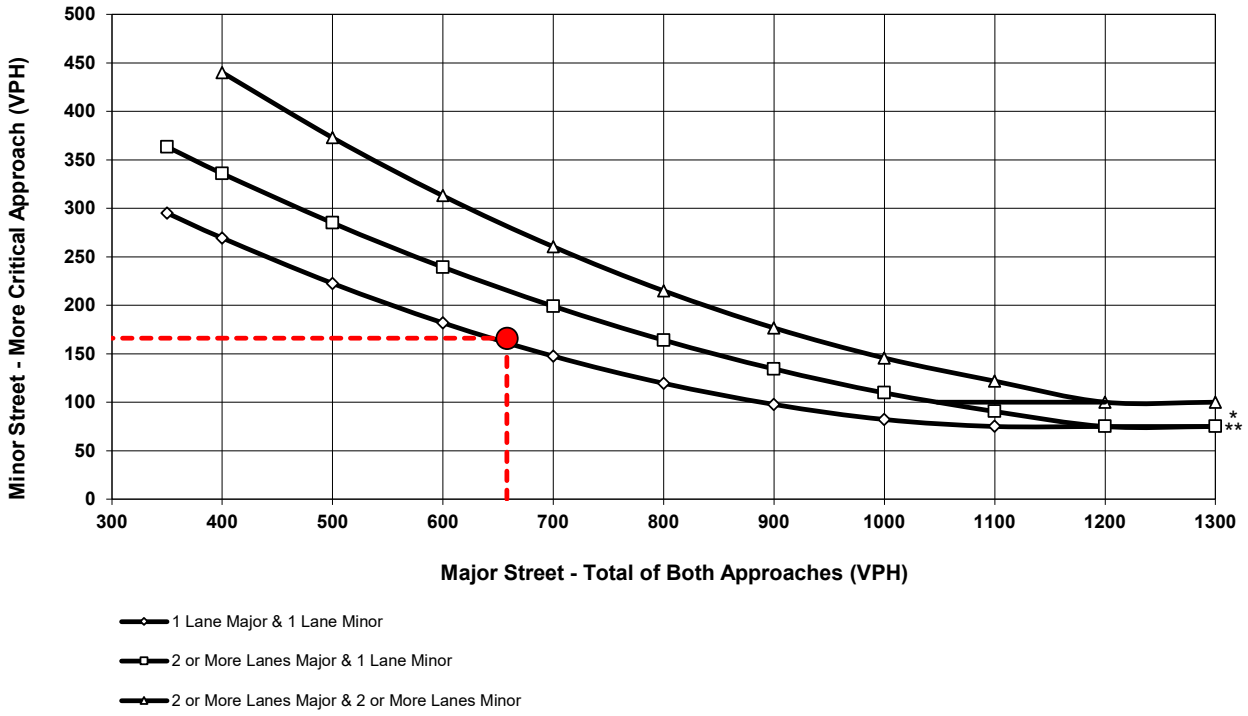
SIGNAL WARRANT ANALYSIS WORKSHEETS

FIGURE 4C-4
Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Peak Hour:	**AM**	**Scenario:**	**EP**
Major Street:	**Austin Road**	**Minor Street:**	**Project Driveway 2**
Total of Both Approaches (VPH):	**658**	Higher Volume Approach (VPH):	**166**
Number of Approach Lanes:	**2**	Number of Approach Lanes:	**1**

SIGNAL WARRANT NOT SATISFIED

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)



* 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes
** 75 vph applies as the lower threshold volume for a minor street approach with one lane.

Source: California MUTCD 2026 Edition (January 18, 2026)

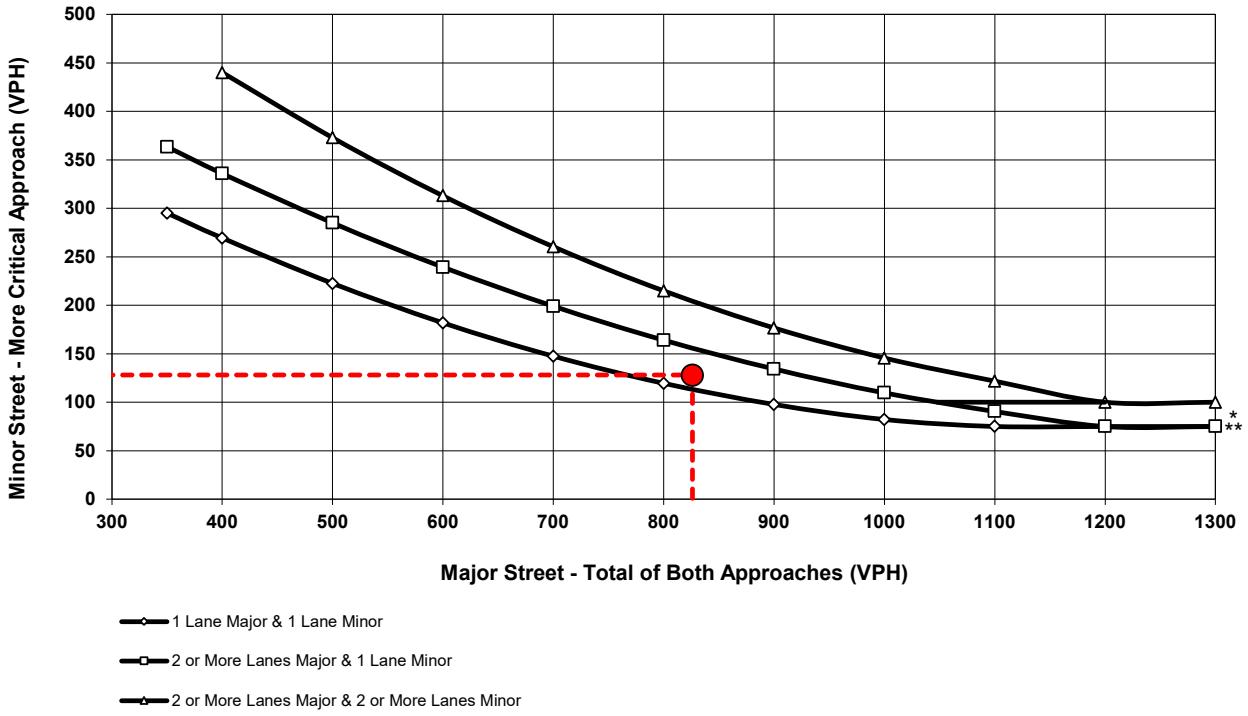
AM Peak Hour
EP Conditions
Austin Road / Project Driveway 2

FIGURE 4C-4
Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Peak Hour:	**PM**	**Scenario:**	**EP**
Major Street:	**Austin Road**	**Minor Street:**	**Project Driveway 2**
Total of Both Approaches (VPH):	**826**	Higher Volume Approach (VPH):	**128**
Number of Approach Lanes:	**2**	Number of Approach Lanes:	**1**

SIGNAL WARRANT NOT SATISFIED

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)



* 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes
** 75 vph applies as the lower threshold volume for a minor street approach with one lane.

Source: California MUTCD 2026 Edition (January 18, 2026)

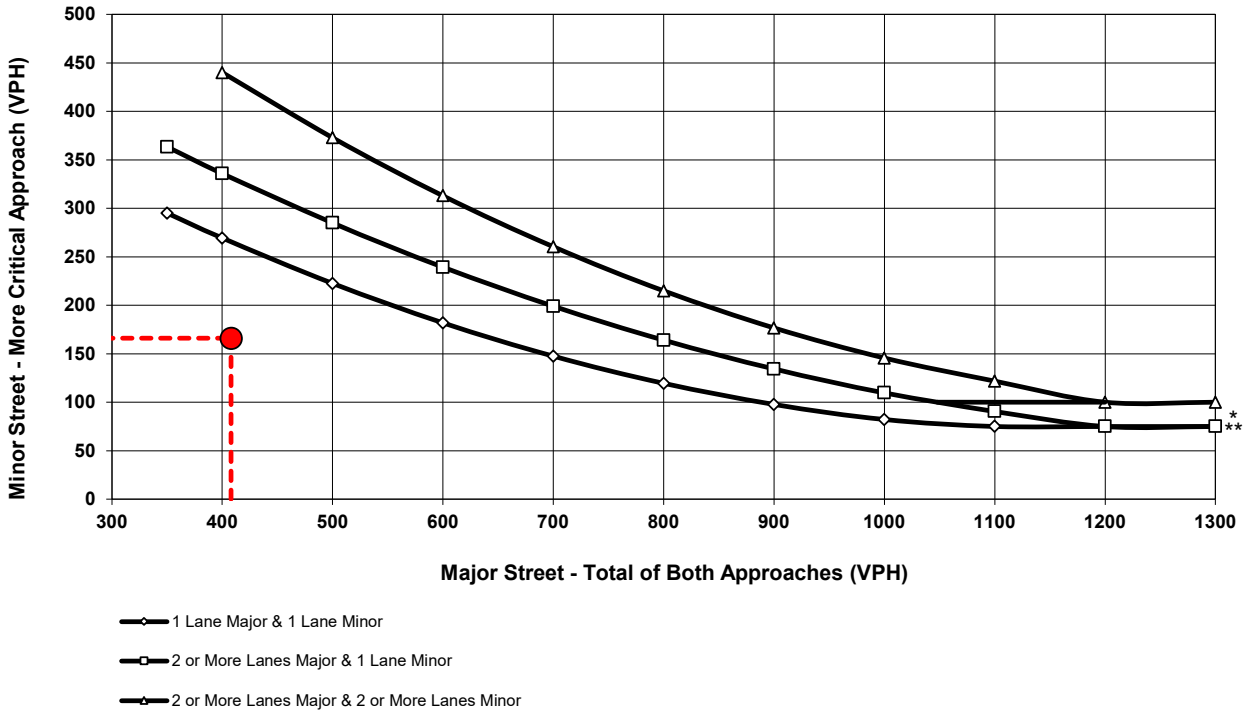
PM Peak Hour
EP Conditions
Austin Road / Project Driveway 2

FIGURE 4C-4
Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Peak Hour:	**AM**	**Scenario:**	**Full Build**
Major Street:	**Austin Road**	**Minor Street:**	**Project Driveway 2**
Total of Both Approaches (VPH):	**408**	Higher Volume Approach (VPH):	**166**
Number of Approach Lanes:	**2**	Number of Approach Lanes:	**1**

SIGNAL WARRANT NOT SATISFIED

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)



* 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes
** 75 vph applies as the lower threshold volume for a minor street approach with one lane.

Source: California MUTCD 2026 Edition (January 18, 2026)

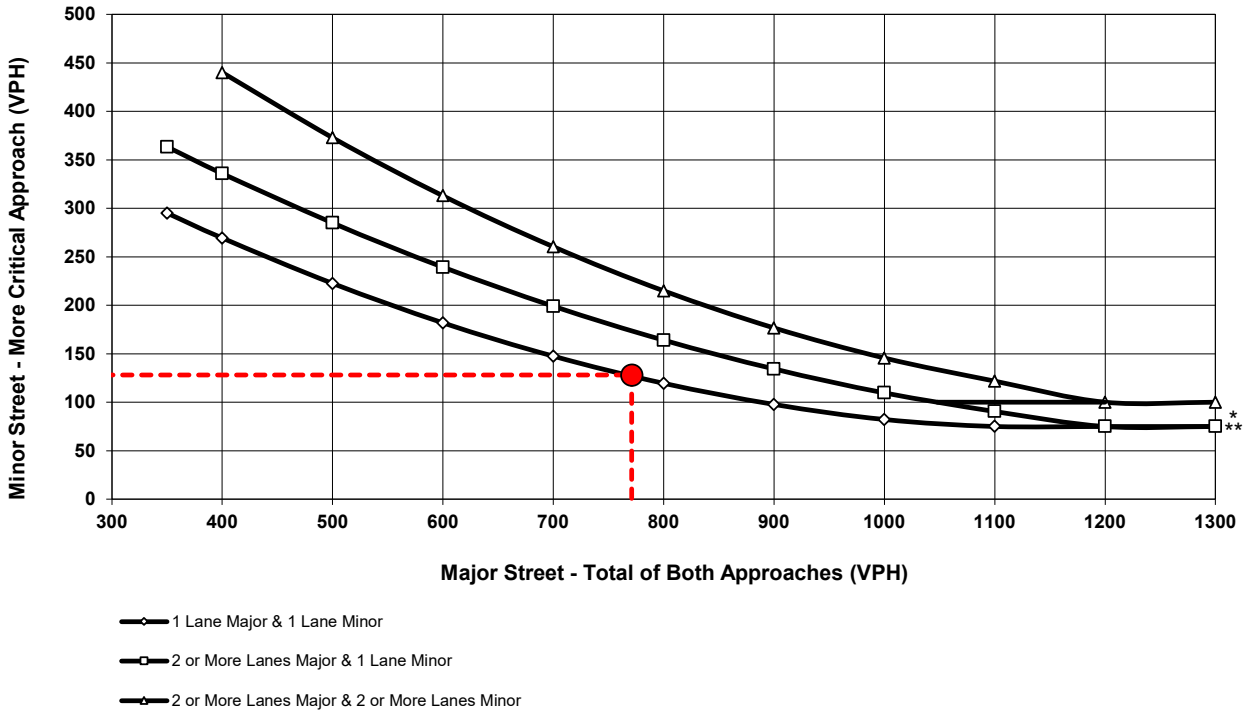
AM Peak Hour
Full Build Conditions
Austin Road / Project Driveway 2

FIGURE 4C-4
Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Peak Hour:	**PM**	**Scenario:**	**Full Build**
Major Street:	**Austin Road**	**Minor Street:**	**Project Driveway 2**
Total of Both Approaches (VPH):	**771**	Higher Volume Approach (VPH):	**128**
Number of Approach Lanes:	**2**	Number of Approach Lanes:	**1**

SIGNAL WARRANT NOT SATISFIED

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)



* 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes
** 75 vph applies as the lower threshold volume for a minor street approach with one lane.

Source: California MUTCD 2026 Edition (January 18, 2026)

PM Peak Hour
Full Build Conditions
Austin Road / Project Driveway 2

APPENDIX F

QUEUE ANALYSIS WORKSHEETS

Intersection: 1: Austin Road & Graves Road

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (ft)	155	111	76
Average Queue (ft)	73	38	35
95th Queue (ft)	126	65	69
Link Distance (ft)	1135	1135	5093
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Austin Road & 99 Frontage Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	53	53
Average Queue (ft)	25	4
95th Queue (ft)	51	26
Link Distance (ft)	848	345
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Austin Road & SR-120

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	176	138	159	257	301	297	218	134	46	116
Average Queue (ft)	75	65	64	51	184	210	87	57	10	51
95th Queue (ft)	136	114	124	137	287	308	162	107	32	98
Link Distance (ft)	989	989	989	3868	3868	3868	919	919	416	416
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)										
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 4: Vasconcellos Ave & SR-120

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	R	L	TR
Maximum Queue (ft)	73	92	207	56	246	216	67	30	30	53
Average Queue (ft)	20	27	62	7	62	61	18	6	11	22
95th Queue (ft)	49	71	134	28	144	136	44	25	33	47
Link Distance (ft)		893	893	989	989	989	561	561	317	317
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	800									
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 5: Austin Road & Project Dwy 1

Movement	EB
Directions Served	R
Maximum Queue (ft)	53
Average Queue (ft)	22
95th Queue (ft)	50
Link Distance (ft)	546
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Austin Road & Project Dwy 2

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	142	31	22
Average Queue (ft)	50	8	1
95th Queue (ft)	90	29	7
Link Distance (ft)	614	5093	474
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 1: Austin Road & Graves Road

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	LT	T
Maximum Queue (ft)	76	49	4	94	54
Average Queue (ft)	34	21	0	35	2
95th Queue (ft)	65	45	3	72	21
Link Distance (ft)	1135	1135	298	5093	5093
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Austin Road & 99 Frontage Road

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	49	114
Average Queue (ft)	14	9
95th Queue (ft)	39	57
Link Distance (ft)	848	362
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Austin Road & SR-120

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	635	697	699	214	215	287	167	159	145	380
Average Queue (ft)	334	548	555	106	96	158	91	80	24	222
95th Queue (ft)	603	679	681	193	182	254	154	140	97	400
Link Distance (ft)	989	989	989	614	614	614	919	919	416	416
Upstream Blk Time (%)									0	2
Queuing Penalty (veh)									0	0
Storage Bay Dist (ft)										
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 4: Vasconcellos Ave & SR-120

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	74	268	331	31	190	195	59	10	29	47	58
Average Queue (ft)	27	79	127	2	57	60	19	1	10	13	26
95th Queue (ft)	61	209	257	16	132	142	46	7	32	39	50
Link Distance (ft)		2518	2518	989	989	989	561	561	561	316	316
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	800										
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 5: Austin Road & Project Dwy 1

Movement	EB
Directions Served	R
Maximum Queue (ft)	43
Average Queue (ft)	17
95th Queue (ft)	42
Link Distance (ft)	546
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Austin Road & Project Dwy 2

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	106	53	11
Average Queue (ft)	48	20	0
95th Queue (ft)	84	49	5
Link Distance (ft)	614	5093	474
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 0