MADERA UNIFIED SCHOOL DISTRICT – KING HUSEIN SCHOOL MITIGATED NEGATIVE DECLARATION

October 2023

PREPARED FOR:

Madera Unified School District
1902 Howard Road
Madera, CA 93637

PREPARED BY:

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Initial Study/Mitigated Negative Declaration

MUSD – King Husein School

Prepared for:

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INTRODUCTION

INTRODUCTION

1.1 Project Summary

This document is the Initial Study/Mitigated Negative Declaration (IS/MND) on the potential environmental effects of the Madera Unified School District's (District or MUSD) proposed King Husein School Project (Project). The District intends to construct and operate a Transitional Kindergarten – 8th Grade school on an approximately 25.5 acre portion of Assessor's Parcel Number 006-380-009 south of Cleveland Avenue between N Westberry Boulevard and Avenue 16 in the City of Madera, California. The site address is 3480 Cleveland Avenue, Madera, California 93637. The proposed Project is more fully described in Chapter Two – Project Description.

The Madera Unified School District will act as the Lead Agency for this project pursuant to the *California Environmental Quality Act (CEQA)* and the *CEQA Guidelines.*

1.2 Document Format

This IS/MND contains five chapters, and appendices. Section 1, Introduction, provides an overview of the project and the CEQA environmental documentation process. Chapter 2, Project Description, provides a detailed description of project components. Chapter 3, Initial Study Checklist, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or other requirements that would reduce those impacts to a less than significant level. Chapter 4, Mitigation Monitoring and Reporting Program, provides the proposed mitigation measures, completion timeline, and person/agency responsible for implementation. Chapter 5, List of Preparers, provides a list of key personnel involved in the preparation of the IS/MND.

Environmental impacts are separated into the following categories:

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant (as measured against established thresholds), and no feasible mitigation

measures can be identified to reduce impacts to a less than significant level. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

Less Than Significant After Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less Than Significant Impact. This category is identified when the project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (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.)

Regardless of the type of CEQA document that must be prepared, the basic purpose of the CEQA process as set forth in the CEQA Guidelines Section 15002(a) is to:

(1) Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
(2) Identify ways that environmental damage can be avoided or significantly reduced.
(3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
(4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

According to Section 15070(b), a Mitigated Negative Declaration is appropriate if it is determined that:

(1) Revisions in the project plans or proposals made by or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for

public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

The Initial Study contained in Section Three of this document has determined that with mitigation measures and features incorporated into the Project design and operation, the environmental impacts are less than significant and therefore a Mitigated Negative Declaration will be adopted by MUSD. The IS/MND will be made available for public review in accord with *CEQA* and the *CEQA Guidelines*.

Chapter 2

PROJECT DESCRIPTION

Project Description

2.1 Project Background

The Madera Unified School District intends to construct and operate a new TK-8 elementary school campus for approximately 1,000 students and staff in the City of Madera (Project). The Project site is located on an approximately 25.5-acre site, south of Cleveland Avenue (Avenue 15-1/2) between N Westberry Blvd and Avenue 16, in the western part of the City of Madera. The site address is 3480 Cleveland Avenue, Madera, CA 93637. The new School is intended to serve existing and new students in response to population growth in the area and was identified in the Madera Unified School District Facilities Master Plan. The decision to construct the new school was based on enrollment projections and an evaluation of existing facilities needs within the District.

In addition, overcrowded conditions at existing elementary school sites will be alleviated by construction of the proposed Project. Selection of the proposed Project site was conducted through a site selection process with the oversight of the MUSD site selection committee. The proposed site was reviewed by the California Department of Education – School Facilities Planning Division in May 2021. Following completion of the CEQA process, MUSD will pursue approval from the California Department of Education - School Facilities Planning Division to construct and operate the school.

2.2 Location

The proposed Project is located in the western portion of the City of Madera on the southern side of Cleveland Avenue (Avenue 15-1/2) between N Westberry Blvd and Avenue 16. The Project site is located on a single parcel (APN 006-380-009) of approximately 49.5 acres, with the proposed development only covering the western portion of approximately 25.5 acres. The site is bound by Avenue 16 to the west, N Westberry Blvd to the east, and Running Brook Street to the south. The site is approximately 1.25 miles west of State Highway 99. See Figures 1 and 2– Regional Map and Vicinity Map, respectively.

Figure 1

Regional Map

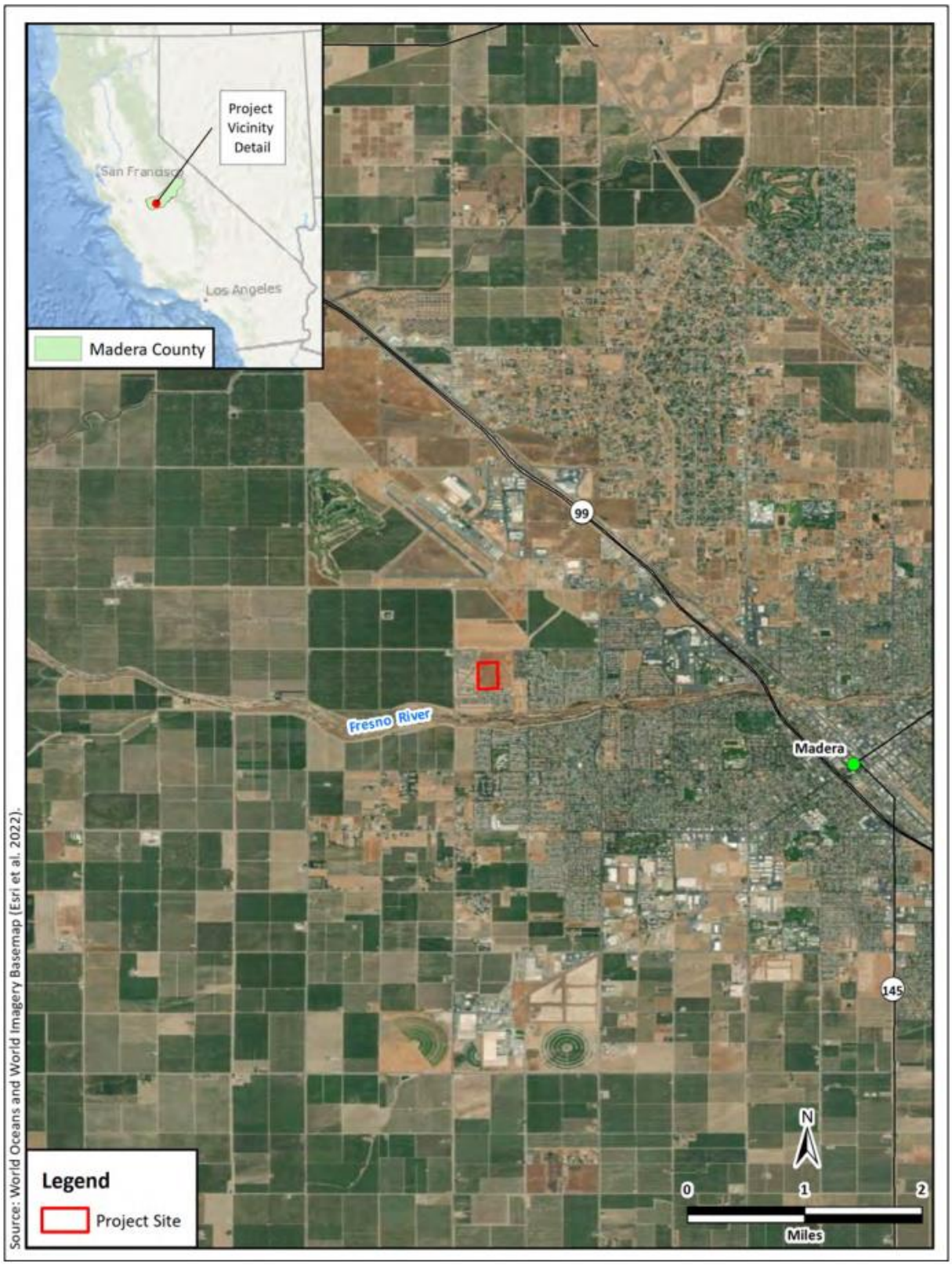

Figure 2

Location Map

Figure 3

Site Plan

2.3 Setting and Surrounding Land Use

The Project site is located in the western part of the City of Madera and is currently a vacant lot. The site was previously used as agricultural land. The site is located in an urban area that provides a mix of land uses. The site is generally well kept and was actively farmed for several years. The site currently supports disturbed grassland dominated by nonnative grasses and ruderal forbs. See Figure 2 – Vicinity Map.

The site is zoned by the City of Madera as PD (8000) - Residential District Planned Development (one unit per 8000 sq.ft.). Schools are an allowable use in the PD (8000) designation according to the City of Madera Code of Ordinances. Land uses surrounding the site are identified as follows:

Existing Land Use

Location	Existing Land Use
North	Cleveland Avenue; farmland; vacant lands
South	Single-family dwellings
West	Single-family dwellings
East	Single-family dwellings

2.4 Project Description

The project will construct a new TK-8 school campus for approximately 1,000 students and staff and will include classroom facilities, a multipurpose building, administrative facilities, playgrounds, play courts, play fields, street improvements, parking facilities, bus loading and unloading zone, student drop-off and pick-up area for parents, and all construction related to underground facilities required to serve the site. See Figure 3 – Site Plan. Specifically, the project is designed to include 38 regular classrooms, five special education classrooms, one art classroom, one STEM classroom, and two music classrooms.

Access/Parking/Drop-off

Access to and from the Project site will be from six (6) main access points in total. Two (2) access points are located along the south side of Cleveland Avenue approximately 1,700 and 1,000 feet west of Westberry Boulevard. The Project will have access to the existing streets of Fairway Avenue on the east and west side of the Project, San Phillipe Street on the south side of the Project and San Pietro Drive on the south side of the Projects. Initially, all access points are proposed to be full access. By the Cumulative 2042 Year plus Project Scenario, it is recommended that access to the westerly driveway to Cleveland Avenue be limited to right-in and right-out access.

School Operation

Typical daily operations will likely include a bell schedule from 8am-2:40pm (Monday-Friday). An after-school program will utilize the cafeteria or playfields until 6:00 p.m. (Monday-Friday). The school cafeteria and playfields are typically open to various local groups such as churches, boy scouts, various sports teams, etc. during afterhours and on weekends.

Infrastructure

Underground infrastructure to the project will consist of wet utilities including domestic water, sanitary sewer, and storm drainage, and dry utilities including natural gas, electric, telephone, cable, and data. Some dry utilities may be provided by above-grade utility lines or underground conduits. An Infrastructure Analysis Report was prepared for the Project by Blair, Church & Flynn Consulting Engineers. Existing water, wastewater, natural gas, telephone and electrical facilities are identified in the Infrastructure Analysis Report. The report can be found in its entirety in Appendix A. MUSD will be required to construct facilities to tie into existing infrastructure.

Construction Schedule

Construction is anticipated to begin in Spring/Summer of 2024 and will take approximately 15 months, with estimated completion by 2025 for the start of the school year.

2.5 Other Required Approvals

The proposed Project will include, but not be limited to, the following regulatory requirements:

- The adoption of a Mitigated Negative Declaration by MUSD
- California Department of Education - School Facilities Planning Division approval
- California Department of General Services – Division of State Architect (DSA) approval
- California Department of Toxic Substances Control approval
- Approval of a Stormwater Pollution Prevention Plan by the Central Valley Regional Water Quality Control Board
- Dust Control Plan Approval letter from the San Joaquin Valley Air Pollution Control District
- Compliance with other federal, state and local requirements.

Chapter 3

IMPACT ANALYSIS

Initial Study Checklist

3.1 Environmental Checklist Form

Project title:

Madera Unified School District King Husein School

Lead agency name and address:

Madera Unified School District
1205 S. Madera Avenue
Madera, CA 93637

Contact person and phone number:

Rosalind Cox, Director of Facilities Planning & Const. Mgmt.
Madera Unified School District
(559) 675-4548

Project location:

The proposed Project is located in the western portion of the City of Madera on the southern side of Cleveland Avenue (Avenue 15-1/2) between N Westberry Blvd and Avenue 16. The Project site is located on a single parcel (APN 006-380-009) of approximately 49.5 acres, with the proposed development only covering the western portion of approximately 25.5 acres. The site address is 3480 Cleveland Avenue, Madera, CA 93637 and is bound by Avenue 16 to the west, N Westberry Blvd to the east, and Running Brook Street to the south. The site is approximately 1.25 miles west of State Highway 99.

Project sponsor's name/address:

Madera Unified School District
1902 Howard Road
Madera, CA 93637

General plan designation:

Low Density Residential (City of Madera General Plan)

Zoning:

PD (8000) (Residential District Planned Development, one unit per 8000 sq.ft.)

Description of Project:

The District intends to construct and operate a Transitional Kindergarten – 8th Grade school (approximately 1,000 students) on approximately 25.5 acres of Assessor's Parcel #006-380-009 in the western portion of the City of Madera on the southern side of Cleveland Avenue (Avenue 15-1/2) between N Westberry Blvd and Avenue 16. The proposed Project is more fully described in Chapter Two – Project Description.

Surrounding land uses/setting:

The Project site is located in the western portion of the City of Madera, within city limits. The site is currently vacant and supports disturbed grassland (as of August 2023) but historically been used for agricultural purposes. The site is located in an urban area that provides for a mix of land uses. The area immediately north of the project location is predominantly farmland, while the areas to the west, east and south consist of residential housing developments.

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

3.3 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.

☒ 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.

Rosalind Cox — Date

Director of Facilities Planning & Constr. Mgmt.

Madera Unified School District

I. AESTHETICS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

SETTING

Environmental Setting

The City of Madera is located in central Madera County on the east side of the San Joaquin Valley floor. The City of Madera is characterized by flat terrain of approximately 250 to 275 feet above mean sea level. The City is approximately 15 miles from the Sierra Nevada foothills located to the east.

The proposed Project site is located in the western part of the City of Madera. The site currently supports disturbed grassland but historically been used for agricultural purposes. The site is located in a developing area of the City that consists of a mix of land uses. The area immediately north of the project location is predominantly farmland, while the areas to the west, east and south consist of residential housing developments.

The aesthetic features in the proposed Project area are relatively uniform; consisting of single family residential units to the west, east and south, agricultural land to the north, and typical urban form such as overhead power lines, scattered trees, roads, and sidewalks. There are no scenic resources or scenic vistas in the area. State Highway 99 is located approximately 1.25 miles to the east.

Regulatory Setting

Federal

Aesthetic resources are protected by several federal regulations, none of which are relevant to the proposed Project because it will not be located on lands administered by a federal agency, and the proposed Project applicant is not requesting federal funding or a federal permit.

State

Nighttime Sky – Title 24 Outdoor Lighting Standards

The Energy Commission adopted changes to Title 24, Parts 1 and 6, Building Energy Efficiency Standards (Standards), on April 23, 2008. These new Standards became effective on January 1, 2010. Requirements for outdoor lighting remained consistent with past Standards and the requirements vary according to which "Lighting Zone" the equipment is in. The Standards contain lighting power allowances for newly installed equipment and specific alterations that are dependent on which Lighting Zone the Project is located in. Existing outdoor lighting systems are not required to meet these lighting power allowances. However, alterations that increase the connected load, or replace more than 50% of the existing luminaires, for each outdoor lighting application that is regulated by the Standards, must meet the lighting power allowances for newly installed equipment.

An important part of the Standards is to base the lighting power that is allowed on how bright the surrounding conditions are. The eyes adapt to darker surrounding conditions, and less light is needed to properly see; when the surrounding conditions get brighter, more light is needed to see. The least power is allowed in Lighting Zone 1 and increasingly more power is allowed in Lighting Zones 2, 3, and 4.

The Energy Commission defines the boundaries of Lighting Zones based on U.S. Census Bureau boundaries for urban and rural areas as well as the legal boundaries of wilderness and park areas. By default, government designated parks, recreation areas and wildlife preserves are Lighting Zone 1; rural areas are Lighting Zone 2; and urban areas are Lighting Zone 3. Lighting Zone 4 is a special use district that may be adopted by a local government.

California Scenic Highway Program

The Scenic Highway Program allows county and city governments to apply to the California Department of Transportation (Caltrans) to establish a scenic corridor protection program which was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of

California highways and adjacent corridors, through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

RESPONSES

a. Have a substantial adverse effect on a scenic vista?

Less than Significant Impact. The proposed Project is the construction and operation of a new TK-8 school campus for approximately 1,000 students and staff, including classroom facilities, a multipurpose building, administrative facilities, playgrounds, play courts, play fields, street improvements, parking facilities, bus loading and unloading zone, student drop-off and pick-up area for parents, and related infrastructure (water, sewer, storm drain) required to serve the site. The structures will conform to design standards set forth by the City's General Plan and Zoning Ordinance. In addition, the Project will construct landscaping within and around the perimeter of the site. The proposed Project site is located in an area that is substantially surrounded by urban uses and will not result in a use that is visually incompatible with the surrounding area.

The City of Madera General Plan does not identify any scenic vistas within the Project area. A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. The Project is located in an area of minimal topographic relief, and views of the site are easily obscured by buildings, fences, other structures and trees. Neither the Project area nor any surrounding land use contains features typically associated with scenic vistas (e.g., ridgelines, peaks, overlooks).

Construction activities will occur over approximately 15 months and will be visible from the adjacent roadsides; however, the construction activities will be temporary in nature and will not affect a scenic vista. The impact will be ***less than significant***.

Mitigation Measures: None are required.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less than Significant Impact. According to the California Department of Transportation Scenic Highway Mapping System, there are no state designated or eligible scenic highways within the

immediate proximity to the Project site.[1] In addition, no scenic highways or roadways are listed within the Project area in the City of Madera's General Plan or Madera County's General Plan. Based on the National Register of Historic Places (NRHP) and the City's General Plan, no historic buildings exist on the Project site. The proposed Project would not damage any trees, rock outcroppings or historic buildings within a State scenic highway corridor. Any impacts would be considered ***less than significant***.

Mitigation Measures: None are required.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant Impact. The proposed Project consists of construction and operation of a new Transitional Kindergarten – 8th Grade school campus. The Project includes construction of classroom facilities, a multipurpose building, administrative facilities, playgrounds, play courts, play fields, street improvements, parking facilities, bus loading and unloading zone, student drop-off and pick-up area for parents, and all construction related to underground facilities required to serve the site. The structures will conform to design standards set forth by the City's General Plan and Zoning Ordinance. In addition, the Project will construct landscaping within and around the perimeter of the site. The proposed Project site is located in an area that is substantially surrounded by urban uses and will not result in a use that is visually incompatible with the surrounding area.

The site is visible from surrounding residential neighborhoods and from vehicles traveling along adjacent streets. However, the proposed Project site is planned for low density residential housing (according to the City's General Plan) and will be similar in visual character to the existing area, as similar urban uses are found in the area and throughout both rural and urban parts of the Central Valley. As such, the proposed Project will not substantially degrade the existing visual character or quality of the area or its surroundings.

The impact will be ***less than significant***.

Mitigation Measures: None are required.

[1] California Department of Transportation. California Scenic Highway Mapping System, City of Madera. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html. Accessed December 2022.

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

Less Than Significant Impact. Nighttime lighting is necessary to provide and maintain safe, secure, and attractive environments; however, these lights have the potential to produce spillover light and glare and waste energy, and if designed incorrectly, could be considered unattractive. Light that falls beyond the intended area is referred to as "light trespass." Types of light trespass include spillover light and glare. Minimizing all these forms of obtrusive light is an important environmental consideration. A less obtrusive and well-designed energy efficient fixture would face downward, emit the correct intensity of light for the use, and incorporate energy timers.

Spillover light is light emitted by a lighting installation that falls outside the boundaries of the property on which the installation is sited. Spillover light can adversely affect light-sensitive uses, such as residential neighborhoods at nighttime. Because light dissipates as it travels from the source, the intensity of a light fixture is often increased at the source to compensate for the dissipated light. This can further increase the amount of light that illuminates adjacent uses. Spillover light can be minimized by using only the level of light necessary, and by using cutoff type fixtures or shielded light fixtures, or a combination of fixture types.

Glare results when a light source directly in the field of vision is brighter than the eye can comfortably accept. Squinting or turning away from a light source is an indication of glare. The presence of a bright light in an otherwise dark setting may be distracting or annoying, referred to as discomfort glare, or it may diminish the ability to see other objects in the darkened environment, referred to as disability glare. Glare can be reduced by design features that block direct line of sight to the light source and that direct light downward, with little or no light emitted at high (near horizontal) angles, since this light would travel long distances. Cutoff-type light fixtures minimize glare because they emit relatively low-intensity light at these angles.

Currently the sources of light in the Project area are from street lights, the vehicles traveling along Cleveland Avenue and nearby residences to the east, south, and west. The Project would include nighttime lighting for building and parking lot security. Such lighting would be subject to the requirements of the City of Madera General Plan Policy CON-44, which ensures that outdoor lighting does not produce obtrusive glare onto the public right-of-way or adjoining properties. Lighting fixtures for security would be designed with "cutoff" type fixtures or shielded light fixtures, or a combination of fixture types to cast light downward, thereby providing lighting at the ground level for safety while reducing glare to adjacent properties. Accordingly, the Project would not create substantial new sources of light or glare. Potential impacts are ***less than significant***.

Mitigation Measures: None are required.

II. AGRICULTURE AND FOREST RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
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))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SETTING

Environmental Setting

The proposed Project includes constructing and operating a new TK-8 elementary school in the western portion of the City of Madera. The Project area is surrounded by residential housing to the east, south, and west, and agricultural land to the north.

Regulatory Setting

Federal

Federal regulations for agriculture and forest resources are not relevant to the proposed Project because it is not a federal undertaking (the Project site is not located on lands administered by a federal agency, and the Project applicant is not requesting federal funding or a federal permit).

State

California Department of Conservation, Division of Land Resource Protection

The California Department of Conservation (DOC) applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands. Pursuant to the DOC's Farmland Mapping and Monitoring Program (FMMP), these designated agricultural lands are included in the Important Farmland Maps (IFM) used in planning for the present and future of California's agricultural land resources. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California. The DOC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications.

The list below provides a description of all the categories mapped by the FMMP.

- **Prime Farmland**. Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Farmland of Statewide Importance**. Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Unique Farmland**. Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or

vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

- **Farmland of Local Importance**. Lands that produce dryland grains (barley and wheat); lands that have physical characteristics that would qualify for "Prime" or "Statewide Important" farmlands except for the lack of irrigation water; and lands that currently support confined livestock, poultry, and/or aquaculture operations.
- **Grazing Land**. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
- **Urban and Built-up Land**. Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- **Other Land**. Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

California Land Conservation (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is promulgated in California Government Code Sections 51200–51297.4, and therefore is applicable only to specific land parcels within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under Williamson Act contracts. However, an agricultural preserve must consist of no less than 100 acres. In order to meet this requirement, two or more parcels may be combined if they are contiguous, or if they are in common ownership.

Farmland Security Zone Act

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy. Farmland Security Zone Act contracts are sometimes referred to as "Super Williamson Act Contracts." Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses.

Public Resources Code Section 21060.1

The Public Resource Code (PRC) Section 21060.1 defines agricultural land for the purposes of assessing environmental impacts using the FMMP. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California.

RESPONSES

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?

Less Than Significant Impact. The proposed Project includes constructing and operating a new TK-8 school campus on approximately 25.5 acres of land that historically has been farmed. The Project site is designated as Grazing Land by the State Farmland Mapping and Monitoring Program.[2] The site is on land that was previously farmed, but has already been designated for residential development according to the City's General Plan. As such, any impacts would be less than significant.

Mitigation Measures: None are required.

[2] Department of Conservation, California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed December 2022.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The proposed Project site is not under a Williamson Act Contract and is located in an area dominated by residential development to the east, south, and west with agricultural land to the north.

There is ***no impact***.

Mitigation Measures: None are required.

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))?

No Impact. This impact evaluates the potential for the proposed Project to conflict with existing Forest Land zoning or result in the loss of forest land or result in the conversion of forest land to non-forest use. There is no forest land zoning on the proposed Project site and there are no forest uses on the site. No loss of forest land would occur and no conflicts would occur. Therefore, no impacts would occur.

Mitigation Measures: None are required.

d. Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. No conversion of forestland, as defined under Public Resource Code or General Code, as referenced above, would occur as a result of the Project. There is ***no impact***.

Mitigation Measures: None are required.

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?

No Impact. The site is planned for urban uses according to the City of Madera's General Plan and is being developed as such. The proposed Project does not have the potential to result in the conversion of Farmland to non-agricultural uses or forestland uses to non-forestland. There is ***no impact***.

Mitigation Measures: None are required.

III. AIR QUALITY

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

SETTING

Environmental Setting

The climate of the San Joaquin Valley is characterized by long, hot summers and stagnant, foggy, winters. Precipitation is low and temperature inversions are common. These characteristics are conducive to the formation and retention of air pollutants and are in part influenced by the surrounding mountains which intercept precipitation and act as a barrier to the passage of cold air and air pollutants.

The proposed Project lies within the San Joaquin Valley Air Basin, which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD or Air District). National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide

(NO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all state and federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Areas are classified under the Federal Clean Air Act as either "attainment", "non-attainment", or "extreme non-attainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The San Joaquin Valley is designated as a State and Federal extreme non-attainment area for O_3, a State and Federal non-attainment area for $PM_{2.5}$, a State non-attainment area for PM_{10}, and Federal and State attainment area for CO, SO_2, NO_2, and Pb.

Regulatory Setting

Federal

Clean Air Act

The federal Clean Air Act of 1970 (as amended in 1990) required the U.S. Environmental Protection Agency (EPA) to develop standards for pollutants considered harmful to public health or the environment. Two types of National Ambient Air Quality Standards (NAAQS) were established. Primary standards protect public health, while secondary standards protect public welfare, by including protection against decreased visibility, and damage to animals, crops, landscaping and vegetation, or buildings. NAAQS have been established for six "criteria" pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb).

State

California Air Resources Board

The California Air Resources Board (CARB) is the state agency responsible for implementing the federal and state Clean Air Acts. CARB has established California Ambient Air Quality Standards (CAAQS), which include all criteria pollutants established by the NAAQS, but with additional regulations for Visibility Reducing Particles, sulfates, hydrogen Sulfide (H_2S), and vinyl chloride.

The proposed Project is located within the San Joaquin Valley Air Basin, which includes San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and parts of Kern counties and is managed by the SJVAPCD.

Air basins are classified as attainment, nonattainment, or unclassified. Attainment is achieved when monitored ambient air quality data is in compliance with the standards for a specified pollutant. Non-compliance with an established standard will result in a nonattainment designation and an unclassified designation indicates insufficient data is available to determine compliance for that pollutant.

Standards and attainment status for listed pollutants in the Air District can be found in Table 1. Note that both state and federal standards are presented.

Table 1
Standards and Attainment Status for Listed Pollutants in the Air District

	Federal Standard	California Standard
Ozone	0.075 ppm (8-hr avg)	0.07 ppm (8-hr avg) 0.09 ppm (1-hr avg)
Carbon Monoxide	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)
Nitrogen Dioxide	0.053 ppm (annual avg)	0.30 ppm (annual avg) 0.18 ppm (1-hr avg)
Sulfur Dioxide	0.03 ppm (annual avg) 0.14 ppm (24-hr avg) 0.5 ppm (3-hr avg)	0.04 ppm (24-hr avg) 0.25 ppm (1hr avg)
Lead	1.5 µg/m3 (calendar quarter) 0.15 µg/m3 (rolling 3-month avg)	1.5 µg/m3 (30-day avg)
Particulate Matter (PM10)	150 µg/m3 (24-hr avg)	20 µg/m3 (annual avg) 50 µg/m3 (24-hr avg)
Particulate Matter (PM2.5)	15 µg/m3 (annual avg)	35 µg/m3 (24-hr avg) 12 µg/m3 (annual avg)

µg/m3 = micrograms per cubic meter

Additional State regulations include:

CARB Portable Equipment Registration Program – This program was designed to allow owners and operators of portable engines and other common construction or farming equipment to register their equipment under a statewide program so they may operate it statewide without the need to obtain a permit from the local air district.

U.S. EPA/CARB Off-Road Mobile Sources Emission Reduction Program – The California Clean Air Act (CCAA) requires CARB to achieve a maximum degree of emissions reductions from off-road mobile sources to attain State Ambient Air Quality Standards (SAAQS); off- road mobile sources include most construction equipment. Tier 1 standards for large compression-ignition engines used in off-road mobile sources went into effect in California in 1996. These standards, along with ongoing rulemaking, address emissions of nitrogen oxides (NOX) and toxic particulate matter from diesel engines. CARB is currently

developing a control measure to reduce diesel PM and NOX emissions from existing off-road diesel equipment throughout the state.

California Global Warming Solutions Act – Established in 2006, Assembly Bill 32 (AB 32) requires that California's GHG emissions be reduced to 1990 levels by the year 2020. This will be implemented through a statewide cap on GHG emissions, which will be phased in beginning in 2012. AB 32 requires CARB to develop regulations and a mandatory reporting system to monitor global warming emissions levels.

In addition, the proposed Project is being evaluated pursuant to CEQA.

Local

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the local agency charged with preparing, adopting, and implementing mobile, stationary, and area air emission control measures and standards. The SJVAPCD has several rules and regulations that may apply to the Project:

Rule 3135 (Dust Control Plan Fees) – This rule requires the project applicant to submit a fee in addition to a Dust Control Plan. The purpose of this rule is to recover the SJVAPCD's cost for reviewing these plans and conducting compliance inspections.

Rules 4101 (Visible Emissions) and 4102 (Nuisance) – These rules apply to any source of air contaminants and prohibits the visible emissions of air contaminants or any activity which creates a public nuisance.

Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations) – This rule applies to use of asphalt for paving new roadways or restoring existing roadways disturbed by project activities.

Regulation VIII (Fugitive PM_{10} Prohibitions) – This regulation, a series of eight regulations, is designed to reduce PM_{10} emissions by reducing fugitive dust. Regulation VIII requires implementation of control measures to ensure that visible dust emissions are substantially reduced. The control measures are summarized in Table 2.

Table 2
San Joaquin Valley Air Pollution Control District
Regulation VIII Control Measures for Construction Related Emissions of PM_{10}

The following are required to be implemented at all construction sites:
All disturbed areas, including storage piles, which are not actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizers/suppressants, covered with a tarp or other similar cover, or vegetative
All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions during construction using water or chemical stabilizer
All land clearing, grubbing, scraping, excavation, land leveling, grading cut and fill, and demolition activities during construction shall be effectively controlled of fugitive dust emissions utilizing application of water or pre-soaking.
When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from top of container shall be maintained.
All operations shall limit, or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of
Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site at the end of each workday.
Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.

RESPONSES

a. Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The San Joaquin Valley Air Basin (SJVAB) is designated nonattainment of state and federal health based air quality standards for ozone and $PM_{2.5}$. The SJVAB is designated nonattainment of state PM_{10}. To meet Federal Clean Air Act (CAA) requirements, the SJVAPCD has multiple air quality attainment plan (AQAP) documents, including:

- Extreme Ozone Attainment Demonstration Plan (EOADP) for attainment of the 1-hour ozone standard (2004);
- 2007 Ozone Plan for attainment of the 8-hour ozone standard;
- 2007 PM_{10} Maintenance Plan and Request for Redesignation; and
- 2008 $PM_{2.5}$ Plan.

Because of the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if the project-generated emissions of either of the ozone precursor pollutants (ROG or NOx), PM_{10}, or $PM_{2.5}$ were to exceed the

SJVAPCD's significance thresholds, then the project uses would be considered to conflict with the attainment plans. In addition, if the project uses were to result in a change in land use and corresponding increases in vehicle miles traveled, they may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

As discussed in Impact c), below, predicted construction and operational emissions would not exceed the SJVAPCD's significance thresholds for ROG, NOx, PM_{10}, and $PM_{2.5}$. As a result, the Project uses would not conflict with emissions inventories contained in regional air quality attainment plans, and would not result in a significant contribution to the region's air quality non-attainment status. Additionally, the Project would comply with all applicable rules and regulations. Therefore, this impact is ***less than significant.***

Mitigation Measures: None are required.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impact. Because ozone is a regional pollutant (SJVAPCD 2002), the pollutants of concern for localized impacts are CO and fugitive PM_{10} dust from construction. Ozone and PM_{10} exhaust impacts are addressed under Impact c), below. The proposed Project would not result in localized CO hotspots or PM_{10} impacts, as discussed below. Therefore, the proposed Project would not violate an air quality standard or contribute to a violation of an air quality standard in the Project area.

Localized PM_{10}

Localized PM_{10} would be generated by proposed Project construction activities, which would include earth-disturbing activities. The SJVAPCD indicates that all control measures in Regulation VIII are required for all construction sites by regulation. The SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2002) lists additional measures that may be required of very large projects or projects close to sensitive receptors. If all appropriate "enhanced control measures" in the GAMAQI are not implemented for very large projects or those close to sensitive receptors, then construction impacts would be considered significant (unless the Lead Agency provides a satisfactory detailed explanation as to why a specific measure is unnecessary). The GAMAQI also lists additional control measures (Optional Measures) that may be implemented if further emission reductions are deemed necessary by the Lead Agency. The SJVAPCD's Regulation VIII (Fugitive PM_{10} Prohibitions) has been updated and expanded since the GAMAQI guidance was written in 2002. Regulation VIII now includes the "enhanced control measures" contained in the GAMAQI.

The proposed Project would comply with the SJVAPCD's Regulation VIII dust control requirements during any proposed construction (including Rules 8011, 8031, 8041, and 8071). Compliance with this regulation would reduce the potential for significant localized PM_{10} impacts to ***less than significant*** levels.

CO Hotspot

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The SJVAPCD provides screening criteria to determine when to quantify local CO concentrations based on impacts to the level of service (LOS) of roadways in the Project vicinity.

As further discussed in the Transportation/Traffic checklist evaluation, the Project would not generate, or substantially contribute to, additional traffic that would reduce the level of surface on local roadways. Therefore, the Project would not significantly contribute to an exceedance that would exceed state or federal CO standards. Impacts are considered ***less than significant***.

Mitigation Measures: None are required.

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less than Significant Impact. The nonattainment pollutants for the SJVAPCD are ozone, PM_{10} and $PM_{2.5}$. Therefore, the pollutants of concern for this impact are ozone precursors, regional PM_{10}, and $PM_{2.5}$. Ozone is a regional pollutant formed by chemical reaction in the atmosphere, and the Project's incremental increase in ozone precursor generation is used to determine the potential air quality impacts, as set forth in the GAMAQI.

The SJVAPCD does not have a threshold for regional PM_{10} or $PM_{2.5}$. This document proposes a PM_{10} threshold using the same basis as the ozone precursor thresholds. Since the GAMAQI was published, the SJVAPCD has been recommending use of a PM_{10} threshold of 15 tons per year. However, a similar basis of threshold is not available for $PM_{2.5}$ emissions. Because the SJVAB is in nonattainment for $PM_{2.5}$, the threshold for $PM_{2.5}$ for this Project will be nine tons per year. The justification for this number is that $PM_{2.5}$ is in nonattainment and should have a more stringent threshold than PM_{10} to provide a worst-case assessment. The annual standard for PM_{10} is 20 $\mu g/m^3$ and the annual standard for $PM_{2.5}$ is 12 $\mu g/m^3$. Therefore, the ratio of PM_{10} to $PM_{2.5}$ results in a threshold for $PM_{2.5}$ of nine tons per year.

The annual significance thresholds to be used for the Project for construction and operational emissions are as follows:

- 10 tons per year ROG;
- 10 tons per year NOx;
- 15 tons per year PM_{10}; and
- 9 tons per year $PM_{2.5}$.

To aid in evaluating potentially significant construction and/or operational impacts of a project, SJVAPCD has prepared an advisory document, the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI), which contains standard procedures for addressing air quality in CEQA documents (SJVAPCD, 2002) The guide was adopted in 1998 and revised in 2002.

GAMAQI presents a three-tiered approach to air quality analysis. The Small Project Analysis Level (SPAL) is first used to screen the project for potentially significant impacts. A project that meets the screening criteria at this level requires no further analysis and air quality impacts of the project may be deemed less than significant. If a project does not meet all the criteria at this screening level, additional screening is recommended at the Cursory Analysis Level and, if warranted, the Full Analysis Level.

Table 3 below (from GAMAQI 5-3(e), which SJVAPCD recommends using as part of the initial screening process, shows the maximum project size to be considered a SPAL project. The Project consists of a 1,000 student elementary school. Therefore, the Project meets the SPAL criterion for project size and is excluded from quantifying criteria pollutant emissions for CEQA purposes.

Table 3
Small Project Analysis Level (SPAL) by Project Size

Land Use Category	Project Size
Hospital	78,000 sq. ft.
Elementary School	1875 students
Junior High School	1680 students
High School	1325 students
Junior College (2 year)	1100 students
University/College (4 year)	716 students
Place of Worship	48,000 sq. ft.

Source: SJAPCD-GAMAQI, 2002

Any impacts would be considered ***less than significant***.

Mitigation Measures: None are required.

d. Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. The proposed Project would not expose sensitive receptors to substantial concentrations of localized PM_{10}, carbon monoxide, diesel particulate matter, or hazardous pollutants, naturally occurring asbestos, or valley fever, as discussed below.

Localized PM_{10}

As shown in Response III-b, above, the Project would not generate a significant impact for construction-generated, localized PM_{10}. Therefore, the Project would not expose sensitive receptors to unhealthy levels of PM_{10}.

PM Hotspot

A $PM_{2.5}$ and PM_{10} Hotpot Analysis is not required for the Project because it is not a Project of Air Quality Concern (POAQC).

Carbon Monoxide Hotspot

As shown in Impact b), above, the Project would not generate a CO hotspot. In addition, the existing background concentrations of CO are low and any CO emissions would disperse rapidly. Therefore, the Project would not expose sensitive receptors to unhealthy levels of CO.

Naturally Occurring Asbestos

The Department of Conservation, Division of Mines and Geology published a guide entitled A General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos, for generally identifying areas that are likely to contain naturally occurring asbestos. The guide includes a map of areas where formations containing naturally occurring asbestos in California are likely to occur. Foothill areas within Madera County are identified as areas with ultramafic rocks. According to the Geologic Map of the Raymond Quadrangle, Madera and Mariposa Counties, California (Bateman et. al. 1982), the Site is not located within 10 miles of an ultramafic intrusive rock outcrop that reportedly can generally include serpentine, peridotite, gabbro, and diabase. For this reason, the Project is not anticipated to expose workers or nearby receptors to naturally occurring asbestos. Any impacts to this analysis area would be considered ***less than significant***.

e. Create objectionable odors affecting a substantial number of people?

Less than Significant Impact. If the proposed Project were to result in a sensitive odor receptor being located in the vicinity of an undesirable odor generator, the impact would be considered significant. The SJVAPCD regulates odor sources through its nuisance rule, Rule 4102, but has no quantitative standards for odors. The SJVAPCD presents a list of project screening trigger levels for potential odor sources in its GAMAQI, which is displayed in Table 4. If the project were to result in sensitive receptors being located closer to an odor generator in the list in Table 5 than the recommended distances, a more detailed analysis including a review of SJVAPCD odor complaint records is recommended.

Table 4
Screening Levels for Potential Odor Sources

Odor Generator	Distance (Miles)
Wastewater Treatment Facilities	2
Sanitary Landfill	1
Transfer Station	1
Composting Facility	1
Petroleum Refinery	2
Asphalt Batch Plant	1
Chemical Manufacturing	1
Fiberglass Manufacturing	1
Painting/Coating Operations (e.g., auto body shop)	1
Food Processing Facility	1
Feed Lot/Dairy	1
Rendering Plant	1

Source: San Joaquin Valley Air Pollution Control District, 2002

Significant odor problems are defined as:

- More than one confirmed complaint per year averaged over a three year period; or
- Three unconfirmed complaints per year averaged over a three-year period.

The proposed Project would allow for the development of an elementary school within the Project area. These land uses are not considered sources of objectionable odors. Therefore, objectionable odors are not expected to be a significant concern during either proposed Project construction related or operational emissions. As such, any impacts would be considered ***less than significant***.

Mitigation Measures: None are required.

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
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?	☐	☐	☒	☐

SETTING

Environmental Setting

The proposed Project site is located in a portion of the central San Joaquin Valley that has, for decades, experienced intensive agricultural and urban disturbances. Current agricultural endeavors in the region include dairies, groves, and row crops.

Like most of California, the Central San Joaquin Valley experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures usually exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely raise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the proposed Project site is about 10 inches, almost 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain and storm-water readily infiltrates the soils of the surrounding the sites.

Native plant and animal species once abundant in the region have become locally extirpated or have experienced large reductions in their populations due to conversion of upland, riparian, and aquatic habitats to agricultural and urban uses. Remaining native habitats are particularly valuable to native wildlife species including special status species that still persist in the region.

The site currently consists of disturbed grassland dominated by nonnative grasses and ruderal forbs. Surrounding lands consists of residential neighborhoods to the east, south, and west, and farmland to the north. The site is periodically disked and was subject to farming operations dating back to at least 1985. No aquatic or wetland features occur on the proposed Project site; therefore, jurisdictional waters are considered absent from the site.

The following analysis is taken from the Biological Resource Evaluation (BRE) that was performed on behalf of the proposed Project by Colibri Ecological Consulting, LLC. The report can be read in its entirety in Appendix A.

Regulatory Setting

Federal

Endangered Species Act

The USFWS and the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) enforce the provisions stipulated in the Federal Endangered Species Act of 1973 (FESA, 16 United States Code [USC] § 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the proposed action area and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC § 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) (16 USC § 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. "Take" is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC § 703 and § 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an "active nest". However, the "Migratory Bird Permit Memorandum" issued by the USFWS in 2003 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no

possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction.

U.S. Army Corps of Engineers Jurisdiction

Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3). Ditches and drainage canals where water flows intermittently or ephemerally are not regulated as waters of the United States. Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement[3][4]. Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

State

California Endangered Species Act

The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq. and California Code of Regulations (CCR) Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the California Department of Fish and Wildlife when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state-listed species. During

[3] United States Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetlands Delineation Manual. Wetland Research Program Technical Report Y-87-1.

[4] United Sates Army Corps of Engineers (USACE). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). ERDC/EL TR-08-28. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf. Accessed July 2022.

consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special-status species. CDFW can authorize take of state-listed species under Sections 2080.1 and 2081(b) of Fish and Game Code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated.

A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code § 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists". Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances

Native Plant Protection Act

The California Native Plant Protection Act of 1977 (California Fish and Game Code §§ 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting Birds

California Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are "Fully Protected" as those that may not be taken or possessed except under specific permit.

California Department of Fish and Wildlife Jurisdiction

The CDFW has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code Section 1602.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity.[5] Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare and endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted

The proposed Project is being evaluated pursuant to CEQA.

RESPONSES

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?

[5] California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). https://www.rareplants.cnps.org. Accessed July 2022.

Less than Significant Impact with Mitigation.

The Project site currently supports disturbed grassland dominated by nonnative grasses and ruderal forbs. It is bordered by residential development to the west, south, and east and disturbed grassland to the north. The site is periodically disked and was previously used for farming operations.[6]

A total of 30 plant species (five native and 25 nonnative), 13 bird species, and two mammal species were observed during the Biological Resource survey (Table 2 of Appendix A). The Project could adversely affect three special-status animal species that could occur on or near the Project site. Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species could constitute a significant impact.

Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4 will be included in the conditions of approval to reduce the potential impacts to a ***less than significant*** level.

Mitigation Measures:

Mitigation Measure BIO-1. Protect nesting Swainson's hawks.

1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August.
2. If it is not possible to schedule construction between September and February, a qualified biologist shall conduct surveys for Swainson's hawk in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SWTAC 2000, Appendix B of Appendix A). These methods require six surveys, three in each of the two survey periods, prior to project initiation. Surveys shall be conducted within a minimum 0.5-mile radius around the Project site.
3. If an active Swainson's hawk nest is found within 0.5 miles of the Project site, and the qualified biologist determines that Project activities would disrupt the nesting birds, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

Mitigation Measure BIO-2. Compensate for loss of Swainson's hawk foraging habitat.

Compensate for loss of Swainson's hawk foraging habitat (i.e., grassland on the Project site) in accordance with the CDFW *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (CDFG 1994, Appendix B of Appendix A). The CDFW requires that projects adversely affecting Swainson's hawk foraging habitat provide Habitat Management (HM) lands to the department. Projects within 1 mile of an active nest shall provide

[6] Madera K-8 School Project, Biological Resource Evaluation Report, pg 19. Appendix A.

one acre of HM lands for each acre of development authorized (1:1 ratio). Projects within 5 miles of an active nest but greater than 1 mile from the nest shall provide 0.75 acres of HM lands for each acre of urban development authorized (0.75:1 ratio). And projects within 10 miles of an active nest but greater than 5 miles from an active nest shall provide 0.5 acres of HM lands for each acre of urban development authorized (0.5:1 ratio). No compensation is required if an active nest is not found within 10 miles of the Project site. The nearest nest is determined using methods identified in Mitigation Measure BIO1 during the nesting season before or during construction.

Mitigation Measure BIO-3. Protect San Joaquin kit fox.

To protect San Joaquin kit fox, a qualified biologist shall conduct a preconstruction survey within 30 days prior to the start of ground-disturbing activities to identify potential dens (burrows larger than 4 inches in diameter) in suitable land cover types on and within 250 feet of the Project site. If potential dens for San Joaquin kit fox are present, their disturbance and destruction shall be avoided. Exclusion zones shall be implemented based on the type of den and current use: Potential Den—50 feet; Known Den—100 feet; Natal or Pupping Den—to be determined on a case-by-case basis in coordination with USFWS and CDFW. All pipes greater than 4 inches in diameter stored on the construction site shall be capped, and exit ramps shall be installed in trenches and other excavations to avoid direct mortality. When possible, construction shall be conducted outside of the breeding season from October 1 to November 30. If den avoidance is not possible, procedures in *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior or During Ground Disturbance* (USFWS 2011) shall be followed.

Mitigation Measure BIO-4. Protect burrowing owl.

1. Conduct focused burrowing owl surveys to assess the presence/absence of burrowing owl in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1997). These involve conducting four pre-construction survey visits.
2. If a burrowing owl or sign of burrowing owl use (e.g., feathers, guano, pellets) is detected on or within 500 feet of the Project site, and the qualified biologist determines that Project activities would disrupt the owl(s), a construction-free buffer, limited operating period, or passive relocation shall be implemented in consultation with the CDFW.

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?

Less than Significant Impact. There are no waterways on the subject site and the area consists of disturbed grassland dominated by nonnative grasses and ruderal forbs. There is no riparian habitat or other sensitive natural community on site or adjacent to the Project. As such, any impacts would be ***less than significant.***

Mitigation Measures: None are required.

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?

Less than Significant Impact. No wetlands occur in or near the Project site. Impacts would be ***less than significant.***

Mitigation Measures: None are required.

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?

Less than Significant Impact. There are no waterways on the subject site and the area consists of disturbed grassland dominated by nonnative grasses and ruderal forbs. The proposed Project site is located in an urban area and there are no waterways or migratory wildlife corridors on site or in the Project vicinity. Any impacts to native species movement would be ***less than significant***.

Mitigation Measures: None are required.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant Impact. The City of Madera's General Plan includes various policies for the protection of biological resources. The proposed Project would not conflict with any of the adopted policies and any impacts would be considered ***less than significant***.

Mitigation Measures: None are required.

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?

Less than Significant Impact. There are no local, regional, or state conservation plans that apply to the Project. As such, any impacts would be ***less than significant***.

Mitigation Measures: None are required.

V. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

SETTING

Environmental Setting

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric (before the introduction of writing in a particular area) or historic (after the introduction of writing). The majority of such places in this region are associated with either Native American or Euroamerican occupation of the area. The most frequently encountered prehistoric and early historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and sites of rock art. Historic archaeological sites may include foundations or features such as privies, corrals, and trash dumps.

The tribes which inhabited the Madera area generally lived a subsistence life-style that included hunting, fishing and collection of plant resources, particularly acorns. Some of these early inhabitants built a variety of structures including residential dwellings, ceremonial structures, and semi-subterranean sweat lodges. A common dwelling was a thatched house covered by brush, grass or tules.

A variety of flaked and ground stone tools (e.g., knives, arrow and spear points, and rough cobble and shaped pestles) were common among Native Americans in the area. Obsidian was a highly valued material for tool manufacture, and was generally imported. Some local tribes also engaged in trading relationships with surrounding groups for commodities such as salt, marine shells and basketry.

Euroamerican contact with Native American groups living in the Central Valley of California began during the last half of the 18th century. At this time, the attention of Spanish missionaries shifted away from the coast, and its dwindling Native American population, to the missionization of interior populations of Native Americans. The efforts of the Spanish to missionize the Native American population began a history of destructive Euroamerican interactions with Native Americans that eventually lead to the loss of traditional Native American culture.

The proposed Project site has been highly disturbed for many years due to active farming and disking. A records search was conducted at the Southern San Joaquin Valley Information Center (SSJVIC), California Historical Resources Information System (See Appendix B) in December 2022. According to the SSJVIC records, there have been no previous cultural resource studies conducted within the project area and no studies were conducted within the ½ mile radius of the Project site.

Regulatory Setting

Federal

Cultural resources are protected by several federal regulations, none of which are relevant to this proposed Project because it will not be located on lands administered by a federal agency and the Project applicant is not requesting federal funding.

State

The proposed Project is subject to CEQA which requires public or private projects financed or approved by public agencies to assess their effects on historical resources. CEQA uses the term "historical resources" to include buildings, sites, structures, objects or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance. CEQA states that if implementation of a project results in significant effects on historical resources, then alternative plans or mitigation measures must be considered; however, only significant historical resources need to be addressed (CCR 15064.5, 15126.4). For the purposes of this CEQA document, a significant impact would occur if project implementation:

- Causes a substantial change in the significance of a historical resource
- Causes a substantial adverse change in the significance of an archaeological resource

- Disturbs any human remains, including those interred outside of formal cemeteries

Therefore, before impacts and mitigation measures can be identified, the significance of historical resources must be determined. CEQA guidelines define three ways that a property may qualify as a historical resource for the purposes of CEQA review:

- If the resource is listed in or determined eligible for listing in the California Register of Historical Resources (CRHR)
- If the resource is included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC unless the preponderance of evidence demonstrates that it is not historically or culturally significant
- The lead agency determines the resource to be significant as supported by substantial evidence in light of the whole record (CCR, Title 14, Division 6, Chapter 3, Section 15064.5(a))

Each of these ways of qualifying as a historical resource for the purpose of CEQA is related to the eligibility criteria for inclusion in the CRHR (PRC 5020.1(k), 5024.1, 5024.1(g)).

A historical resource may be eligible for inclusion in the CRHR if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- Is associated with the lives of persons important in our past
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- Has yielded, or may be likely to yield, information important in prehistory or history Properties that area listed in or eligible for listing in the National Register of Historic Places are considered eligible for listing in the CRHR, and thus are significant historical resources for the purpose of CEQA (PRC Section 5024.1(d)(1)).

Public Resources Code §5097.5

California Public Resources Code §5097.5 prohibits excavation or removal of any "vertebrate paleontological site...or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public

lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

Senate Bill 18

SB 18 requires cities and counties to contact, and consult with California Native American tribes prior to amending or adopting any general plan or specific plan, or designating land as open space.

Human Remains

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper and dignified treatment of the remains and associated grave artifacts.

Paleontological Resources

Paleontological resources are the fossilized remains of plants and animals and associated deposits. The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources.

CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) §15126.4 (a)(1)). California Public Resources Code §5097.5 (see above) also applies to paleontological resources.

RESPONSES

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

Less than Significant Impact with Mitigation. The records search conducted at the SSJVIC (Appendix B) indicated that there are no recorded cultural resources within the Project area and it is unknown if any exist. In addition, there is one recorded cultural resource within ½ mile of the Project area (but will not be impacted by the Project) that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Subsurface construction activities associated with the proposed Project could potentially damage or destroy previously undiscovered historic resources. This is considered a potentially significant impact; however, implementation of Mitigation Measure CUL-1 will ensure that significant impacts remain ***less than significant with mitigation incorporation.***

CUL-1 The following measures shall be implemented:

- Before initiation of construction or ground-disturbing activities associated with the Project, MUSD shall require all construction personnel to be alerted to the possibility of buried cultural resources, including historic, archeological and paleontological resources;
- The general contractor and its supervisory staff shall be responsible for monitoring the construction Project for disturbance of cultural resources; and
- If a potentially significant historical, archaeological, or paleontological resource, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains or trash deposits are encountered during subsurface construction activities (i.e., trenching, grading), all construction activities within a 100-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under California Environmental Quality Act, the archaeologist shall recommend feasible mitigation measures, which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. MUSD shall implement said measures.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant Impact with Mitigation. The possibility exists that subsurface construction activities may encounter undiscovered archaeological resources. This would be a potentially significant impact. Implementation of Mitigation Measure CUL-1 would require inadvertently discovery practices to be implemented should previously undiscovered archeological resources be located. As such, impacts to undiscovered archeological resources would be ***less than significant with mitigation incorporation.***

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact with Mitigation. There are no unique geological features or known fossil-bearing sediments in the vicinity of the proposed Project site. However, there remains the possibility for previously unknown, buried paleontological resources or unique geological sites to be uncovered during subsurface construction activities. Therefore, this would be a potentially significant impact. Mitigation is proposed requiring standard inadvertent discovery procedures to be implemented to reduce this impact to a level of ***less than significant with mitigation incorporation***.

CUL-2 MUSD will incorporate into the construction contract(s) a provision that in the event a fossil or fossil formations are discovered during any subsurface construction activities for the proposed Project (i.e., trenching, grading), all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at MUSD, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, MUSD shall implement those measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code section 21083.2.

d. Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact. Although unlikely given the highly disturbed nature of the site and the records search did not indicate the presence of such resources, subsurface construction activities associated with the proposed Project could potentially disturb previously undiscovered human burial sites. Accordingly, this is a potentially significant impact. The California Health and Safety Code Section 7050.5 states that if human remains are discovered on-site, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition. If the Coroner determines that the

remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC. The NAHC shall identify the person or persons it believes to be the "most likely descendant" (MLD) of the deceased Native American. The MLD 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 Resource Code Section 5097.98.

Although considered unlikely subsurface construction activities could cause a potentially significant impact to previously undiscovered human burial sites, however compliance with regulations would reduce this impact to ***less than significant***.

Mitigation Measures: None are required.

VI. ENERGY

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

SETTING

Environmental Setting

California's total energy consumption was the second-highest in the nation in 2019, but its per capita energy consumption was less than in all other states except Rhode Island, due in part to its mild climate and its energy efficiency programs[7]. In 2021, California was the top-ranking producer of electricity from solar, geothermal and biomass energy, and fourth in the nation in conventional hydroelectric power generation, down from second in 2019, in part because of drought and increased water demand.

Energy usage is typically quantified using the British Thermal Unit (BTU)[8]. As a point of reference, the approximately amounts of energy contained in common energy sources are as follows:

[7] U.S. Energy Information Administration. Independent Statistics and Analysis. California Profile Overview. https://www.eia.gov/state/?sid=CA. Accessed December 2022.

[8] U.S. Energy Information Administration. Energy Units and Calculators Explained. https://www.eia.gov/energyexplained/units-and-calculators/british-thermal-units.php. Accessed December 2022.

Energy Source	BTUs[9]
Motor Gasoline	120,238 per gallon
Natural Gas	1,039 per cubic foot
Electricity	3,412 per kilowatt-hour

California energy consumption in 2020 was 6,931.1 trillion BTU[10], as provided in Table 5. This represents an approximately 11.1% decrease from energy consumption in 2019.

Table 5

2020 California Energy Consumption[11]

End User	BTU of energy consumed (in trillions)	Percentage of total consumption
Residential	1,507.9	21.8
Commercial	1,358.6	19.6
Industrial	1,708.5	24.6
Transportation	2,356.1	34.0
Total	**6,931.1**	--

Total electrical consumption by Madera County in 2021 was 1807.86 GWh[12], while total Gas consumption was 51.33 million Therms.[13]

The California Department of Transportation (Caltrans) reports that approximately 36.23 million vehicles were registered in the state in 2021, while in 2020 a total estimated 298.9 billion annual vehicle miles were traveled (VMT).[14]

[9] Ibid.

[10] U.S. Energy Information Administration. Independent Statistics and Analysis. California Profile Overview. https://www.eia.gov/state/?sid=CA#tabs-2. Accessed July 2022.

[11] U.S. Energy Information Administration. Independent Statistics and Analysis. California Profile Overview. https://www.eia.gov/state/?sid=CA#tabs-1. Accessed July 2022.

[12] California Energy Commission. Electricity Consumption by County. http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed December 2022.

[13] California Energy Commission. Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed December 2022.

[14] Caltrans Fact Booklet. 2022. California Department of Transportation. https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/caltrans-fact-booklets/2022-caltrans-factsv2-a11y.pdf. Accessed January 2023.

Regulatory Setting

California Energy Code (Title 24, Part 6, Building Energy Efficiency Standards)

California Code of Regulations Title 24, Part 6 comprises the California Energy Code, which was adopted to ensure that building construction, system design and installation achieve energy efficiency. The California Energy Code was first established in 1978 by the CEC in response to a legislative mandate to reduce California's energy consumption, and apply to energy consumed for heating, cooling, ventilation, water heating, and lighting in new residential and non-residential buildings. The standards are updated periodically to increase the baseline energy efficiency requirements. The 2013 Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings and include requirements to enable both demand reductions during critical peak periods and future solar electric and thermal system installations. Although it was not originally intended to reduce greenhouse gas (GHG) emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

California Green Building Standards Code (Title 24, Part II, CALGreen)

The California Building Standards Commission adopted the California Green Buildings Standards Code (CALGreen in Part 11 of the Title 24 Building Standards Code) for all new construction statewide on July 17, 2008. Originally a volunteer measure, the code became mandatory in 2010 and the most recent update (2019) went on January 1, 2020. CALGreen sets targets for energy efficiency, water consumption, dual plumbing systems for potable and recyclable water, diversion of construction waste from landfills, and use of environmentally sensitive materials in construction and design, including eco-friendly flooring, carpeting, paint, coatings, thermal insulation, and acoustical wall and ceiling panels. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site development; water use; weather resistance and moisture management; construction waste reduction, disposal, and recycling; building maintenance and operation; pollutant control; indoor air quality; environmental comfort; and outdoor air quality. Mandatory measures for residential development pertain to green building; planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; environmental quality; and installer and special inspector qualifications.

Clean Energy and Pollution Reduction Act (SB 350)

The Clean Energy and Pollution Reduction Act (SB 350) was passed by California Governor Brown on October 7, 2015, and establishes new clean energy, clean air, and greenhouse gas reduction goals for the year 2030 and beyond. SB 350 establishes a greenhouse gas reduction target of 40 percent below 1990

levels for the State of California, further enhancing the ability for the state to meet the goal of reducing greenhouse gas emissions by 80 percent below 1990 levels by the year 2050.

Renewable Portfolio Standard (SB 1078 and SB 107)

Established in 2002 under SB 1078, the state's Renewables Portfolio Standard (RPS) was amended under SB 107 to require accelerated energy reduction goals by requiring that by the year 2010, 20 percent of electricity sales in the state be served by renewable energy resources. In years following its adoption, Executive Order S-14-08 was signed, requiring electricity retail sellers to provide 33 percent of their service loads with renewable energy by the year 2020. In 2011, SB X1-2 was signed, aligning the RPS target with the 33 percent requirement by the year 2020. This new RPS applied to all state electricity retailers, including publicly owned utilities, investor-owned utilities, electrical service providers, and community choice aggregators. All entities included under the RPS were required to adopt the RPS 20 percent by year 2020 reduction goal by the end of 2013, adopt a reduction goal of 25 percent by the end of 2016, and meet the 33 percent reduction goal by the end of 2020. In addition, the Air Resources Board, under Executive Order S-21-09, was required to adopt regulations consistent with these 33 percent renewable energy targets.

RESPONSES

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The proposed Project is the construction and operation of a new TK-8 school campus for approximately 1,000 students and staff, including classroom facilities, a multipurpose building, administrative facilities, playgrounds, play courts, play fields, street improvements, parking facilities, bus loading and unloading zone, student drop-off and pick-up area for parents, and related infrastructure (water, sewer, storm drain) required to serve the site. The Project would introduce energy usage on a site that is currently demanding minimal energy. By comparison, at buildout, the Project would consume amounts of energy in both the short-term during Project construction and in the long-term during Project operation.

During construction, the Project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Title 24 Building Energy Efficiency Standards provide guidance on construction techniques to maximize energy conservation and it is expected that contractors and owners have a strong financial incentive to use recycled materials and products originating from nearby sources in order to reduce materials costs. As such, it is anticipated that materials used in construction and construction vehicle fuel energy would not involve the wasteful, inefficient, or unnecessary consumption of energy.

Operational Project energy consumption would occur for multiple purposes, including but not limited to, building heating and cooling, refrigeration, lighting and electronics. Operational energy would also be consumed during each vehicle trip associated with the proposed use.

The proposed Project would be required to comply with Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of Title 24 standards significantly increases energy savings, and it is generally assumed that compliance with Title 24 ensures projects will not result in the inefficient, wasteful, or unnecessary consumption of energy.

As discussed in Impact XVII – Transportation/Traffic, the proposed Project at full buildout would generate approximately 2,236 daily vehicle trips. The length of these trips and the individual vehicle fuel efficiencies are not known; therefore, the resulting energy consumption cannot be accurately calculated. Adopted federal vehicle fuel standards have continually improved since their original adoption in 1975 and assists in avoiding the inefficient, wasteful, and unnecessary use of energy by vehicles.

As discussed previously, the proposed Project would be required to implement and be consistent with existing energy design standards at the local and state level. The Project would be subject to energy conservation requirements in the California Energy Code and CALGreen. Adherence to state code requirements would ensure that the Project would not result in wasteful and inefficient use of non-renewable resources due to building operation.

Therefore, any impacts are ***less than significant***.

Mitigation Measures: None are required.

VII. GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Expose people or structures to 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?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
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?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?	☐	☐	☒	☐

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?	☐	☐	☐	☒

SETTING

Environmental Setting

The Project site is centrally located within the San Joaquin Valley which comprises the southern half of the Great Valley geomorphic province. According to Bartow (1991) the San Joaquin Valley is a westward-tilting structural trough where the east flank is broad and gently inclined as opposed to the western flank which is relatively narrow. The sediments along the eastern side of the valley rest on the fault block of the Sierra Nevada pluton. The west end of the Valley is thought to be underlain by mafic and ultramafic rocks.

Faulting and Seismicity

According to regional maps and cross sections prepared by Bartow (1991) roughly between 1,500 and 3,000 feet of Quaternary and Tertiary age sediments underlie the site and rest on basement complex bedrock. Shelton, et. al (2012) report up to 3,000 feet of late Tertiary to Quaternary age sediments in the Madera area. The sediments derived from the Sierra Nevada Mountains to the east comprise alluvial fan and fluvial deposits with interbedded lacustrine deposits.

Soils

The Project site is underlain by Pachappa fine sandy loam, 0 to 1 percent slopes, Tujunga loamy sand, 0 to 3 percent slopes, and Pachappa fine sandy loam, slightly saline-alkali, 0 to 1 percent slopes (NCRS 2022).

Regulatory Setting

Federal

Federal regulations for geology and soils are not relevant to the proposed Project because it is not a federal undertaking (the Project site is not located on lands administered by a federal agency, and the Project applicant is not requesting federal funding or a federal permit).

State

Uniform Building Code

The California Code of Regulations (CCR) Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Code incorporates by reference the Uniform Building Code with necessary California amendments. The Uniform Building Code is a widely adopted model building code in the United States published by the International Conference of Building Officials. About one-third of the text within the California Building Code has been tailored for California earthquake conditions.

In addition, the proposed Project is being evaluated pursuant to CEQA.

RESPONSES

a-i. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

a-ii. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

a-iii. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

a-iv. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Less than Significant Impact. The proposed Project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. Additionally, according to the Fault Rupture Zones Map prepared by the California Department of Conservation in 2007, the Project area is not located within a Fault-Rupture Hazard Area.[15] Since no known surface expression of active faults are believed to cross the site, fault rupture through the site is not anticipated. The nearest active or potentially active earthquake fault

[15] California Department of Conservation. CGS Information Warehouse. Regulatory Maps and Reports. https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/. Accessed July 2022.

zone is located approximately 40 miles to the west/southwest of the site along the San Joaquin Fault System.[16] According to the California Historical Earthquakes Online Database maintained by the California Geological Survey, there have been no historic earthquakes with a magnitude greater than or equal to 6.0 epicentered within 30 miles of the site.[17]

Although the Project area occurs in an area with historically low to moderate level of seismicity, strong ground shaking could occur in the region; however, the Project would be designed to withstand strong ground shaking, in compliance with the California Building Code, to minimize the potential effects of ground shaking and other seismic activity.

Liquefaction is a phenomenon where earthquake-induced ground vibrations increase the pore pressure in saturated granular soils until it is equal to the confining, overburden pressure. When this occurs, the soil can completely lose its shear strength and enter a liquefied state. The possibility of liquefaction is dependent upon grain size, relative density, confining pressure, saturation of the soils, and intensity and duration of ground shaking. In order for liquefaction to occur, three criteria must be met: "low density", coarse-grained (sandy) soils, a groundwater depth of less than about 50 feet, and a potential for seismic shaking from nearby large-magnitude earthquake. The proposed Project site primarily consists of sandy loam soils which are not known to induce liquefaction. The Project's Valley location also has a low risk of liquefaction. The site is not located within a Liquefaction Zone.[18] No subsidence prone soils or oil or gas production is involved with the proposed Project.

The proposed Project site is located on relatively flat topography and is not located adjacent to any steep slopes or areas that would otherwise be subject to landslides. There are no cut or fill slopes that currently exist or are planned at the proposed Project site. In addition, there are no natural or manmade slopes in the vicinity of the site; therefore, the potential for landslides is negligible. The impact is ***less than significant***.

Mitigation Measures: None are required.

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[16] Fault Activity Map, California Department of Conservation. https://maps.conservation.ca.gov/cgs/fam/. Accessed December 2022.

[17] Historic Earthquake Online Database, California Department of Conservation. https://maps.conservation.ca.gov/cgs/historicearthquakes/. Accessed December 2022.

[18] California Department of Conservation. CGS Information Warehouse. Regulatory Maps and Reports. https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/. Accessed December 2022.

b. Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The Project site has a generally flat topography, is in an established urban area. Utility services to the site will be provided by constructing a domestic water service, an irrigation service, and a fire service. The service lines will be installed in trenches that will be excavated, backfilled, and compacted in compliance with City of Madera standards. Runoff from the project site during the construction period will be covered by the General Construction permit issued by the State of California Water Resources Control Board; the Contractor will be required to install and maintain all necessary Best Management Practices (BMPs) for stormwater runoff management and erosion control. Therefore, the impact is ***less than significant***.

Mitigation Measures: None are required.

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?

Less Than Significant Impact. Review of the geological literature performed for the proposed Project did not indicate any unusual conditions at the site that would entail special design considerations or construction procedures. In addition, the site is not identified in an area of large historic subsidence within the California Central Valley. The soil on site would not become unstable as a result of the Project or result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. The Project will be required to conduct a geotechnical analysis prior to ground disturbing activities. See also responses a. and b. There is a ***less than significant impact.***

Mitigation Measures: None are required.

d. Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?

Less than Significant Impact. Based on the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey, on-site soils are mapped as Pachappa fine sandy loam (60.8%), Pachappa fine sandy loam (1.6%), San Joaquin sandy loam (21.2%), and Tujunga loamy sand (16.4%). These soils are not considered expansive. The District will be required to comply with the Uniform Building Code for the Project. The impact is ***less than significant***.

Mitigation Measures: None are required.

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?

No Impact. The Project will tie into the City's existing wastewater system and will not require installation of a septic tank or alternate wastewater disposal system. There is ***no impact.***

Mitigation Measures: None are required.

VIII. GREENHOUSE GAS EMISSIONS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

SETTING

Environmental Setting

Various gases in the earth's atmosphere play an important role in moderating the earth's surface temperature. Solar radiation enters earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs are transparent to solar radiation, but are effective in absorbing infrared radiation. Consequently, radiation that would otherwise escape back into space is retained, resulting in a warming of the earth's atmosphere. This phenomenon is known as the greenhouse effect. Scientific research to date indicates that some of the observed climate change is a result of increased GHG emissions associated with human activity.

Among the GHGs contributing to the greenhouse effect are water vapor, carbon dioxide (CO_2), methane (CH_4), ozone, Nitrous Oxide (NO_x), and chlorofluorocarbons. Human-caused emissions of these GHGs in excess of natural ambient concentrations are considered responsible for enhancing the greenhouse effect. GHG emissions contributing to global climate change are attributable, in large part, to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors.

In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Global climate change is, indeed, a global issue. GHGs are global pollutants, unlike criteria pollutants and TACs (which are pollutants of regional and/or local concern). Global climate change, if it occurs, could potentially affect water resources in California. Rising temperatures could be anticipated to result in sea-level rise (as polar ice caps melt) and possibly change the timing and amount of precipitation,

which could alter water quality. According to some, climate change could result in more extreme weather patterns; both heavier precipitation that could lead to flooding, as well as more extended drought periods. There is uncertainty regarding the timing, magnitude, and nature of the potential changes to water resources as a result of climate change; however, several trends are evident.

Snowpack and snowmelt may also be affected by climate change. Much of California's precipitation falls as snow in the Sierra Nevada and southern Cascades, and snowpack represents approximately 35 percent of the state's useable annual water supply. The snowmelt typically occurs from April through July; it provides natural water flow to streams and reservoirs after the annual rainy season has ended. As air temperatures increase due to climate change, the water stored in California's snowpack could be affected by increasing temperatures resulting in: (1) decreased snowfall, and (2) earlier snowmelt.

Regulatory Setting

Federal

The USEPA Mandatory Reporting Rule (40 CFR Part 98), which became effective December 29, 2009, requires that all facilities that emit more than 25,000 metric tons CO_2-equivalent per year beginning in 2010, report their emissions on an annual basis. On May 13, 2010, the USEPA issued a final rule that established an approach to addressing GHG emissions from stationary sources under the CAA permitting programs. The final rule set thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration and title V Operating Permit programs are required for new and existing industrial facilities.

In addition, the Supreme Court decision in Massachusetts v. EPA (Supreme Court Case 05-1120) found that the USEPA has the authority to list GHGs as pollutants and to regulate emissions of GHGs under the CAA. On April 17, 2009, the USEPA found that CO_2, CH_4, NO_x, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride may contribute to air pollution and may endanger public health and welfare. This finding may result in the USEPA regulating GHG emissions; however, to date the USEPA has not proposed regulations based on this finding.

State

California is taking action to reduce GHG emissions. In June 2005, Governor Schwarzenegger signed Executive Order S-3-05 to address climate change and GHG emissions in California. This order sets the following goals for statewide GHG emissions:

- Reduce to 2000 levels by 2010
- Reduce to 1990 levels by 2020
- Reduce to 80 percent below 1990 levels by 2050

In 2006, California passed AB 32, the California Global Warming Solutions Act of 2006 (Act). The Act requires ARB to design and implement emission limits, regulations, and other feasible cost-effective measures to reduce statewide GHG emissions to 1990 levels by 2020. Senate Bill 97 was signed into law in August 2007. The Amendments to the Bill became effective on March 18, 2010.

The AB 32 Scoping Plan contains the main strategies California will use to reduce GHG emissions that cause climate change. The scoping plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program.

In addition, the proposed Project is being evaluated pursuant to CEQA.

RESPONSES

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

Less than Significant Impact. The U.S. Environmental Protection Agency published a rule for the mandatory reporting of greenhouse gases from sources that in general emit 25,000 metric tons or more of carbon dioxide (CO_2) per year. As shown in Section III – Air Quality, the Project qualifies for the Small Project Analysis Level (SPAL) analysis, which was predetermined by the SJVAPCD to have less than significant impacts based on the size of the proposed Project. As such, the Project would not emit emissions greater than 25,000 metric tons of carbon dioxide per year.

Additionally, emissions from construction are temporary in nature. The SJVAPCD has implemented a guidance policy for development projects within their jurisdiction. This policy, "Guidance for Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA," approved by the Board on December 17, 2009, does not address temporary GHG emissions from construction, nor does this policy establish numeric thresholds for ongoing GHG emissions. Therefore, construction-generated GHGs are ***less than significant.***

Mitigation Measures: None are required.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

		Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
f.	Impair implementation of or physically interfere with an adopted emergency	☐	☐	☒	☐

	response plan or emergency evacuation plan?				
g.	Expose people or structures to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

SETTING

Environmental Setting

The Project site is located near the western most border of the City of Madera. The site currently consists of disturbed grassland dominated by nonnative grasses and ruderal forbs. The site is periodically disked and was subject to farming operations dating back to at least 1985. Surrounding lands consists of residential neighborhoods to the east, south, and west, and farmland to the north.

The Project site is approximately 0.5 miles south of the Madera Municipal Airport. Fresno-Yosemite International Airport is the closest regional airport to the proposed Project site, approximately 24 miles southeast.

The site is approximately 0.5 miles north of Lincoln Elementary School.

A Phase I and Preliminary Endangerment Assessment (PEA) was prepared by Krazan & Associates, Inc. for the proposed Project and the findings are utilized and summarized herein.

Regulatory Setting

Federal

The primary federal agencies with responsibility for hazardous materials management include the EPA, U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). The Environmental Protection Agency (EPA) was created to protect human health and to safeguard the natural environment – air, water and land – and works closely with other federal agencies, and state and local governments to develop and enforce regulations under existing environmental laws. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states in reaching the desired levels of environmental quality. EPA also works with industries and all levels of government in a wide variety of voluntary pollution prevention programs and energy conservation efforts.

State

The California Department of Industrial Relations, Division of Occupational Safety and Health is the administering agency designed to protect worker health and general facility safety. The California Department of Forestry and Fire Protection has designated the area that includes the, proposed Project site as a Local Responsibility Area, defined as an area where the local fire jurisdiction is responsible for emergency fire response.

DTSC

The California Department of Toxic Substances Control (DTSC) oversees new school construction compliance with regard to hazardous and toxic substances. The mission of DTSC is to protect California's people and environment from harmful effects of toxic substances by restoring contaminated resources, enforcing hazardous waste laws, reducing hazardous waste generation, and encouraging the manufacture of chemically safer products. State legislature requires that DTSC provide oversight of review for contaminants where state funds will be used for acquisition or construction on proposed new school sites.

In addition, the proposed Project is being evaluated pursuant to CEQA.

RESPONSES

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. This impact is associated with hazards caused by the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Proposed Project construction activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals used during construction. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, the Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) permit program through the submission and implementation of a Stormwater Pollution Prevention Plan during construction activities to prevent contaminated runoff from leaving the Project site. Therefore, no significant impacts would occur during construction activities.

It is anticipated that the proposed Project would not be a large-quantity user of hazardous materials. Small quantities of hazardous materials would be used onsite, including cleaning solvents (e.g., degreasers, paint thinners, and aerosol propellants), paints (both latex- and oil-based), acids and bases (such as many cleaners), disinfectants, and fertilizers. The potential risks posed by the use and storage of these hazardous materials are primarily limited to the immediate vicinity of the materials. Transport of these materials would be performed by commercial vendors who would be required to comply with various federal and state laws regarding hazardous materials transportation. As such, these materials are not expected to expose human health or the environment to undue risks associated with their use. Therefore, the proposed Project will not create a significant hazard to the public or the environment and any impacts would be ***less than significant***.

Mitigation Measures: None are required.

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?

Less than Significant Impact. See Response a. above. Any accumulated hazardous construction or operational wastes will be collected and transported away from the site in compliance with all federal, state and local regulations. The proposed new school is not a source of hazardous materials, thus it wouldn't create a significant hazard to the public involving release of hazardous materials. Any impacts would be ***less than significant***.

Mitigation Measures: None are required.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact.

Hazardous emissions/materials

The proposed Project is the construction and operation of a new TK-8 school for approximately 1,000 students and staff, including classroom facilities, a multipurpose building, administrative facilities, playgrounds, play courts, play fields, street improvements, parking facilities, bus loading and unloading zone, student drop-off and pick-up area for parents, and related infrastructure (water, sewer, storm drain) required to serve the site. The site is approximately 0.5 miles north of Lincoln Elementary School.

Based on the current Project description, it is not reasonably foreseeable that the proposed Project will cause a significant impact by emitting hazardous waste or bringing hazardous materials within one-quarter mile of an existing or proposed school. Schools do not generate, store, or dispose of significant quantities of hazardous materials. Such uses also do not normally involve dangerous activities that could expose persons onsite or in the surrounding areas to large quantities of hazardous materials. See also Responses a. and b. regarding hazardous material handling.

Additionally:

- No freeways are located within a quarter-mile
- No busy traffic corridors are located within a quarter-mile
- No railways are located within a quarter-mile
- There are agricultural facilities within a quarter-mile of the proposed school site. These sources may reasonably be expected to emit hazardous compounds from the operation of internal combustion engines driving irrigation pumps, gasoline dispensing tanks, application of pesticides, or other agricultural-related operations.

The potential sources of toxic air contaminators identified by the SJVAPCD are primarily limited to the immediate vicinity of those facilities. Storage, emission, or transport of these materials would be performed by commercial vendors who would be required to comply with various federal and state laws regarding storage, emission, or transport of hazardous or toxic materials. As such, these materials are not expected to expose human health or the environment to undue risks associated with their use within a quarter-mile of the proposed school.

Proximity to Above Ground Power Lines

According to the Geologic Hazards report, there are no high-voltage (greater than 50 kV) electrical power lines within 350 feet of the project site, so this should not impact the planned school site. PG&E will design the required primary electrical service, transformer, and secondary electrical line to the service meter for the Project. The Madera Unified School District may elect to have PG&E construct the facilities or have them constructed by their contractor and inspected by PG&E. PG&E will ultimately own and maintain the primary and secondary electrical lines and the transformer.

The California Department of Education has established the following limits. No school property line may be located closer than:

- 100 feet from the edge of an easement for a 50-133 kV line
- 150 feet from the edge of an easement for a 220-230 kV line, or
- 350 feet from the edge of an easement for a 500-550 kV line

As indicated above, there are no high voltage electrical power lines within 350 feet of the Project site. Therefore, impacts regarding proximity to high voltage power lines are ***less than significant.***

Proximity to Pipelines

According to the Geologic Hazards Report, One high-pressure gas pipeline operated by Pacific Gas & Electric was identified approximately 200 feet east of the subject site. No other high-pressure gas or hazardous liquid pipelines were identified within 1,500 feet of the subject site.

Pacific Gas & Electric Company (PG&E) will design the required gas main and service for the Project. The Madera Unified School District may elect to have PG&E construct the facilities or have them constructed by their contractor and inspected by PG&E. PG&E will ultimately own and maintain the gas main and service from the main to the meter.

According to CDE, acquisition of a school site within 1,500 feet of a hazardous pipeline is prohibited if the site: "Contains one or more pipelines, situated underground or aboveground, which carries hazardous substances, acutely hazardous materials, or hazardous wastes, unless the pipeline is a natural gas line which is used only to supply natural gas to that school or neighborhood." However, the existing pipeline is one that provides natural gas for surrounding residential development.

The high pressure gas line is not considered to pose an unacceptable safety hazard for school facility development at the proposed site. Therefore, impacts regarding proximity to high pressure pipelines are ***less than significant.***

Mitigation Measures: None are required.

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?

Less Than Significant. As previously discussed, a Phase I/PEA has been prepared for the Project by Krazan & Associates, Inc. The results of which are summarized herein:

Records Review

Standard Environmental Records Database Search

Krazan reviewed applicable and reasonably accessible federal, state, and local records to obtain additional information about the Site and surrounding area. The environmental records review was

performed in the form of an environmental database search by EDR, in an attempt to ascertain whether the Site or proximate properties were suspected of having environmental conditions with the potential to impact/have impacted the soil and/or groundwater at the Site. The database search includes regulatory agency lists of hazardous materials handling facilities, known or potentially hazardous waste facilities, landfills, hazardous waste generators, and disposal facilities in addition to properties under investigation. The information provided in this report was obtained from publicly available sources. The locations of the properties listed in this report are plotted with a geographic information system (GIS) utilizing geocoding of property addresses. Specific records and search distances for these environmental databases were reported by EDR.

Environmental Records Results

EDR's search of available "reasonably ascertainable" government records revealed no listings within the ASTM-specified search distances.

Orphan properties are facilities that cannot be mapped by EDR due to poor or insufficient address information. There is one orphan site listed; however, this orphan property does not appear to be in the vicinity of the Site and thus does not represent a concern.

Additional Environmental Record Sources

Local and state agencies were also contacted for available current or previous documentation of hazardous materials use, storage and/or unauthorized releases that may have impacted the Site. The requested information and information received from the agencies, if any, is summarized below.

Madera County Assessor's Office

Krazan reviewed information available for the Site (APN 006-380-009) on the Madera County Assessor's Office online ParcelQuest property information database. This database and the associated parcel map indicated that the site is an rectangular-shaped parcel of parcel of 49.52 acres described as "Section 15, Township 11S, Range 17E."

Madera County Environmental Health Division

On September 15, 2021, Krazan submitted a request to the Madera County Environmental Health Division (MCEHD) for records associated with the utilization, manufacture, storage and/or discharge of hazardous materials/waste, any information regarding previous or on-going site investigation or remediation pertaining to hazardous materials/waste, aboveground storage tanks (ASTs), and underground storage tanks (USTs) at the Site. According to a representative of the Madera County

Environmental Health Division, the MCEHD had no records related to hazardous materials or investigations at the Site.

City of Madera Building Department

On September 15, 2021, Krazan contacted the City of Madera Building Department (CMBD) to obtain potential building permit records associated with the Site, including records related to hazardous materials/waste storage and/or use features such as underground storage tanks. According to a representative of the City of Madera Building Department, one building permit was on file for the historical Site address of 3480 W. Cleveland Avenue. The building permit was issued March 16, 2006 for the demolition of a single-family dwelling, including three well sites and a septic tank abandonment.

City of Madera Fire Department

On September 15, 2021, Krazan contacted the City of Madera Fire Department (CMFD) to obtain potential records associated with the storage of hazardous materials and/or hazardous materials spill/release incidents for the Site. According to a representative of the City of Madera Fire Department, no records responsive to Krazan's request were on file with the CMFD for the Site.

DTSC Envirostor Database

Krazan reviewed the State of California, Department of Toxic Substances Control (DTSC) Envirostor Database for additional information regarding the Site and adjacent properties. No record of an unauthorized release of hazardous materials at the Site or the adjacent properties/facilities was reported in the Envirostor database.

California Department of Conservation, California Geologic Energy Management Division

Krazan reviewed the State of California Geologic Energy Management Division (CalGEM) website online mapping system to obtain information about past or present oil, gas or geothermal wells in the vicinity of the Site. According to the CalGEM online mapping tool, no wells are or were located on the Site or the adjacent properties.

California Water Resources Control Board GeoTracker Database

Krazan reviewed the State of California, Water Resources Control Board GeoTracker Database for additional information regarding the Site and adjacent properties. No record of an unauthorized release of hazardous materials at the Site or the adjacent properties/facilities was reported in the GeoTracker database.

U.S. DOT Pipeline & Hazardous Materials Safety Administration

Krazan visited the U.S. Department of Transportation Pipeline & Hazardous Materials Safety Administration (PHMSA) website to search for major natural gas or liquid hazardous materials pipelines located near the Site. According to the PHMSA national pipeline mapping system mapping tool, no liquid hazardous materials pipelines or major natural gas pipelines exist in the immediate vicinity of the Site except for a roughly north-south trending natural gas pipeline located approximately 100 feet to the east of the northern portion of the subject site (its location closest to the subject site). The nearest major liquid hazardous materials pipeline is located approximately 1.15 miles to the northeast of the Site.

California Office of Emergency Services Spills Database

Krazan reviewed the State of California Office of Emergency Services spills database for additional information regarding the Site. No record of a spill/unauthorized release of hazardous materials for the Site APN of 006-380-009 or for the historical Site address of 3480 W. Cleveland Avenue was reported in the California Office of Emergency Services spills database.

Historical Documentation Review

Historical resources were consulted to help evaluate past uses of the Site, as well as the adjoining properties.

Historical Aerial Photograph Review

An aerial photograph review was conducted to help evaluate past uses of the Site, as well as adjacent properties. The EDR Aerial Photograph Decade Package provided Krazan with aerial photographs dated 1937, 1946, 1950, 1962, 1972, 1978, 1981, 1984, 1998, 2006, 2009, 2012, and 2016, and additional aerial photographs dated between 2005 and 2021 were reviewed via Google Earth®. The following describes conditions at the Site and surrounding areas over time based on aerial photograph interpretations and observations.

The northeastern portion of the Site was occupied by a rural residential area from at least 1937 until approximately 2006. An aerial photograph of the Site dated 1984 indicates that seven structures were present within the on-site residential area, including two structures which appear to be dwellings, a barn, two additional larger outbuildings, and at least two shed type out-building structures. The 1984 aerial photograph which provides the clearest image of the residential area at its maximum structural development. All of the structures historically located within the on-site rural residential area were demolished by 2006, at which time this area of the Site appears to be vacant land. The non-residential portion of the Site appears to be vacant land/pasture in 1937. From at least 1946 until at least 1998, part

or all of the non-residential area of the Site is agricultural land (likely grain crops). In 2005 and 2006, the Site appears to be irrigated and may be in use as pasture.

By 2006, it appears that soil derived from grading operations at a residential development which adjoins the southeastern portion of the Site is being deposited in the central-northern portion of the Site via an unpaved road originating near the southeastern corner of the Site adjacent to the residential development. An aerial photograph taken in 2009 indicates that the amount of imported soil located in the central-northern portion on site has grown significantly, and evidence indicates that the imported soil may also be originating from grading operations at a southern adjacent residential development. An aerial photograph taken in 2015 indicates that additional, more recently deposited soil piles are present to the north, south and east of the previously deposited soil piles, as the previously deposited soil piles are covered with vegetation and those to the north, south and east are not.

At the time of a 2018 aerial photograph, the lateral extent of the soil piles located on site has extended to the north and southeast of that noted in the 2015 aerial photograph of the Site; however, further off-site construction activity is not evident in the 2015 aerial photograph. At the time of the 2021 aerial photograph, the lateral extent of the soil piles located on site has extended to the north and southeast of that noted in the 2018 aerial photograph of the Site. Construction activity associated with residential development to the south and west of the Site is evident in the 2021 aerial photograph.

The northern adjacent property appears to have been vacant land and/or agricultural land without structural development since at least 1937. The southern, eastern, and western adjacent properties appear to have been occupied by rural residences and utilized for pasture and/or agricultural purposes from at least 1937 until at least 1998. The rural residences are no longer present on the southern and western adjacent properties by 2006, these properties are vacant land from 2009 to 2018, and these properties are developed/partially developed with single family homes by 2021. The eastern adjacent property is being developed/has been developed with single-family homes by 2005, with additional development of single-family homes occurring through 2015.

In summary, the review of aerial photographs revealed usages (agricultural land use, rural residential barns/outbuildings, and the presence of imported soil) which could be indicative of hazardous material usage at the Site, and imported soil that could pose a threat to the Site. However, in this aerial photograph review, Krazan noted no definitive features showing chemical management, chemical spills or evidence of waste disposal on or into the ground, although clear evidence of the presence of imported soil was noted.

Historical Topographic Map Review

A review of historical topographic maps of the Site vicinity was conducted to help evaluate the past uses of the Site and the adjacent properties. The EDR Historical Topo Map Report provided Krazan with topographic maps dated 1922, 1946, 1947, 1963, 1981 and 2012. The Site is depicted as vacant land in 1922. Topographic maps dated 1946 through 1981 depict a residential type structure in the northeastern portion of the Site, with the remainder of the Site depicted as vacant land. The 1963 and 1981 topographic maps depict a barn type structure in the northeastern portion of the Site adjacent to the south of the residential structure. The adjacent properties are depicted as vacant land in 1922, and the northern adjacent property is depicted as vacant land through 1981. The southern, eastern, and western adjacent properties are depicted as being occupied by rural residences and vacant land from 1946 through 1981. The adjacent properties are depicted as being developed with the existing surface streets in 2012; however, structures are not depicted on the 2012 topographic map.

In summary, Krazan's review of historical topographic maps revealed usages (the presence of a rural residence) which could be indicative of hazardous material usage at the Site that could pose a threat to the soil. No indications of surface mining, subsurface mining or other forms of surface/subsurface disturbance are depicted on the Site other than a water well.

Sanborn Fire Insurance Map Review

A historical Certified Sanborn Map Report was provided by EDR. The EDR report indicated that the Site is an "unmapped property;" therefore, no Sanborn Fire Insurance Maps were available for the review.

City Directory Review

Historical City Directory listings were obtained from EDR for the Site and the adjoining properties. Available directories were reviewed for the years 1952, 1958, 1964, 1969, 1975, 1980, 1985, 1992, 1995, 2000, 2005, 2010, 2014 and 2017 for W. Cleveland Avenue and for addresses located on Avenue 15-1/2, the historical name for W. Cleveland Avenue, but which could not be correlated to the Site location. Directory coverage was available for one or both of the target streets for 1969 through 2017; however, coverage for W. Cleveland Avenue was available for 1992 through 2017.

The Site address of 3480 W. Cleveland Avenue was not included in the 1992, 1995, 2000, or 2017 directories and was included in the 2005,2010, and 2014 directories as "occupant unknown." Consequently, no information related to previous occupants of the Site was obtained from review of the EDR Historical City Directory report. The adjacent and vicinity property listings provided by EDR included various residential listings. No commercial or industrial listings were noted on W. Cleveland Avenue proximate to the Site.

In summary, the review of City Directory listings did not reveal usage which could be indicative of hazardous materials/chemical storage, management/usage, or disposal practices at or in the immediate vicinity of the Site that could pose a threat to the soil and/or groundwater quality.

Site Reconnaissance

Mr. Bill Vick of Krazan conducted a reconnaissance of the Site on September 2, 2021 to assess the environmental conditions on and around the Site. Krazan's Environmental Professional was unaccompanied during the site reconnaissance.

As part of the site reconnaissance, Krazan looked for evidence of the presence of hazardous substances used, stored, or discarded at and in the vicinity of the Site. Moreover, Krazan observed the site for areas of disturbed or discolored soil, suspect equipment which may contain hazardous substances, areas of distressed vegetation, wastewater discharge areas, storage tanks/septic systems, sumps, waste management/disposal areas, lagoons, pits, surface water management areas, stained surfaces, etc.

At the time of Krazan's September 2, 2021 site reconnaissance, the Site was vacant land without structural development, the majority of which (35+ acres) appeared to be historically plowed agricultural land which had not been cultivated in years. No evidence of the presence of hazardous materials or hazardous waste was noted in this portion of the Site. However, evidence of a former rural residential area was observed in the northeastern portion of the Site and imported soil is present on site.

Three pole-mounted electrical transformers and an aboveground concrete standpipe feature consistent with a former irrigation system were present in the northeastern portion of the Site in an area historically occupied by a rural residence. The pole-mounted transformer casings appeared to be significantly weathered; however, no oily material indicative of a release of transformer oil was observed on the ground surface beneath the transformers. The pole-mounted transformers were not labeled as to their polychlorinated biphenyl (PCB) status. However, based on the visual absence of apparent unauthorized releases of insulating fluids from the on-site transformers at the time of Krazan's site reconnaissance, these transformers do not currently appear to represent an environmental concern in connection with the Site. However, in the event of a future release/leak of insulating fluids from the on-site transformers or it they need to be removed or replaced, Pacific Gas & Electric should be contacted regarding testing of the transformers for PCB fluids. No hazardous materials were observed in association with the former irrigation system feature, or in association with the concrete irrigation piping observed at other on-site locations. Given the irrigation system remnants observed, it is likely that subsurface irrigation piping is present at other locations on the Site.

Numerous end-dump soil piles, estimated to number over 200, and an elongated soil ramp approximately 250 feet in length by 40 feet in width by 4 feet in height, are present in the central-northern,

central-eastern, central, and southeastern portions of the Site. This imported soil, estimated to cover an area in excess of eight acres, is generally located proximate to a roughly southeast to northwest trending unpaved road present in the eastern and central portions of the Site. The majority of the soil piles located in the central and central-northern portions of the Site are of roughly the same dimensions and are relatively completed covered with vegetation, suggesting that these soil piles were placed on site within a somewhat limited time frame. Furthermore, given the orientation of the on-site unpaved road and its location relative to newly constructed residential developments which adjoin the Site to the east and south, it appeared that many of the on-site soil piles were derived from grading operations at the eastern and southern adjoining residential developments. However, numerous other soil piles located in the northern portion of the Site immediately proximate to W. Cleveland Avenue, in the north-central portion of the Site along and blocking the unpaved roadway, and in the southeastern portion of the Site appear to have been deposited at different times and/or appear to have originated elsewhere based on: 1) the presence of limited vegetative cover, 2) the complete absence of vegetative cover, 3) differences in soil texture/color, 4) the presence of concrete and other debris within the soil piles, and/or 5) their presence immediately adjacent to W. Cleveland Avenue or the on-site unpaved roadway. Additionally, small soil/debris piles were present at several locations in the western and southern portions of the Site adjacent to the adjoining residential properties. Consequently, it appears that several generations of imported end-dump soil/debris piles are located on the Site, and it appears likely that some portion of this imported soil/debris is of unknown origin.

The site is bound by W. Cleveland Avenue and vacant/fallow land to the north, and by single-family homes and/or single-family homes under construction to the south, east, and west.

In summary, Krazan identified the following during the Site reconnaissance:

- Krazan did not observe hazardous substances or petroleum products during the Site reconnaissance. Further, Krazan did not observe evidence indicating the current presence or historical presence of ASTs or USTs (i.e., fill ports, vents, etc.) at the Site.
- Krazan observed pole-mounted transformers in the northeastern portion of the Site that may potentially contain polychlorinated biphenyls (PCBs).
- Krazan did not observe stained surface soils during the Site reconnaissance.
- No stressed vegetation was observed at the Site during Krazan's Site reconnaissance.
- Krazan did not observe any pits, ponds or lagoons during the Site reconnaissance.
- No strong, pungent, or noxious odors were noted at the Site during Krazan's Site reconnaissance.
- No evidence of septic systems was observed during Krazan's site reconnaissance.
- No drains or sumps were observed during Krazan's site reconnaissance.

- No agricultural, domestic, or groundwater monitoring wells were observed during Krazan's site reconnaissance.
- No solid waste disposal or obviously filled areas were observed by Krazan during the Site reconnaissance.
- The Site was generally flat, but slopes gently to the south-southwest. Excess stormwater that does not infiltrate into the open ground at the Site likely flows south-southwest across the site.

Additional Information and Interviews

No known contamination had been reported for the Site; however, hazardous substances typically associated with historical rural residential uses and/or the agricultural industry may have affected the property.

Krazan interviewed Ms. Rosalind Cox, a representative of the Madera Unified School District, the current owner of the Site familiar with the Site since March 2021, via her completion of an environmental questionnaire. Ms. Cox indicated that she has been familiar with the Site since approximately March 2021. Ms. Cox indicated that the Site was vacant land when donated to the school district in 2021, and the school district plans to build a public school on the property. According to Ms. Cox, to the best of her knowledge, no use, storage, or disposal of hazardous materials; no existing or former ASTs or USTs; no hazardous materials spills, no environmental cleanups, no on-site treatment and/or discharge of waste; no environmental liens, AULs, engineering or institutional controls, no on-site leach fields, dry wells, sumps, or disposal ponds; no buried materials; no monitoring, domestic, or irrigation wells; or any items of environmental concern are associated with the subject site. Ms. Cox indicated that she is not aware of any obvious indications pointing to the presence or likely presence of contamination of the subject property.

Additionally, Krazan interviewed Ms. Julia Pena, a representative of the previous owner of the Site reportedly familiar with the Site since 2011, relative to her knowledge of the historical uses of the Site. Ms. Pena indicated that King Husein and Mr. Husein's BFP Partnership, the previous owners of the Site, purchased the property in 2002. Ms. Pena indicated that the Site was vacant land in 2002, and was not utilized for any purpose by Mr. Husein/BFP Partnership from 2002 until the property was gifted to the Madera Unified School District in 2021. Ms. Pena indicated that the Site was managed by Berry Construction, a developer of some portion of the single-family homes located on the eastern adjacent property, from 2011 until the Site was gifted to the Madera Unified School District. Ms. Pena stated that no imported soil or other material was placed on the Site by Mr. Husein/BFP Partnership. Furthermore, Ms. Pena stated that no one was authorized by Mr. Husein/BFP Partnership to place or dump any soil, trash, or other material on the Site.

Evaluation

These findings and opinions are based on Krazan's evaluation of the information gathered through the following means: interviews; environmental database review; a Site visit; review of aerial photographs and topographic maps; an environmental file review; and a review of other obtained documents regarding the Site and historical land use in the vicinity of the Site.

1. Rural Residential Use – According to aerial photograph review and historical records, the northeastern portion of the Site was occupied by a rural residence, including a dwelling, a barn-type structure, and other outbuildings, from at least 1937 until 2006. Potential use of termiticides, and lead-based paint may have impacted soil in the vicinity of those structures, as well as PCB-containing sealants or caulks that may have impacted soil in the vicinity of the residence.
2. Agricultural Use - The non-residential portion of the Site was primarily agricultural land between 1946 and 1998. No information was identified regarding specific hazardous materials or agrichemicals associated with these uses; however, residual impacts to soil associated with the potential agricultural chemical use including OCPs, lead and arsenic may remain in soil.
3. Imported Soil at the Site – According to aerial photograph review and Krazan's site reconnaissance, an approximately 8-acre area in the central and eastern portions of the Site contain soil mounds. No information was identified regarding the origin and composition of these soils. Therefore, the presence of contaminants of potential concern (COPCs) is unknown. COPCs for the soil piles include CAM-17 metals, OCPs, and semi-volatile organic compounds (SVOCs).

CONCLUSIONS

Based on past agricultural use at the Site, it is likely that OCPs and/or lead and arsenic have been applied at the Site in accordance with product directions. As such, surface soil (between surface and three [3] feet bgs) at the Site may have been affected.

Based on the presence of former historic structures including a rural residence, barn, and two (2) outbuildings, at the Site, it is likely that OCPs (specifically termiticides) lead (from lead-based paints on the sides of the buildings) and PCBs (from sealants and calks) may be present in surface and subsurface soil.

PCBs may be present in soil beneath the three (3) transformers mounted on one (1) pole near the former assumed location of an irrigation well adjacent to a concrete standpipe east of the former outbuildings. The agricultural standpipe at the site was likely associated with a former agricultural well and may have

been a location in which agricultural chemicals were mixed or equipment was rinsed. Therefore agricultural chemicals including OCPs and/or lead and arsenic may be present in surface or subsurface soil (between surface and three [3] feet bgs) at this location. Since the source of stockpiled soil in the northern-central and eastern portions of the site is unknown, those soils may contain constituents of potential concern (COPCs) such as OCPs, metals and SVOCs.

Based on these results, some minor soil remediation was done through a DTSC work plan / PEA on site. As such, the District expects to receive a No Further Action letter from DTSC on the Project. DTSC compliance must occur before beginning construction on the site.

As identified above, after compliance with DTSC requirements, the Project will result in a ***less than significant impact.***

Mitigation Measures: None are required.

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?

Less Than Significant Impact. The Property is approximately 0.5 miles south of the Madera Municipal Airport, however, Caltrans Division of Aeronautics reviewed the subject Property in May 2020 and determined that a school at the subject site is acceptable and does not present a significant hazardous risk (Ed. Code § 17215). Therefore there is ***less than significant impact***.

Mitigation Measures: None are required.

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. There are no private airstrips in the Project vicinity and as such, there is ***no impact***.

Mitigation Measures: None are required.

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The proposed Project site will be accessible via multiple entrances, as seen in Figure 3, which are not a part of the City's emergency response plan or emergency evacuation plan. As such, the Project will not interfere with any adopted emergency response or evacuation plan. Any impacts are ***less than significant***.

Mitigation Measures: None are required.

h. 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?

No Impact. There are no wildlands on or near the Project site. The site is substantially surrounded by urban development. There is ***no impact***.

Mitigation Measures: None are required.

X. HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
i. Result in substantial erosion or siltation on- or off- site;	☐	☐	☒	☐
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?	☐	☐	☒	☐

X. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

An Infrastructure Analysis Report was prepared for the proposed Project by Blair, Church & Flynn Consulting Engineers. The following discussion and impacts are directly referencing this report. The report can be found in its entirety in Appendix C.

SETTING

Environmental Setting

The City of Madera provides domestic water to the Project site through a network of groundwater wells and pumps and water distribution system. The sole source of water supply for the City of Madera is the Madera sub-basin of the San Joaquin Valley Groundwater Basin. The quality of the water from the aquifer is considered to be of good quality and does not require additional treatment at this time. Well numbers 25, 29, and 32 are the three closest wells to the proposed project location.[19]

Regulatory Setting

Federal

Clean Water Act

The Clean Water Act (CWA) is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of

[19] Infrastructure Report New K-8 School, MUSD, page 7.

the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires states to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

The National Flood Insurance Act (1968) makes available federally subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, Federal Emergency Management Agency (FEMA) has developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes.

State

State Water Resources Control Board

The State Water Resources Control Board (SWRCB), located in Sacramento, is the agency with jurisdiction over water quality issues in the State of California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter-Cologne Act is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The proposed Project site is located within the Central Valley Region.

Regional Water Quality Board

The Regional Water Quality Control Board (RWQCB) administers the NPDES storm water-permitting program in the Central Valley region. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The plan will include specifications for Best Management Practices (BMPs) that will be implemented during proposed Project construction to control degradation of surface water by preventing the potential erosion of sediments or discharge of pollutants from the construction area. The General Construction Permit program was established by the RWQCB for the specific purpose of reducing impacts to surface waters that may occur due to construction activities. BMPs have been established by the RWQCB in the California Storm Water Best Management Practice Handbook (2003), and are recognized as effectively reducing degradation of surface waters to an acceptable level. Additionally, the SWPPP will describe measures to prevent or control runoff degradation after construction is complete, and identify a plan to inspect and maintain these facilities or Project elements.

In addition, the proposed Project is being evaluated pursuant to CEQA.

RESPONSES

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. For construction, the State Water Resources Control Board requires any new construction project over an acre to complete a Stormwater Pollution Prevention Plan (SWPPP). A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining best management practices to minimize the risk of pollution and sediments being discharged from construction sites. Implementation of the SWPPP will minimize the potential for the proposed Project to substantially degrade ground water quality from runoff.

Operationally, the City of Madera will provide wastewater collection, treatment and disposal for the wastewater generated by the Project site. Wastewater collection is provided through a series of existing sanitary sewer mains and trunk sewers that convey wastewater from the Project and areas surrounding the Project to the existing wastewater treatment plant. Treatment and disposal are provided at the City's Wastewater Treatment Plant (WWTP) located at 13048 Road 21½, west of the City of Madera.

A new sanitary sewer collection system and service will be required to serve the school; the service will either tie into the 8-inch diameter sewer main in Fairway Avenue or the 15-inch diameter sewer main in Running Brook St. The Master-Planned land use for the project site is single-family residential, which has an estimated wastewater generation rate of 1,250 gpd/acre, while the proposed land use of a school site has a wastewater generation rate of 680 gpd/acre. Assuming the sewer system was constructed in line with the Sanitary Sewer System Master Plan this would indicate there is capacity for the school's wastewater production.

The wastewater treatment plant provides primary and secondary treatment and was upgraded to a capacity of 10.1 MGD in 2005. As of 2018 the average flow into the wastewater treatment plant was 4.84 MGD and had a maximum flow rate of 7.91 MGD (Akel Engineering Group, Inc 2014W). Given Madera's wastewater treatment system was designed to accommodate the development of the project site in accordance with the Master-Planned land use of single family residential, and that the proposed school is estimated to generate 570 gpd/acre less than the Master-Planned land use, then the currently existing wastewater infrastructure constructed per the Sanitary Sewer System Master Plan and the future facilities to be built per the Master Plan will have capacity for the proposed project's wastewater generation, including the wastewater treatment facility.

The campus consumptive water uses will include sinks, urinals, toilets, and landscape irrigation water, of which only sinks, urinals, and toilets will contribute to the wastewater system. Cooling water may be used depending on the Heating, Ventilation, and Air Conditioning (HVAC) system installed on the campus, but it will not contribute to the wastewater system. Food will not be prepared nor will dishes be washed at the campus. Showers will not be provided on the campus either. Therefore, these uses will not be sources of wastewater.

Given the nature of the wastewater generated by the Project (sinks, urinals, toilets, etc.) it is not anticipated that the quality of effluent will result in exceedance of RWQCB requirements nor will it impact any waste discharge requirements. The site does not include kitchen or dishwashing facilities and therefore the type of wastewater generated is limited to bathroom related discharges.

Additionally, there will be no discharge to any surface or groundwater source. As such, the proposed Project will not violate any water quality standards and will not impact waste discharge requirements. The impact will be ***less than significant***.

Mitigation Measures: None are required.

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

Less than Significant Impact. The City of Madera provides domestic water to the Project site through a network of groundwater wells and pumps and water distribution system. The campus consumptive water uses will include sinks, urinals, toilets, and landscape irrigation. Water may be required for a variety of ancillary uses around campus; however, these demands will not significantly impact the overall demand of the site. Demands provided by the students & staff will comprise the majority of water demand for the site at approximately 57% and irrigation will make up the rest requiring a share of roughly 43% of the site's water demand while school is in session.

Service to the site will be provided by constructing a domestic water service, an irrigation service, and a fire service; the domestic and fire services may share a trench to save on labor and earthwork costs. There is an existing 12-inch water main in Cleveland Avenue along the northern border of the project site, and there is a 12-inch water main in Running Brook Street just south of the project site. The water services (domestic, fire, and irrigation) will either connect to the existing 12-inch Cleveland Avenue water main or the existing 12-inch Running Brook Street water main; it will be up to the School District to work with the City of Madera to determine exact service locations for each service type. It is assumed that the water main extensions for each service will be generally located within paved areas for street improvements,

and the service materials (e.g. water meters, backflow preventers, etc.) will be placed at a location to be decided upon by the School District and the City of Madera. Materials for the services will be Polyvinyl Chloride (PVC) pipe. The service lines will be installed in trenches that will be excavated, backfilled, and compacted in compliance with Madera City standards. Temporary pavement will be installed where pavement has been removed in streets to install the water services. Permanent pavement will be installed with the street improvements for the campus. Water meters and backflow prevention devices will be installed for the domestic and irrigation water services. The fire service will be installed with backflow prevention and a fire detection check valve.

With the construction of the TK-8 school following recent housing developments in the area, the water system for the surrounding area has been constructed. Wells 25, 29 and 32 are in service and are connected to the water main distribution grid system. The water main distribution grid system consists largely of 12-inch diameter pipelines which are available to provide service to the site (Akel Engineering Group, Inc 2014W). However, the Madera Water Master Plan includes the construction of several new wells in the area of the project site – GW-15 near the intersection of Cleveland Avenue and Avenue 16, GW-16 north of the intersection of Cleveland Avenue and Avenue 16, and GW-4 near the intersection of Cleveland Avenue and Granada Drive – as well as several new 8- and 12-inch water mains in the vicinity of the proposed Project site as requirements for buildout of the Master Plan.

Additionally, a technical memorandum was prepared to complete hydraulic modeling of the existing and planned water system for development of the area surrounding and including the project site (Links Ranch Technical Memorandum, Akel Engineering Group, Inc. 2022). In this memorandum, the proposed Project site is known as "Villa de Roma," and analyzed as a residential land use classification. It was recommended that for future development if the area, at least one (1) new groundwater well be constructed to meet the projected water demands.

Per utility drawings obtained for the project area, a number of 8- and 12-inch water mains have been installed to serve the surrounding housing developments, however the City of Madera has confirmed that no new wells in the area of the project have been constructed, though at least one new well is planned for future construction. The schedule for construction of Master-Planned water facilities is unknown, and thus additional analysis and hydraulic modeling will be required of the project is constructed prior to the Master-Planned infrastructure.

The proposed Project is estimated to have a domestic water demand of 2,800 gpd/acre based on 1,100 students, a project area of 15-acres, and a daily demand per student of 38.2 gpd/student (Gleick, et al. 2003). The Water System Master Plan assigned the project site a land use designation of low density residential, which has an average water demand of 2,850 gpd/acre (Akel Engineering Group, Inc 2014W). This means the proposed school will reduce the overall demand of water for the site compared to the

Master Planned use by 50 gpd/acre. Additionally, the school year typically has 180 days with class in session, meaning there are 185 days of the year where the demand for the school site is significantly lower than the typical demand, and the demand for the Master-Planned land use classification.

If all Master-Planned water infrastructure is constructed, the project will not require the construction of any additional off-site water distribution, storage, or supply systems; the proposed Project will have a lower water demand than the Master-Planned land use, thus the Master-Planned water facilities will be sufficient to meet the school's water demand. However, the schedule for construction of the Master Planned utilities is unknown, and per the City of Madera, a new groundwater well will be constructed in the future per the Water System Master Plan. If the proposed school is planned to be constructed prior to build-out of the Water System Master Plan for the area, then further analysis and hydraulic modeling are required to determine if additional water supply facilities are needed to serve the school.

The proposed Project will construct service lines from existing 12-inch diameter water mains in either Cleveland Avenue or San Phillipe to serve the proposed school; the exact locations, size, and alignment of such services will be determined by the School District with approval from the City of Madera.

Therefore, the proposed Project will not result in additional groundwater use that was not already accounted for by the City. As such, there is ***a less than significant impact*** to this impact area.

Mitigation Measures: None are required.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

   i. result in substantial erosion or siltation on- or offsite;

   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?

Less than Significant Impact With Mitigation. The Project site is approximately 0.25 miles north of the Fresno River. There are no natural lakes or streams within or adjacent to the Project area. No habitats

regulated under jurisdiction of the CDFW, SWRCB, or USACE were present in the survey area. The site is presently a vacant dirt lot that has historically been farmed but is currently disked. The proposed Project will introduce new impervious surfaces (pavement) to a portion of the site.

Stormwater

The City of Madera will provide stormwater collection and disposal for the project site. Stormwater disposal from the site will be provided by a storm drain system of inlets and pipelines that will be used to drain the project site. From the site, it will tie into an existing storm drain pipeline in N Westberry Blvd before being discharged into the Berry/Home Ranch storm drainage Basin located south of the proposed campus which has a capacity of 50 acre-feet.

Collection System

The stormwater collection system that will serve the campus does not currently exist, however the Storm Drainage System Master Plan denotes that the area will be served by the Berry/Home Ranch Basin. The proposed site's storm drain system will need to tie into nearby existing storm drainpipes to convey stormwater runoff to the retention basin. There is an existing 42-inch storm drain in N Westberry Blvd that discharges to the Berry/Home Ranch Basin. Per the Storm Drainage System Master Plan, the area in which the site is encompassed will drain to the Berry/Home Ranch Basin via the storm drain pipeline in Westberry Road. However, due to the distance between the project site and the existing storm drain main, a booster pump may be needed to deliver the runoff to the pipe.

There are also existing storm drainpipes that have been installed throughout the recently constructed housing developments adjacent to the project site that discharge directly into the Berry/Home Ranch Basin via two drainage outlets. It is unknown whether these existing pipes have sufficient capacity to carry the additional runoff resulting from the site. The Storm Drainage System Master Plan does not indicate where the service should be connected for the project site, and thus the service location will need to be determined by the School District in coordination with the City of Madera.

Disposal

Per the Storm Drainage System Master Plan, stormwater disposal will be provided for the Project Site by the Berry/Home Ranch stormwater basin as indicated by Figure ES.4 from the Storm Drainage System Master Plan. This basin is located approximately 1,100 feet due south of the project location just north of the Fresno River. The basin has an existing capacity of 50 acre-feet and can be excavated to increase capacity should further analysis require it.

Project Impacts

The Project will have three potentially significant impacts to the site hydrology:

1. Rainfall runoff discharge rates will increase as compared to existing conditions but decrease as compared to the original planned use of the site.
2. Rainfall runoff volume will increase as compared to existing conditions but will decrease as compared to the original planned use of the site.
3. Ground water recharge at the site will decrease as a result of increased imperviousness as compared to existing conditions.

Rainfall runoff discharge rates and volumes will increase compared to existing conditions as a result of the following improvements to the site:

1. Street frontage will be improved, and pavement width will convert pervious area to impervious area.
2. The infrastructure required for the school campus including school buildings, concrete & pavement improvements will convert currently pervious area to impervious area.
3. The site will be graded, and concrete surface drainage improvements will be added to route runoff water from the site, increasing the speed at which the runoff will travel.
4. Storm drain inlets and underground storm drainage collection systems will be added which will further channel runoff of campus and increase its speed.

These improvements will result in an increase in peak runoff rate and runoff volume as compared to existing conditions; however, the peak runoff rate and runoff volume will likely decrease when compared to the Master-Planned land use. The Storm Drainage System Master Plan anticipated that the project area would develop as low density residential per the Madera General Plan. The project will result in a slight decrease in runoff volume when developed as a school site compared to the runoff volume from the Master-Planned usage of single family residential; this is largely due to the sizable grass fields to be installed as part of the school campus which will reduce impervious surfaces when compared to residential neighborhoods which are typically comprised largely of concrete and asphalt with much smaller amounts of landscaping. Changes to site grading will also change the anticipated rainfall runoff rates and volumes.

The proposed Project will need to mitigate the increase in runoff discharge rate and volume from the site compared to existing conditions. At the time of development, a project storm drainage report should be prepared which will determine the peak runoff rates from the site. It will also determine the size of storm drain pipeline required to convey the runoff discharge rates from the project site. The report should be

submitted to the City of Madera for review, comment, and approval. The City of Madera Storm Drainage System Master Plan should be updated to reflect the change in development.

Implementation of the recommendations of the storm drainage report and construction of the storm drain pipeline will mitigate the increased runoff rates and volume from the site by providing infrastructure to drain away from the site. These impacts do not result in significant project or cumulative impacts to the environment.

Construction and operational activities will not result in significant project or cumulative impacts to the environment, thus the impact is less than significant.

Mitigation Measures: None are required.

d. In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. The site is located within an unshaded area of Flood Zone X, which is a "minimal risk area outside the 1-percent and 0.2-percent-annual-chance floodplains. No base flood elevations or base flood depths are shown within these zones." Furthermore, the site does not lie within the limits of inundation in the event of a catastrophic dam failure.

There are no inland water bodies that could be potentially susceptible to a seiche in the Project vicinity. This precludes the possibility of a seiche inundating the Project site. The Project site is more than 100 miles from the Pacific Ocean, a condition that precludes the possibility of inundation by tsunami. There are no steep slopes that would be susceptible to a mudflow in the Project vicinity, nor are there any volcanically active features that could produce a mudflow in the City of Madera. This precludes the possibility of a mudflow inundating the Project site.

Mitigation Measures: None are required.

XI. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SETTING

Environmental Setting

The proposed Project is the construction and operation of a new TK-8 school campus for approximately 1,000 students and staff, including classroom facilities, a multipurpose building, administrative facilities, playgrounds, related school and infrastructure facilities required to serve the site. The Project site is located on an approximately 25.5-acre site, south of Cleveland Avenue (Avenue 15-1/2) between N Westberry Blvd and Avenue 16, in the western part of the City of Madera, Madera County. The site currently consists of disturbed grassland dominated by nonnative grasses and ruderal forbs. Surrounding lands consists of residential neighborhoods to the east, south, and west, and farmland to the north. The site is periodically disked and was subject to farming operations dating back to at least 1985.

City of Madera Land Use Designation:

The planned land use of the project area according to the City of Madera General Plan is low density residential. Land uses surrounding the site are identified as follows:

Existing Land Use

Location	Existing Land Use
North	Farmland; vacant lands
South	Single-family dwellings; multi-family dwellings
West	Single-family dwellings; multi-family dwellings
East	Single-family dwellings; multi-family dwellings

Regulatory Setting

Federal

Federal regulations for land use are not relevant to the proposed Project because it is not a federal undertaking (the proposed Project site is not located on lands administered by a federal agency, and the Project applicant is not requesting federal funding or a federal permit).

State

The proposed Project is being evaluated pursuant to CEQA; however, there are no state regulations, plans, programs, or guidelines associated with land use and planning that are applicable to the proposed Project.

RESPONSES

a. Physically divide an established community?

Less Than Significant Impact. The Project is located along the western border of the City of Madera. The proposed Project site is an existing vacant field that is surrounded by urban uses. The construction and operation of the Project would not cause any land use changes in the surrounding vicinity nor would it divide an established community. ***Less than significant impacts*** would occur as a result of this Project.

Mitigation Measures: None are required.

b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The site is currently zoned by the City of Madera as Residential District Planned Development (PD 8000), which refers to one unit for each 8,000 sq.ft. of site area. Schools are an allowable use in this designation according to the City of Madera Code of Ordinances. The proposed Project will be constructed by the District to provide adequate school facilities for students in the developing western area of Madera. Therefore, the Project will not conflict with any applicable land use plan, policy or regulation and will result in ***less than significant impacts***.

Mitigation Measures: None are required.

XII. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SETTING

Environmental Setting

The Project site is centrally located within the San Joaquin Valley which comprises the southern half of the Great Valley geomorphic province. According to Bartow (1991) the San Joaquin Valley is a westward-tilting structural trough where the east flank is broad and gently inclined as opposed to the western flank which is relatively narrow. The sediments along the eastern side of the valley rest on the fault block of the Sierra Nevada pluton. The west end of the Valley is thought to be underlain by mafic and ultramafic rocks.

According to regional maps and cross sections prepared by Bartow (1991) roughly between 1,500 and 3,000 feet of Quaternary and Tertiary age sediments underlie the site and rest on basement complex bedrock. Shelton, et. al (2012) report up to 3,000 feet of late Tertiary to Quaternary age sediments in the Madera area. The sediments derived from the Sierra Nevada Mountains to the east comprise alluvial fan and fluvial deposits with interbedded lacustrine deposits.

Regulatory Setting

Federal

There are no federal or local regulations pertaining to mineral resources relevant to the proposed Project.

State

California Surface Mining and Reclamation Act of 1975

Enacted by the State Legislature in 1975, the Surface Mining and Reclamation Act (SMARA), Public Resources Code Section 2710 et seq., ensures a continuing supply of mineral resources for the State.

In addition, the proposed Project is being evaluated pursuant to CEQA.

RESPONSES

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?

No Impact. According to the City of Madera General Plan, the proposed Project area is not included in a State classified mineral resource zones. Therefore, there is ***no impact***.

Mitigation Measures: None are required.

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?

No Impact. According to the City of Madera General Plan, the proposed Project area is not included in a State classified mineral resource zones. Soil disturbance for the proposed Project would be limited site ground work such as grading, foundations, and installation of infrastructure. Therefore, there is ***no impact***.

Mitigation Measures: None are required.

XII. NOISE

Would the project:

	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 applicable standards of other agencies?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

SETTING

Environmental Setting

The proposed TK-8 elementary school site is located south of Cleveland Avenue (Avenue 15-1/2) between N Westberry Blvd and Avenue 16, in the western part of the City of Madera, Madera County. The site is currently vacant and located in an urban area that provides for a mix of land uses. It is bordered by residential development to the west, south, and east and disturbed grassland to the north.

Regulatory Setting

Federal

The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed

to ground-borne vibration levels of 0.5 PPV without experiencing structural damage.[20] The FTA has identified the human annoyance response to vibration levels as 80 RMS (Root Mean Square = The square root of the arithmetic average of the squared amplitude of the signal).

State

The California Noise Control Act was enacted in 1973 (Health and Safety Code § 46010 et seq.), and states that the Office of Noise Control (ONC) should provide assistance to local communities in developing local noise control programs. It also indicates that ONC staff will work with the OPR to provide guidance for the preparation of the required noise elements in city and county General Plans, pursuant to Government Code § 65302(f). California Government Code § 65302(f) requires city and county general plans to include a noise element. The purpose of a noise element is to guide future development to enhance future land use compatibility.

In addition, this proposed Project is being evaluated pursuant to CEQA.

Local

The City of Madera General Plan provides guidelines for noise thresholds. Although the proposed school is not located within City limits, due to its proximity to the City, this analysis identifies project noise impacts within the context of City thresholds. These are shown in Table 6 below.

Table 6

Exterior Noise Compatibility Guidelines for Noise From All Sources, Including Transportation Noise (24-Hour Day-Night Average [CNEL/Ldn])

Land Use Designation	Completely Compatible	Tentatively Compatible	Normally Compatible	Completely Incompatible
All Residential (Single and multifamily)	Less than 60 dBA	60-70 dBA	70-75 dBA	Greater than 75 dBA
All Commercial	Less than 70 dBA	70-75 dBA	Greater than 75 dBA	None
Public Parks	Less than 65 dBA	65-70 dBA	70-75 dBA	Greater than 75 dBA

[20] U.S. Department of Transportation, "The Noise and Vibration Impact Assessment Manual". September 2018. FTA Report No. 0123 Federal Transit Administration. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Page 113. Accessed February 2023

Completely Compatible – means that the specified land use is satisfactory and both indoor and outdoor environments are pleasant.

Tentatively Compatible – means that noise exposure may be of concern, but common building construction practices will make the indoor living environment acceptable, even for sleeping quarters, and outdoor activities will not be unduly disturbed by noise.

Normally Compatible – means that noise exposure warrants special attention, and new construction or development should generally be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features are included in the design. Careful site planning or exterior barriers may be needed to make the outdoor environment tolerable.

Completely Incompatible – means that the noise exposure is so severe that new construction or development should generally not be undertaken.

For purposes of CEQA, the City identifies a 5 dBA increase in noise levels shall be normally considered to be a significant increase in noise.

RESPONSES

a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact With Mitigation.

Construction

Construction noise would be limited to the period during which the proposed school is under construction and would vary in intensity during the workday depending on the types of equipment in use, and would only occur during daylight hours. Proposed Project construction related activities will involve temporary noise sources and are anticipated to last approximately 14 months. Typical construction related equipment include graders, trenchers, small tractors and excavators. During the proposed Project construction, noise from construction related activities will contribute to the noise environment in the immediate vicinity. Activities involved in construction will generate maximum noise levels, as indicated in Table 7, ranging from 79 to 91 dBA at a distance of 50 feet, without feasible noise control (e.g., mufflers) and ranging from 75 to 80 dBA at a distance of 50 feet, with feasible noise controls.

Table 7

Typical Construction Noise Levels[21]

Type of Equipment	dBA at 50 ft	
	Without Feasible Noise Control	With Feasible Noise Control
Dozer or Tractor	80	75
Excavator	88	80
Scraper	88	80
Front End Loader	79	75
Backhoe	85	75
Grader	85	75
Truck	91	75

The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical and might preclude the kind of construction activities that are to be expected from time to time in urban environments. Most residents of urban areas recognize this reality and expect to hear construction activities on occasion.

Operational

Operational noise associated with the proposed school would be primarily associated with the intermittent sound of children's voices during outdoor recreational activities, school bells signaling the beginning or end of class, and vehicular operations during student drop-off and pick-up periods. Noise generated by such activities would be intermittent, would be predominantly limited to the less noise-sensitive daytime hours, and is common in residential environments.

The proposed school would result in increased vehicle traffic on area roadways. Typically, a doubling of vehicle traffic is required before a noticeable increase (3 dBA, or greater) in traffic noise levels would result. Implementation of the proposed Project would generate approximately 2,236 additional daily trips (See Section XVI – Transportation/Traffic). Vehicle traffic on the adjacent and nearby roadways average several thousand trips per day (according to the City's General Plan Noise Element, Cleveland Avenue averages 9,202 daily trips per day between Granada Drive and Schnoor Street and averages

[21] U.S. Department of Transportation. "The Noise and Vibration Impact Assessment Manual". September 2018. FTA Report No. 0123 Federal Transit Administration. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Page 175. Accessed February 2023.

22,911 daily trips between Schnoor Street and SR 99[22]). Implementation of the proposed Project would not result in doubling of vehicle traffic in the area roadways and as a result would not cause a substantial increase in traffic noise levels along area roadways.

Typical outdoor sources of perceptible ground borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Construction vibrations can be transient, random, or continuous.

The approximate threshold of vibration perception is 65 VdB, while 85 VdB is the vibration acceptable only if there are an infrequent number of events per day. Table 8 describes the typical construction equipment vibration levels.

Table 8
Typical Construction Vibration Levels

Equipment	VdB at 25 ft
Small Bulldozer	58
Jackhammer	79

Vibration from construction activities will be temporary and not exceed the FTA threshold for the nearest residences which are located approximately 100 feet east, south, and west of the proposed Project site.

Although impacts are considered less than significant, implementation of Mitigation Measure NO-1 through NO-2 will ensure that impacts remain ***less than significant with mitigation incorporation.***

Mitigation Measures:

NO-1 Construction activities shall be limited to between 6:00 A.M. and 9:00 P.M. Monday through Friday and between 7:00 A.M. and 5:00 PM on Saturday or Sunday to avoid noise-sensitive hours of the day. Construction activities shall be prohibited on holidays (President's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving, Day after Thanksgiving, Christmas Day, and New Year's Day).

NO-2 The construction contract shall require the construction contractor to ensure that construction equipment noise is minimized by muffling and shielding intakes and exhaust on construction

[22] City of Madera General Plan EIR, page 4.5-9.

equipment (in accordance with the manufacturer's specifications) and by shrouding or shielding impact tools.

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?

No Impact. The Property is approximately 0.5 miles south of the Madera Municipal Airport, however, Caltrans Division of Aeronautics reviewed the subject Property in May 2020 and determined that a school at the subject site is acceptable and does not present a significant risk. In addition, d Therefore, there is ***no impact***.

Mitigation Measures: None are required.

XIV. POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Induce substantial 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)?	☐	☐	☒	☐
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

SETTING

Environmental Setting

According to the most recent Department of Finance the City of Madera's population was 65,843 in January 2022[23]. There were approximately 18,355 total housing units in the City, with approximately 3.72 persons per household. As of 2020 Census, there were approximately 21,764 people under the age of 18 living in Madera.[24]

Regulatory Setting

The proposed Project is being evaluated pursuant to CEQA; however, there are no federal, state or local regulations, plans, programs, and guidelines associated with population or housing that are applicable to the proposed Project.

[23] E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2022. State of California Department of Finance. https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2022/. Accessed February 2023.

[24] Table C1 – Summary Population and Housing Data: 2020, Data for California, Counties, Cities/Towns, and Census Designated Places, Department of Finance. https://dof.ca.gov/wp-content/uploads/Forecasting/Demographics/Documents/2020Census_C1_Summary_RedistrictingFile.xlsx. Accessed February 2023.

RESPONSES

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)?

Less Than Significant Impact. There are no new homes associated with the proposed Project. The relatively minor amount of new employment opportunities that would be created by the proposed Project could be readily filled, for the most part, by the existing employment base, given the City's existing unemployment rates. In addition, the new school may generate new jobs (at the teacher or administrative level) that may attract new residents from outside the area. However, given the availability of housing in and around Madera, it is unlikely that the proposed Project will generate the need for additional housing in the City. The proposed Project will not affect any regional population, housing, or employment projections anticipated by City policy documents. There is ***a less than significant impact.***

Mitigation Measures: None are required.

b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. There are no structures on the Project site and the Project will not otherwise displace any housing. Therefore there is ***no impact***.

Mitigation Measures: None are required.

XV. PUBLIC SERVICES

Would the project:

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

SETTING

Environmental Setting

The proposed Project is the construction and operation of a new TK-8 school campus for approximately 1,100 students and staff, including classroom facilities, a multipurpose building, administrative facilities, playgrounds, play courts, play fields, street improvements, parking facilities, bus loading and unloading zone, student drop-off and pick-up area for parents, and related infrastructure (water, sewer, storm drain) required to serve the site. The site is in an area already served by public service systems. An Infrastructure Analysis Report was prepared for the proposed Project by Blair, Church & Flynn Consulting Engineers. The report can be found in its entirety in Appendix C.

Regulatory Setting

Federal

National Fire Protection Association

The National Fire Protection Association (NFPA) is an international nonprofit organization that provides consensus codes and standards, research, training, and education on fire prevention and public safety. The NFPA develops, publishes, and disseminates more than 300 such codes and standards intended to minimize the possibility and effects of fire and other risks. The NFPA publishes the NFPA 1, Uniform Fire Code, which provides requirements to establish a reasonable level of fire safety and property protection in new and existing buildings.

State

California Fire Code and Building Code

The 2007 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to fire fighters and emergency responders during emergency operations. The provision of the Fire Code includes regulations regarding fire-resistance rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, fire safety during construction and demolition, and wildland urban interface areas.

In addition, the proposed Project is being evaluated pursuant to CEQA.

RESPONSES

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

   Fire protection?

Less than Significant Impact. The proposed Project site will continue to be served by the City of Madera Fire Department. Madera City Fire Department Station #58 is located approximately 0.75 miles northeast of the site. The City of Madera provides two additional fire stations (at 200 S. Schnoor located 1.8 miles southeast and 317 N. Lake located 2.6 miles east). Both stations are manned 24 hours a day. Each station has an engine and there is one mini-pumper that is shared between the two.

No additional fire personnel or equipment are anticipated to serve the Project. The school will be designed per California Department of Education - School Facilities Planning Division and California Department of General Services – Division of State Architect (DSA) fire standards which include adequate emergency fire vehicle access, sprinkler systems, location of fire hydrants, and water pressure requirements. The impact is ***less than significant***.

Police Protection?

Less than Significant Impact. The nearest police station is the Madera County Sheriff's Department located at 2725 Falcon Drive, approximately 0.79 miles north of the site. The City of Madera Police Department is located at 330 S. C Street, approximately 2.7 miles southeast of the site. Staffing for the City police is a ratio of 1.14 officers per 1,000 residents. No additional police personnel or equipment is anticipated. The impact is ***less than significant.***

Schools?

No Impact. The Project itself is construction and operation of a new elementary school. The new school is intended to serve existing and new students in response to population growth in the area and was identified in the Madera Unified School District Facilities Master Plan. The decision to construct the new school is based on enrollment projections and an evaluation of existing facilities needs within the District. The Project would be beneficial to relieve existing and potential (future) overcrowding of other schools in the area, therefore there is ***no impact***.

Parks?

No Impact. Parks in the area include the Lions Town & Country Park located approximately 1.6 miles southeast, and Rotary Dog Park located approximately 1.6 miles to the east. The Project would not result in an increase in demand for parks and recreation facilities because it would not result in a major increase in population. The proposed Project itself includes construction of playgrounds and play courts. In addition, the District generally allows public use of its on-site recreational facilities, thereby providing an increase in recreational space within the City. Accordingly, the proposed Project would have ***no impacts*** on parks.

Other public facilities?

No Impact. The proposed Project is within the land use and growth projections identified in the City's General Plan and other infrastructure studies. The proposed Project, therefore, would not result in increased demand for, or impacts on, other public facilities such as library services. Accordingly, ***no impact*** would occur.

Mitigation Measures: None are required.

XVI. RECREATION

Would the project:	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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SETTING

Environmental Setting

The City of Madera provides its residents several types of parks and recreational facilities. According to the City's General Plan, there are more than 320 acres of parks and recreation areas within the City limits. The City's neighborhood parks are predominately located in the eastern half of the City.

Parks in the area include the Lions Town & Country Park located approximately 1.6 miles southeast, and Rotary Dog Park located approximately 1.6 miles to the east.

Regulatory Setting

The proposed Project is being evaluated pursuant to CEQA; however, there are no additional federal, state or local regulations, plans, programs, and guidelines associated with recreation that are applicable to the proposed Project.

RESPONSES

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?

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?

No Impact. The proposed Project does not include the construction of residential uses and would not directly or indirectly induce population growth. Therefore, the proposed Project would not cause physical deterioration of existing recreational facilities from increased usage or result in the need for new or expanded recreational facilities. The Project itself includes construction of playgrounds and play courts. In addition, the District generally allows public use of its on-site recreational facilities, thereby providing an increase in recreational space within the City. The Project would have ***no impact*** to existing parks.

Mitigation Measures: None are required.

XVII. 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?	☐	☒	☐	☐
b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☐	☒

SETTING

Environmental Setting

The proposed Project is the construction and operation of a new TK-8 school campus for approximately 1,000 students and staff, including classroom facilities, administrative facilities, playgrounds, play courts, parking lots, street improvements, parking facilities, bus loading and unloading zone, student drop-off and pick-up area for parents, and related infrastructure (water, sewer, storm drain) required to serve the site. The Project site is located on an approximately 25.5-acre site, south of Cleveland Avenue (Avenue 15-1/2) between N Westberry Blvd and Avenue 16, in the western part of the City of Madera, Madera County.

Access/Parking/Drop-off

Access to and from the Project site will be from six (6) main access points in total. Two (2) access points are located along the south side of Cleveland Avenue approximately 1,700 and 1,000 feet west of Westberry Boulevard. The Project will have access to the existing streets of Fairway Avenue on the east and west side of the Project, San Phillipe Street on the south side of the Project and San Pietro Drive on the south side of the Projects. Initially, all access points are proposed to be full access.

School Operation

Typical daily operations will likely include a bell schedule from 8am-2:40pm (Monday-Friday). An after-school program will utilize the cafeteria or playfields until 6:00 p.m. (Monday-Friday). The school cafeteria and playfields are typically open to various local groups such as churches, boy scouts, various sports teams, etc. during afterhours and on weekends.

Regulatory Setting

Federal

Several federal regulations govern transportation issues. They include:

- Title 49, CFR, Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- 49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.
- 49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials.

State

State of California Transportation Department Transportation Concept Reports

Each District of the State of California Transportation Department (Caltrans) prepares a Transportation Concept Report (TCR) for every state highway or portion thereof in its jurisdiction. The TCR usually represents the first step in Caltrans' long-range corridor planning process. The purpose of the TCR is to determine how a highway will be developed and managed so that it delivers the targeted LOS and quality of operations that are feasible to attain over a 20-year period, otherwise known as the "route concept" or beyond 20 years, for what is known as the "ultimate concept".

In addition, the proposed Project is being evaluated pursuant to CEQA.

RESPONSES

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

Less than Significant Impact With Mitigation.

An updated Traffic Impact Analysis Report (TIA) was prepared by JLB Traffic Engineering, Inc. (See Appendix D). The results of the TIA are summarized herein:

Study Area and Time Period

The report includes analysis of the following intersections:

1. School Drive / Cleveland Avenue
2. Westberry Boulevard / Cleveland Avenue
3. Granada Drive / Cleveland Avenue
4. Westberry Boulevard / Fairway Avenue
5. Westberry Boulevard / Fairfield Way
6. Granada Drive / Pamela Drive
7. Granada Drive / Riverview Drive

The study time periods include the Project weekday a.m. and p.m. peak hours determined between 7:00 and 9:00 a.m. and between 2:00 and 4:00 p.m. The peak hours are analyzed for the following conditions:

- Existing Conditions;
- Existing Plus Project Conditions;
- Existing Plus Approved and Pending Projects Plus Project; and
- Cumulative (Year 2042) Conditions Without Project.
- Cumulative (Year 2042) Conditions With Project.

Significance Criteria

Policy CI-22 of the City of Madera General Plan requires that LOS C or better be maintained in the vicinity of the Project site.

For purposes of this study, a traffic impact will be recognized if:

- the Project will decrease the LOS below C at an intersection;
- the Project will decrease the LOS from D to E, from D to F, or from E to F;
- the Project will exacerbate the delay at an intersection already operating at a substandard LOS (D, E, or F) by increasing the average delay by 5.0 seconds or more.

While LOS is no longer the criteria of significance for traffic impacts in the state of California, the City of Madera continues to apply congestion-related conditions or requirements for land development projects through planning approval processes outside of CEQA Guidelines in order to continue the implementation of the City of Madera *General Plan* policies.

A queuing deficiency is identified in the existing condition if the calculated 95th-percentile queue length exceeds the storage length. A queuing issue is determined if the Project causes the calculated 95th-percentile queue length to exceed the existing or planned storage capacity of a lane at a signalized intersection. In storage lanes that are already deficient without the Project, a queuing issue is determined if the Project increases the calculated 95th-percentile queue length by at least 25 feet (the average storage length required for one vehicle).

Vehicle Trip Generation

Data provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, are typically used to estimate the number of trips anticipated to be generated by proposed projects. Table 9 presents the trip generation estimates for the Project. It is noted that the trip generation estimates are for average weekday conditions and do not include special events, sporting events, or weekends. At buildout, the proposed Project is estimated to generate approximately 2,236 daily trips, 726 AM peak hour trips and 158 PM peak hour trips.

Table 9
Project Trip Generation

Land Use (ITE Code)	Size	Unit	Daily		AM (7-9) Peak Hour						PM (4-6) Peak Hour					
			Rate	Total	Trip Rate	In %	Out %	In	Out	Total	Trip Rate	In %	Out %	In	Out	Total
Elementary School (520)	800	Students	2.27	1,816	0.74	54	46	320	272	592	0.16	46	54	59	69	128
Middle School (522)	200	Students	2.10	420	0.67	54	46	72	62	134	0.15	48	52	14	16	30
Total Driveway Trips				**2,236**				**392**	**334**	**726**				**73**	**85**	**158**

Tables 10 through 12 present the results of the intersection LOS analyses for Existing Conditions, Existing Plus Approved/Pending Projects Plus Project Conditions, and Cumulative Plus Project (2042) Conditions.

Table 10

Intersection Level of Service Summary – Existing Conditions

ID	Intersection	Intersection Control	AM (7 - 9) Peak Hour		PM (4 - 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	School Drive / Cleveland Avenue	DNE	-	-	-	-
2	Westberry Boulevard / Cleveland Avenue	Two-Way Stop	11.9	B	12.2	B
3	Granada Drive / Cleveland Avenue	All-Way Stop	20.8	C	14.7	B
4	Westberry Boulevard / Fairway Avenue	Two-Way Stop	8.9	A	9.6	A
5	Westberry Boulevard / Fairfield Way	Two-Way Stop	10.2	B	9.8	A
6	Granada Drive / Pamela Drive	Two-Way Stop	23.3	C	15.2	C
7	Granada Drive / Riverview Drive	All-Way Stop	**83.5**	**F**	15.8	C
		All-Way Stop (Improved)	26.9	D	13.7	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Table 11

Intersection Level of Service Summary – Existing Plus Approved/Pending Plus Project Conditions

ID	Intersection	Intersection Control	AM (7 - 9) Peak Hour		PM (4 - 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	School Drive / Cleveland Avenue	One-Way Stop	12.8	B	10.5	B
2	Westberry Boulevard / Cleveland Avenue	Two-Way Stop	**41.4**	**E**	17.1	C
		Two-Way Stop (Improved)	27.2	D	17.1	C
3	Granada Drive / Cleveland Avenue	Traffic Signal	23.1	C	28.9	C
4	Westberry Boulevard / Fairway Avenue	Two-Way Stop	11.9	B	10.5	B
5	Westberry Boulevard / Fairfield Way	Two-Way Stop	11.2	B	10.1	B
6	Granada Drive / Pamela Drive	Two-Way Stop	21.2	C	15.8	C
7	Granada Drive / Riverview Drive	All-Way Stop	**39.1**	**E**	16.3	C
		All-Way Stop (Improved)	17.9	C	14.0	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Table 12
Intersection Level of Service Summary – Cumulative (2042) With-Project Conditions

ID	Intersection	Intersection Control	AM (7 - 9) Peak Hour		PM (4 - 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	School Drive / Cleveland Avenue	One-Way Stop	**>120.0**	**F**	21.0	C
		Two-Way Stop (Improved)	27.6	D	13.2	B
2	Westberry Boulevard / Cleveland Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Traffic Signal (Improved)	28.8	C	34.3	C
3	Granada Drive / Cleveland Avenue	Traffic Signal	32.4	C	34.8	C
4	Westberry Boulevard / Fairway Avenue	Two-Way Stop	20.6	C	15.4	C
5	Westberry Boulevard / Fairfield Way	Two-Way Stop	19.2	C	15.2	C
6	Granada Drive / Pamela Drive	Two-Way Stop	21.8	C	16.1	C
7	Granada Drive / Riverview Drive	All-Way Stop	**41.4**	**E**	16.6	C
		All-Way Stop (Improved)	18.3	C	14.3	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls.
LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street.

DISCUSSION OF IMPACTS AND MITIGATION MEASURES

Existing Conditions

At present, the intersection of Granada Drive at Riverview Drive exceeds its LOS threshold during the AM peak period. It is recommended that the following improvements be considered for implementation to improve the LOS at this intersection.

- Granada Drive / Riverview Drive
  - Stripe a southbound right-turn lane within the available paving width; and
  - Modify the southbound left-through-right lane to a left-through lane.

While this intersection is still projected to exceed the LOS threshold of LOS C by 1.9 seconds during the AM peak only, this minor delay will be short lived for approximately 15 minutes throughout a 24-hour period. Furthermore, with the striped southbound right-turn lane, it is anticipated that this improvement will be satisfactory as volumes increase in future scenarios. This is due to the traffic being dispersed throughout the peak hour more evenly and an increase in the ratio of through movements to turning movements.

Existing Plus Approved/Pending Projects Plus Project Conditions

Under this scenario, the intersections of Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during the AM peak period. It is recommended that the following improvements be considered for implementation to improve the LOS at these intersections.

- Westberry Boulevard / Cleveland Avenue
  - Stripe a northbound left-turn lane within the available paving width; and
  - Modify the northbound left-through-right lane to a through-right lane.
- Granada Drive / Riverview Drive
  - Stripe a southbound right-turn lane within the available paving width; and
  - Modify the southbound left-through-right lane to a left-through lane.

Cumulative Conditions (2042) With Project

Under this scenario, the intersections of School Drive at Cleveland Avenue, Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during one or both peak periods. It is recommended that the following improvements be considered for implementation to improve the LOS at these intersections.

- School Drive / Cleveland Avenue
  - Add a second eastbound through lane with a receiving lane east of Cleveland Avenue; and
  - Add a second westbound through lane with a receiving lane west of Cleveland Avenue.
- Westberry Boulevard / Cleveland Avenue
  - Add a second eastbound through lane with a receiving lane east of Cleveland Avenue;
  - Add a second westbound through lane with a receiving lane west of Cleveland Avenue;
  - Stripe a northbound left-turn lane within the available paving width;
  - Modify the northbound left-through-right lane to a through lane;
  - Stripe a northbound right-run lane within the available paving width;
  - Modify the southbound through-right lane to a through lane;
  - Add a southbound right-turn lane; and
  - Signalize the intersection with protective left-turn phasing in all directions.
- Granada Drive / Riverview Drive
  - Stripe a southbound right-turn lane within the available paving width; and
  - Modify the southbound left-through-right lane to a left-through lane.

Queuing Analysis

Table IX of Appendix D provides a queue length summary for left-turn and right-turn lanes at the study intersections under all study scenarios. The queuing analyses for the study intersections are contained in

the LOS worksheets for the respective scenarios. Appendix D of Appendix D contains the methodologies used to evaluate these intersections. Queuing analyses were completed using SimTraffic output information. Synchro provides both 50th and 95th percentile maximum queue lengths (in feet). According to the *Synchro Studio 11 User Guide*, "the 50th percentile maximum queue is the maximum back of queue on a typical cycle and the 95th percentile queue is the maximum back of queue with 95th percentile volumes" (Cubic ITS, Inc., 2019). The queues shown in Table IX of Appendix D are the 95th percentile queue lengths for the respective lane movements.

The *California Highway Design Manual* (CA HDM) provides guidance for determining deceleration lengths for the left-turn and right-turn lanes based on design speeds. According to the CA HDM, tapers for rightturn lanes are "usually unnecessary since main line traffic need not be shifted laterally to provide space for the right-turn lane. If, in some rare instances, a lateral shift were needed, the approach taper would use the same formula as for a left-turn lane" (Caltrans, 2019). Therefore, a bay taper length pursuant to the CA HDM would need to be added, as necessary, to the recommended storage lengths presented in Table IX of Appendix D.

The storage capacity for the Cumulative Year 2042 plus Project Traffic Conditions shall be based on the SimTraffic output files and engineering judgment. The values in bold presented in Table IX of Appendix D are the projected queue lengths that will likely need to be accommodated by the Cumulative Year 2042 plus Project Traffic Conditions scenario. At the remaining approaches of the study intersections, the existing storage capacity will be sufficient to accommodate the maximum queue.

Pro-Rata Fair Share of Future Transportation Improvements

The Project's fair share percentage impact to study intersections projected to fall below their LOS threshold and which are not covered by an existing impact fee program is provided in Table 13. The Project's fair share percentage impacts were calculated pursuant to the Caltrans Guide for the Preparation of Traffic Impact Studies. The Project's pro-rata fair shares were calculated utilizing the Existing volumes, Cumulative Year 2042 Project Only Trips and Cumulative Year 2042 plus Project volumes. Since the critical peak period for the study facilities was determined to be during the AM peak, the AM peak volumes are utilized to determine the Project's pro-rata fair share.

It is recommended that the Project contribute its equitable fair share as listed in Table 13 for the future improvements necessary to maintain an acceptable LOS. However, fair share contributions should only be made for those facilities or portion thereof currently not funded by the responsible agencies roadway impact fee program(s) or grant funding, as appropriate. For those improvements not presently covered by local and regional roadway impact fee programs or grant funding, it is recommended that the Project contribute its equitable fair share. Payment of the Project's equitable fair share in addition to the local

and regional impact fee programs would satisfy the Project's traffic improvement measures. The Project should contribute a fair share of the cost for the improvements recommended in Mitigation Measures TR-1 and TR-2, which are not fully funded by existing impact fee programs or grant funding. MUSD shall otherwise pay into the City's existing impact fee program (Mitigation Measure TR-3).

Table 13
Project's Fair Share of Future Roadway Improvements

ID	Intersection	Existing Traffic Volumes (AM Peak)	Cumulative Year 2042 plus Project Traffic Volumes (AM Peak)	Cumulative Year 2042 Project Only Trips (AM Peak)	Project's Fair Share (%)
1	School Drive / Cleveland Avenue	230	2,493	518	22.9%
7	Granada Drive / Riverview Drive	1,198	1,246	28	58.3%

Note: Project's Fair Share (%) = ((2042 Project Only Trips) / (Cumulative Year 2042 + Project Traffic Volumes - Existing Traffic Volumes)) x 100

Mitigation Measures

The Project shall be responsible for equitable fair share contribution and/or construction (subject to reimbursement) of the following:

TR-1: School Drive / Cleveland Avenue:

- Add a second eastbound through lane with a receiving lane east of Cleveland Avenue; and
- Add a second westbound through lane with a receiving lane west of Cleveland Avenue.
- Design and construct the intersection under the assumption a signal will be installed. These improvements include:
  - Curb returns
  - Traffic signal poles (no mast arms) and luminaire on the southeast and southwest corners of the intersection.
  - Underground conduit under the permanently paved areas of the intersection

TR-2: Granada Drive / Riverview Drive

- Stripe a southbound right-turn lane within the available paving width; and
- Modify the southbound left-through-right lane to a left-through lane.

TR-3: The Project shall pay into the City of Madera Transportation Facility Impact Fee Program, as applicable. The fee will be calculated and assessed during the building permit process.

With implementation of these mitigation measures, the impact is expected to be ***less than significant***.

Discussion of Safe Routes to School

Kindergarten through 8th grade students in the boundary will be served by the Project. The District will provide busing services to all students that reside beyond 1.0 mile for Kindergarten through 6th grade and 1.5 miles for 7th and 8th grade. As a result, many of the students will likely need to walk, bike or be driven to school. It is recommended that the District work with the City to adopt a safe route to school plan for those that need to walk or bike to school. Figure 5 of the TIA illustrates a draft safe routes to school map. The draft safe routes to school map was prepared based on information provided by the District and field surveys conducted by JLB.

Figure 5 of the TIA identifies preliminary routes to and from the proposed Project site. These preliminary routes include infrastructure such as existing traffic controls, marked crosswalks, existing bike lanes and missing walkways (i.e. barriers to pedestrians). As can be seen on Figure 5 of the TIA, most of the developed area within the one mile no busing zone is well developed with walkways and intersection controls with a few exceptions. The exceptions happen to fall with the project site. As a result, with the development of the Project, there will be walkways to and from school from all residential areas that exist at the time of preparation of the TIA.

Additionally, as residential development takes place, particularly to the north and west of the Project, the City should consider the proposed Project and condition all new development proposals within a 1.5 mile radius to conduct a safe routes to school evaluation from the residential developments to the school sites and have them construct missing gaps in walkways, as applicable.

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

Less than Significant Impact. The City of Madera has not yet adopted any Vehicle Miles Traveled (VMT) guidelines pursuant to Senate Bill 743. Currently, the City of Madera is utilizing the Madera County Transportation Commission (MCTC) screen out maps with supporting language to conduct VMT Analyses. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (TA) published by the Governor's Office of Planning and Research (OPR) was utilized as a reference and guidance document in the preparation of this VMT Analysis.

The TA contains screening criteria that can be used to screen out qualified development projects that meet the adopted criteria from needing to prepare a detailed VMT Analysis. These criteria may be size, map based screening, proximity to transit and affordable housing. In general, development projects that

are consistent with the City of Madera's General Plan and Zoning and that meet one or more of the following criteria can be screened out from a quantitative VMT analysis.

1. Project is a Low Trip Generator (Less than 110 average daily trips)
2. Project is located in a Low VMT Zone displayed on a screen out map
3. Project Located in a Transit Priority Area/High Quality Transit Corridor (within 0.5 miles of a transit stop).
4. Project has Affordable Housing Units

The screening map includes an analysis of those portions of the City that satisfy the standard of reducing VMT by 15% from existing VMT per employee averages within the relevant region. MCTC developed a VMT screening map based on a VMT per capita and VMT per employment measure. Since the Project VMT gets driven by employment and student data, this VMT Analysis makes calculations and observations based on the VMT per employee. This Project falls within a zone (TAZ 286) that can be screened out based on employment.

For projects that are not screened out, a quantitative analysis of VMT impacts must be prepared and compared against the adopted VMT thresholds of significance. These thresholds of significance were developed using the County of Madera as the applicable region and the required reduction of VMT (as stated in the TA) corresponds to contribution to the statewide GHG emission reduction target. In order to reach the statewide GHG reduction target of 15%, Madera County attempts to reduce its GHG emissions by 15%. The method of reducing GHG by 15% is to reduce VMT by 15% as well.

VMT Results

Based on data provided by MUSD, the Project is located within a defined service area generally bound by Avenue 17, the Fresno River, Road 23 and State Route 99. Moreover, the area is currently being served by other schools including Lincoln Elementary School located on the northwest quadrant of the intersection of Westberry Boulevard at Sunset Avenue in the City of Madera, Dixieland Elementary School on the southwest corner of the intersection of Road 19 at Avenue 18½ in the County of Madera and John Adams Elementary School on the northwest corner of the intersection of Pine Street at Sunset Avenue in the City of Madera. The current and proposed boundaries were used to determine the distance that the current students travel to school as well as the distance that the current students will travel to the proposed Project.

At present, the average VMT to existing schools is 4.58 miles (round-trip). Upon completion of the Project, the average VMT is projected to be 2.12 miles (round-trip). Therefore, the Project is anticipated to reduce current VMT generated by students by 53.7% ((4.58-2.12)/4.58). Considering the Project is located in an area mostly surrounded by residential land uses with adequate walking facilities, it is

anticipated that a considerable number of children will walk and bike to the Project site further reducing the Project's transportation VMT impact. As a result, the Project is projected to create a less than significant VMT impact.

Mitigation Measures: None are required.

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

Less Than Significant Impact. No roadway design features associated with this proposed Project would result in an increase in hazards due to a design feature or be an incompatible use. See also Response XVI-a. There is a ***less than significant impact.***

Mitigation Measures: None are required.

d. Result in inadequate emergency access?

Less Than Significant Impact. Access to and from the Project site will be from six (6) main access points in total. Two (2) access points are located along the south side of Cleveland Avenue approximately 1,700 and 1,000 feet west of Westberry Boulevard. The Project will have access to the existing streets of Fairway Avenue on the east and west side of the Project, San Phillipe Street on the south side of the Project and San Pietro Drive on the south side of the Projects. Initially, all access points are proposed to be full access. By the Cumulative 2042 Year plus Project Scenario, it is recommended that access to the westerly driveway to Cleveland Avenue be limited to right-in and right-out access and that the School Drive access point to Cleveland Avenue be limited to left-in, right-in and right-out. Emergency access will remain at all times. There is a ***less than significant impact.***

Mitigation Measures: None are required.

XVIII. TRIBAL 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 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), or	☐	☐	☒	☐
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 the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Regulatory Setting

Federal

The National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) established federal regulations for the purpose of protecting significant cultural resources. The legislation established the National Register of Historic Places and the National Historic Landmarks Program. It mandated the establishment of the Office of Historic Preservation, responsible for implementing statewide historic preservation programs in each state.

State

California State Office of Historic Preservation (OHP)

The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), appointed by the governor, and the State Historical Resources Commission, a nine-member state review board appointed by the governor.

Among OHP's responsibilities are identifying, evaluating, and registering historic properties; and ensuring compliance with federal and state regulations. The OHP administers the State Register of Historical Resources and maintains the California Historical Resources Information System (CHRIS) database. The CHRIS database includes statewide Historical Resources Inventory (HRI) database. The records are maintained and managed under contract by eleven independent regional Information Centers. Tulare, Fresno, Kern, Kings and Madera counties are served by the Southern San Joaquin Valley Information Center (Center), located in Bakersfield, CA. The Center provides information on known historic and cultural resources to governments, institutions and individuals.[25]

A historical resource may be eligible for inclusion in the California Register of Historical Resources (CRHR) if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important to our past;

[25] California Office of Historic Preservation, Mission and Responsibilities, https://ohp.parks.ca.gov/?page_id=1066, Accessed February 2023.

- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.[26]

Tribal Consultation Requirements: SB 18 (Burton, 2004) [27]

On September 29, 2004, Governor Schwarzenegger signed Senate Bill 18, Tribal Consultation Guidelines, into law. This bill amended Section 815.3 of the Civil Code, to amend Sections 65040.2, 65092, 65351, 65352, and 65560 of, and to add Sections 65352.3, 65352.4, and 65562.2 to, the Government Code, relating to traditional tribal cultural Places. SB 18, enacted March 1, 2005, creates a mechanism for California Native American Tribes to identify culturally significant sites that are located within public or private lands within the city or county's jurisdiction. SB 18 requires cities and counties to contact, and offer to consult with, California Native American Tribes before adopting or amending a General Plan, a Specific Plan, or when designating land as Open Space, for the purpose of protecting Native American Cultural Places (PRC 5097.9 and 5097.993). The Native American Heritage Commission (NAHC) provides local governments with a consultation list of tribal governments with traditional lands or cultural places located within the Project Area of Potential Effect. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe.

Tribal Consultation Requirements: AB 52 (Gatto, 2014)[28]

This bill was approved by Governor Brown on September 25, 2014 and became effective July 1, 2015. This bill amended Section 5097.94 of, and to add Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3 to, the Public Resources Code, relating to Native Americans. The bill specifies that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. This bill requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated (can be a tribe anywhere within the State of California) with the geographic area of the proposed project, if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project.

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[26] California Office of Historic Preservation, California Register of Historical Resources: Criteria for Designation. https://ohp.parks.ca.gov/?page_id=21238. Accessed February 2023.

[27] Senate Bill No. 18, Chapter 905. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200320040SB18. Accessed February 2023.

[28] Assembly Bill No. 52, Chapter 532. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB52. Accessed February 2023.

Existing law establishes the Native American Heritage Commission (NAHC) and vests the commission with specified powers and duties. This bill required the NAHC to provide each California Native American tribe, as defined, on or before July 1, 2016, with a list of all public agencies that may be a lead agency within the geographic area in which the tribe is traditionally and culturally affiliated, the contact information of those agencies, and information on how the tribe may request those public agencies to notify the tribe of projects within the jurisdiction of those public agencies for the purposes of requesting consultation.

The NAHC provides protection to Native American burials from vandalism and inadvertent destruction, provides a procedure for the notification of most likely descendants regarding the discovery of Native American human remains and associated grave goods, brings legal action to prevent severe and irreparable damage to sacred shrines, ceremonial sites, sanctified cemeteries and place of worship on public property, and maintains an inventory of sacred places.[29]

The NAHC performs a Sacred Lands File search for sites located on or near the Project site upon request. The NAHC also provides local governments with a consultation list of tribal governments with traditional lands or cultural places located within the Project Area of Potential Effect. The District sent letters to the tribal governments listed by the NAHC on November 2, 2022 as required by AB 52.

RESPONSES

a. 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), or

   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 the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

[29] Native American Heritage Commission, About the Native American Heritage Commission http://nahc.ca.gov/about/. Accessed August 2022.

Less than Significant Impact. A Tribal Cultural Resource (TCR) is defined under Public Resources Code section 21074 as a site, feature, place, cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that are either included and that is listed or eligible for inclusion in the California Register of Historic Resources or in a local register of historical resources, or if the MUSD, acting as the Lead Agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR. As discussed above, under Section V, Cultural Resources, criteria (b) and (d), no known archeological resources, ethnographic sites or Native American remains are located on the proposed Project site. As discussed under criterion (b) implementation of standard protection measures outlined in the City's General Plan EIR would ensure that impacts to unknown archaeological deposits, including TCRs, remains at a less than significant level. As discussed under criterion (d), compliance with California Health and Safety Code Section 7050.5 would reduce the likelihood of disturbing or discovering human remains, including those of Native Americans. In addition, the City provided consultation letters to the Tribes on the NAHC list that was provided to the City. As of August 2023, no response has been received from any of the Tribes. Any impacts to TCR would be considered ***less than significant***.

Mitigation Measures: No additional measures are required.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
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?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

An Infrastructure Analysis Report was prepared for the proposed Project by Blair, Church & Flynn Consulting Engineers. The following discussion and impacts are directly referencing this report. The report can be found in its entirety in Appendix C.

SETTING

Environmental Setting

The City of Madera provides domestic water to the Project site through a network of groundwater wells and pumps and water distribution system. The sole source of water supply for the City of Madera is the Madera sub-basin of the San Joaquin Valley Groundwater Basin (Akel Engineering Group, Inc 2014W).

The Madera County Integrated Water Management Plan (Madera IRWM) encourages all of the groundwater users in Madera County to cooperate in reducing the overdraft. The City has developed specific plans to reduce their use of groundwater through implementation of water meters to encourage conservation by users and the percolation of treated wastewater for extraction by the Madera Irrigation District for farm irrigation uses. They have the potential to further reduce groundwater depletion through the implementation of a groundwater recharge program that uses surface water supplies from the San Joaquin River and the Fresno River (Akel Engineering Group, Inc 2014W).

Well numbers 25, 29, and 32 are the three closest wells to the proposed project location. The quality of the water from the aquifer is considered to be of good quality and does not require additional treatment at this time (Akel Engineering Group, Inc 2014W).

The City of Madera provides wastewater collection, treatment and disposal for the wastewater generated by the Project site. Wastewater collection is provided through a series of existing sanitary sewer mains and trunk sewers that convey wastewater from the Project and areas surrounding the Project to the existing wastewater treatment plant. Treatment and disposal are provided at the City's Wastewater Treatment Plant (WWTP) located at 13048 Road 21½, west of the City of Madera. This section discusses the capacity of the existing sanitary sewer collection system, the capacity of the WWTP, the expected demand from the Project, and the evaluation of the impacts and comparison of those impacts to thresholds of significance.

The wastewater treatment plant provides primary and secondary treatment and was upgraded to a capacity of 10.1 MGD in 2005. As of 2018 the average flow into the wastewater treatment plant was 4.84 MGD and had a maximum flow rate of 7.91 MGD (Akel Engineering Group, Inc 2014W). Given Madera's wastewater treatment system was designed to accommodate the development of the project site in accordance with the Master-Planned land use of single family residential, and that the proposed school is estimated to generate 570 gpd/acre less than the Master-Planned land use, then the currently existing

wastewater infrastructure constructed per the Sanitary Sewer System Master Plan and the future facilities to be built per the Master Plan will have capacity for the proposed project's wastewater generation, including the wastewater treatment facility.

Regulatory Setting

State

State Water Resources Control Board (SWRCB)

Waste Discharge Requirements Program. State regulations pertaining to the treatment, storage, processing, or disposal of solid waste are found in Title 27, CCR, Section 20005 et seq. (hereafter Title 27). In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 2744. Several SWRCB programs are administered under the WDR Program, including the Sanitary Sewer Order and recycled water programs.

National Pollutant Discharge Elimination System (NPDES) Permit

As authorized by the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NDPES) Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. In California, it is the responsibility of Regional Water Quality Control Boards (RWQCB) to preserve and enhance the quality of the state's waters through the development of water quality control plans and the issuance of waste discharge requirements (WDRs). WDRs for discharges to surface waters also serve as NPDES permits. Madera County is within the Central Valley RWQCB's jurisdiction.

In addition, the proposed Project is being evaluated pursuant to CEQA.

RESPONSES

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact.

Wastewater Treatment

The City of Madera provides wastewater collection, treatment and disposal for the wastewater generated by the Project site. Wastewater collection is provided through a series of existing sanitary sewer mains and trunk sewers that convey wastewater from the Project and areas surrounding the Project to the existing wastewater treatment plant. Treatment and disposal are provided at the City's Wastewater Treatment Plant (WWTP) located at 13048 Road 21½, west of the City of Madera. Compliance with conditions or permit requirements established by the City as well as water discharge requirements outlined by the Central Valley RWQCB would ensure that wastewater discharges coming from the proposed Project site and treated by the WWTF system would not exceed applicable Central Valley RWQCB wastewater treatment requirements.

The campus water consumption uses will include sinks, urinals, toilets, and landscape irrigation water, of which only sinks, urinals, and toilets will contribute to the wastewater system. Cooling water may be used depending on the Heating, Ventilation, and Air Conditioning (HVAC) system installed on the campus, but it will not contribute to the wastewater system. Food will not be prepared nor will dishes be washed at the campus. Showers will not be provided on the campus either. Therefore, these uses will not be sources of wastewater.

The proposed Project will produce an estimated 680 gpd/acre of wastewater based on a projected 1,000 students and staff, a project area of 15-acres, and the typical wastewater production per student of 10.2 gpd for a campus with sinks, urinals, and toilets only (Gleick, et al. 2003). This is down from the estimated 1,250 gpd/acre for the Master-Planned land use of low density residential which has a 1,200 gpd/acre wastewater discharge rate; the proposed school will produce just over half of the wastewater projected for the Master-Planned land use (Akel Engineering Group, Inc 2014W).

In addition, service to the site will be provided by constructing a sanitary sewer service line from an existing sewer main. The existing sewer mains in the vicinity of the proposed Project site include an 8-inch diameter sanitary sewer main in Fairway Avenue on the east side of the proposed Project site, and a 15-inch sanitary sewer main in Running Brook Street just south of the site, both of which serve the surrounding housing developments and eventually discharge into the Westberry Trunk sewer, an

existing 33-inch diameter sanitary sewer located in W Westberry Blvd. There is an existing sewer lift station near the intersection of San Pietro Drive and Fairfield Way that helps convey the wastewater collected from the developments to the Westberry Trunk sewer. The Westberry Trunk connects to the Pecan Trunk which delivers the sewage to Madera's wastewater treatment plant.

Per the Links Ranch Technical Memorandum, the Sanitary Sewer System Master Plan included the project site (defined as "Villa de Roma") as tributary to the Westberry Trunk, indicating that the Westberry Trunk has sufficient capacity for the project site as defined by the Master Plan as low volume residential. There is a Master-Planned trunk sewer in Road 23 west of the proposed school, but the project site was not included as tributary to that future trunk as part of the Links Ranch Technical Memorandum or the Sanitary Sewer System Master Plan. Since the proposed school will result in a lower rate of wastewater discharge, the Master-Planned facilities will be sufficient to accommodate the proposed project. However, the existing sewer mains and lift station conveying wastewater from the existing developments to the Westberry Trunk were not designed as part of the Sanitary Sewer System Master Plan and will need to be assessed to determine if they have sufficient capacity to accommodate the flows from the proposed Project. If not, new wastewater collection facilities will need to be constructed to convey the school's wastewater to the Westberry Trunk. Materials for the services will be PVC pipe. The service line will be installed in a trench that will be excavated, backfilled, and compacted. Temporary pavement will be installed where pavement has been removed to install all required appurtenances. Permanent pavement will be installed with street improvements to be constructed by the proposed Project.

A new sanitary sewer collection system and service will be required to serve the school; the service will either tie into the 8-inch diameter sewer main in Fairway Avenue or the 15-inch diameter sewer main in Running Brook St. The Master-Planned land use for the project site is single-family residential, which has an estimated wastewater generation rate of 1,250 gpd/acre, while the proposed land use of a school site has a wastewater generation rate of 680 gpd/acre. Assuming the sewer system was constructed in line with the Sanitary Sewer System Master Plan this would indicate there is capacity for the school's wastewater production. The existing sewer mains should be evaluated to ensure they have sufficient capacity to accommodate the project flows. The exact location of the proposed service is unknown and will need to be determined by the School District with input and approval from the City of Madera. Tapping into the Running Brook Street sewer main will likely require an on-site sewer lift station to be owned and operated by the School District due to the difference in elevation between the proposed school buildings and the existing sewer main. The proposed on-site buildings are roughly 1,500 feet from the existing 15-inch main in Running Brook St, and sewer laterals typically require a minimum slope of 2%. The sewer main in Running Brook St is at an approximate depth of 9'; assuming a 1,500-foot-long lateral, this would result in a minimum of 30' of elevation loss. Comparatively, the existing sewer main

in Fairway Ave is at an approximate depth of 7' and would likely require a significantly shorter service at less than 100-feet in length. The Sanitary Sewer System Master Plan does not indicate where the service should be connected for the project site, and thus the service location will need to be determined by the School District in coordination with the City of Madera.

Given the nature of the wastewater generated by the Project (sinks, urinals, toilets, etc.) it is not anticipated that the quality of effluent will result in exceedance of RWQCB requirements. The site does not include kitchen or dishwashing facilities and therefore the type of wastewater generated is limited to bathroom related discharges.

Additionally, there will be no discharge to any surface or groundwater source. As such, the proposed Project will not violate any RWQCB discharge requirements.

Natural Gas

Underground natural gas is available in the project vicinity. PG&E did not report that there was insufficient capacity within their existing infrastructure to provide natural gas service to the site. There are existing gas mains in the area including in Fairway Ave, San Philippe Dr, and San Pietro Dr. these include 2-inch mains in Fairway Ave and San Pietro Dr, a 1-inch main in San Phillipe, and an 8-inch main in Cleveland Avenue. PG&E will design the required gas service for the project. The School District may elect to have PG&E construct the facilities or have them constructed by their contractor to be inspected and approved by PG&E. PG&E will ultimately own and maintain the gas service from the main to the meter.

Natural gas service to the site will be provided by constructing a service line from one of the existing natural gas distribution mains adjacent to the campus. The Madera Master Plan does not indicate where the service should be connected for the project site, and thus the service location will need to be determined by the School District in coordination with the City of Madera. Materials for the service will be PVC pipe or High-Density Polyethylene (HDPE) pipe. The service line will be installed in a trench that will be excavated, backfilled, and compacted. Temporary pavement will be installed where pavement has been removed to install all required appurtenances. Permanent pavement will be installed with street improvements to be constructed by the proposed Project.

Electrical Power

Underground and overhead electrical services are available in the project vicinity. PG&E did not report that there was insufficient capacity within their existing infrastructure to provide electrical service to the site. There is an overhead 12 kV electrical line located along the east side of the project location running between the project site and Camino Lane, and there is a 12 kV underground line in San Pietro Dr. PG&E

will design the required primary electrical service, transformer, and secondary electrical line to the service meter for the project. The School District may elect to have PG&E construct the facilities or have them constructed by their contractor and inspected by PG&E. PG&E will ultimately own and maintain the electrical line and service from the main to the meter.

Communications

The School District utilizes AT&T as their telephone and data/internet provider. Underground service is available in Cleveland Avenue on the north side of the project site. AT&T did not report that there was insufficient capacity within their existing infrastructure to provide telephone service to the site. Underground fiber optic service is available as well. AT&T will ultimately own and maintain the telephone and data lines as well.

This proposed Project is not expected to require the installation of new off-site facilities to meet the natural gas, electrical, telephone, data, or cable television needs of the project. None of these utilities are expected to be adversely impacted by the proposed Project. The proposed Project will require the construction of gas, electric, communications and TV lines to connect to existing facilities and services in the vicinity of the site. The impact will be ***less than significant***.

Mitigation Measures: None are required.

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

Less than Significant Impact. The City of Madera provides domestic water to the Project site through a network of groundwater wells and pumps and water distribution system. The campus consumptive water uses will include sinks, urinals, toilets, and landscape irrigation. Water may be required for a variety of ancillary uses around campus; however, these demands will not significantly impact the overall demand of the site. Demands provided by the students & staff will comprise the majority of water demand for the site at approximately 57% and irrigation will make up the rest requiring a share of roughly 43% of the site's water demand while school is in session.

Service to the site will be provided by constructing a domestic water service, an irrigation service, and a fire service; the domestic and fire services may share a trench to save on labor and earthwork costs. There is an existing 12-inch water main in Cleveland Avenue along the northern border of the project site, and there is a 12-inch water main in Running Brook Street just south of the project site. The water services (domestic, fire, and irrigation) will either connect to the existing 12-inch Cleveland Avenue water main or the existing 12-inch Running Brook Street water main; it will be up to the School District to work with

the City of Madera to determine exact service locations for each service type. It is assumed that the water main extensions for each service will be generally located within paved areas for street improvements, and the service materials (e.g. water meters, backflow preventers, etc.) will be placed at a location to be decided upon by the School District and the City of Madera. Materials for the services will be Polyvinyl Chloride (PVC) pipe. The service lines will be installed in trenches that will be excavated, backfilled, and compacted in compliance with Madera City standards. Temporary pavement will be installed where pavement has been removed in streets to install the water services. Permanent pavement will be installed with the street improvements for the campus. Water meters and backflow prevention devices will be installed for the domestic and irrigation water services. The fire service will be installed with backflow prevention and a fire detection check valve.

With the construction of the TK-8 school following recent housing developments in the area, the water system for the surrounding area has been constructed. Wells 25, 29 and 32 are in service and are connected to the water main distribution grid system. The water main distribution grid system consists largely of 12-inch diameter pipelines which are available to provide service to the site (Akel Engineering Group, Inc 2014W). However, the Madera Water Master Plan includes the construction of several new wells in the area of the project site – GW-15 near the intersection of Cleveland Avenue and Avenue 16, GW-16 north of the intersection of Cleveland Avenue and Avenue 16, and GW-4 near the intersection of Cleveland Avenue and Granada Drive – as well as several new 8- and 12-inch water mains in the vicinity of the proposed Project site as requirements for buildout of the Master Plan.

Additionally, a technical memorandum was prepared to complete hydraulic modeling of the existing and planned water system for development of the area surrounding and including the project site (Links Ranch Technical Memorandum, Akel Engineering Group, Inc. 2022). In this memorandum, the proposed Project site is known as "Villa de Roma," and analyzed as a residential land use classification. It was recommended that for future development if the area, at least one (1) new groundwater well be constructed to meet the projected water demands.

Per utility drawings obtained for the project area, a number of 8- and 12-inch water mains have been installed to serve the surrounding housing developments, however the City of Madera has confirmed that no new wells in the area of the project have been constructed, though at least one new well is planned for future construction. The schedule for construction of Master-Planned water facilities is unknown, and thus additional analysis and hydraulic modeling will be required of the project is constructed prior to the Master-Planned infrastructure.

The proposed Project is estimated to have a domestic water demand of 2,800 gpd/acre based on 1,100 students, a project area of 15-acres, and a daily demand per student of 38.2 gpd/student (Gleick, et al. 2003). The Water System Master Plan assigned the project site a land use designation of low density

residential, which has an average water demand of 2,850 gpd/acre (Akel Engineering Group, Inc 2014W). This means the proposed school will reduce the overall demand of water for the site compared to the Master Planned use by 50 gpd/acre. Additionally, the school year typically has 180 days with class in session, meaning there are 185 days of the year where the demand for the school site is significantly lower than the typical demand, and the demand for the Master-Planned land use classification.

If all Master-Planned water infrastructure is constructed, the project will not require the construction of any additional off-site water distribution, storage, or supply systems; the proposed Project will have a lower water demand than the Master-Planned land use, thus the Master-Planned water facilities will be sufficient to meet the school's water demand. However, the schedule for construction of the Master Planned utilities is unknown, and per the City of Madera, a new groundwater well will be constructed in the future per the Water System Master Plan. If the proposed school is planned to be constructed prior to build-out of the Water System Master Plan for the area, then further analysis and hydraulic modeling are required to determine if additional water supply facilities are needed to serve the school.

The proposed Project will construct service lines from existing 12-inch diameter water mains in either Cleveland Avenue or San Phillipe to serve the proposed school; the exact locations, size, and alignment of such services will be determined by the School District with approval from the City of Madera.

Therefore, the proposed Project will not result in additional groundwater use that was not already accounted for by the City. As such, there is ***a less than significant impact*** to this impact area.

Mitigation Measures: None are required.

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

Less than Significant Impact. Operationally, the City of Madera will provide wastewater collection, treatment and disposal for the wastewater generated by the Project site. Wastewater collection is provided through a series of existing sanitary sewer mains and trunk sewers that convey wastewater from the Project and areas surrounding the Project to the existing wastewater treatment plant. Treatment and disposal are provided at the City's Wastewater Treatment Plant (WWTP) located at 13048 Road 21½, west of the City of Madera.

A new sanitary sewer collection system and service will be required to serve the school; the service will either tie into the 8-inch diameter sewer main in Fairway Avenue or the 15-inch diameter sewer main in Running Brook St. The Master-Planned land use for the project site is single-family residential, which

has an estimated wastewater generation rate of 1,250 gpd/acre, while the proposed land use of a school site has a wastewater generation rate of 680 gpd/acre. Assuming the sewer system was constructed in line with the Sanitary Sewer System Master Plan this would indicate there is capacity for the school's wastewater production.

The wastewater treatment plant provides primary and secondary treatment and was upgraded to a capacity of 10.1 MGD in 2005. As of 2018 the average flow into the wastewater treatment plant was 4.84 MGD and had a maximum flow rate of 7.91 MGD (Akel Engineering Group, Inc 2014W). Given Madera's wastewater treatment system was designed to accommodate the development of the project site in accordance with the Master-Planned land use of single family residential, and that the proposed school is estimated to generate 570 gpd/acre less than the Master-Planned land use, then the currently existing wastewater infrastructure constructed per the Sanitary Sewer System Master Plan and the future facilities to be built per the Master Plan will have capacity for the proposed project's wastewater generation, including the wastewater treatment facility.

The campus consumptive water uses will include sinks, urinals, toilets, and landscape irrigation water, of which only sinks, urinals, and toilets will contribute to the wastewater system. Cooling water may be used depending on the Heating, Ventilation, and Air Conditioning (HVAC) system installed on the campus, but it will not contribute to the wastewater system. Food will not be prepared nor will dishes be washed at the campus. Showers will not be provided on the campus either. Therefore, these uses will not be sources of wastewater.

Given the nature of the wastewater generated by the Project (sinks, urinals, toilets, etc.) it is not anticipated that the quality of effluent will result in exceedance of RWQCB requirements nor will it impact any waste discharge requirements. The site does not include kitchen or dishwashing facilities and therefore the type of wastewater generated is limited to bathroom related discharges.

As such, the proposed Project will not violate any water quality standards and will not impact waste discharge requirements. The impact will be ***less than significant***.

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?

Less Than Significant Impact. The proposed Project would be required to comply with all federal, State, and local regulations related to solid waste. Furthermore, the proposed Project would be required to comply with all standards related to solid waste diversion, reduction, and recycling during Project

construction and operation. The proposed Project will comply with all federal, state and local statutes and regulations related to solid waste. As such, any impacts would be ***less than significant.***

Proposed Project construction and operation will generate solid waste. Solid waste from the site during operation, as well as any construction debris that is not recycled will likely be received at the Fairmead Landfill at 21739 Road 19 in Chowchilla, CA. The Landfill is operated by Caglia Environmental and is the landfill that is used by the City of Madera for their municipal waste. Based on information provided on their website (www.cagliaenvironmental.com), the site has sufficient capacity to serve the site and the area for decades to come. Any impacts will be ***less than significant.***

Mitigation Measures: None are required.

e. Comply with federal, state, and local statutes and regulations related to solid waste?

Less than Significant Impact. See Response d, above. The proposed Project will comply with all federal, state and local statutes and regulations related to solid waste. As such, any impacts would be ***less than significant.***

Mitigation Measures: None are required.

XX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
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?	☐	☐	☒	☐

RESPONSES

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

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?

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

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?

Less Than Significant Impact. The proposed Project is located in an area developed with residential and agricultural uses, which precludes the risk of wildfire. The area is flat in nature which would limit the risk of downslope flooding and landslides, and limit any wildfire spread.

To receive building permits, the proposed Project would be required to be in compliance with the adopted emergency response plan. As such, any wildfire risk to the project structures or people would be ***less than significant.***

Mitigation Measures: None are required.

XX. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

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

RESPONSES

a. <u>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</u>

the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the proposed Project is not expected to have substantial impact on the environment or on any resources identified in the Initial Study. Mitigation measures have been incorporated in the Project design to reduce all potentially significant impacts to ***less than significant***.

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)?

Less than Significant Impact. CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Due to the nature of the Project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable. The proposed Project would not contribute substantially to adverse cumulative conditions, or create any substantial indirect impacts (i.e., increase in population could lead to an increase need for housing, increase in traffic, air pollutants, etc). The impact is ***less than significant***.

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

Less than Significant Impact With Mitigation. The analyses of environmental issues contained in this Initial Study indicate that the Project is not expected to have substantial impact on human beings, either directly or indirectly. Mitigation measures have been incorporated in the Project design to reduce all potentially significant impacts to ***less than significant.***

Chapter 4

MITIGATION MONITORING & REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the King Husein New School Project. The MMRP lists mitigation measures recommended in the IS/MND for the proposed Project and identifies monitoring and reporting requirements as well as conditions recommended by responsible agencies who commented on the Project.

The first column of the Table identifies the mitigation measure. The second column, entitled "Party Responsible for Implementing Mitigation," names the party responsible for carrying out the required action. The third column, "Implementation Timing," identifies the time the mitigation measure should be initiated. The fourth column, "Party Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last column will be used by the Madera Unified School District to ensure that individual mitigation measures have been monitored.

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
Biological Resources				
BIO-1: Protect Nesting Swainson's hawks 1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August. 2. If it is not possible to schedule construction between September and February, a qualified biologist shall conduct surveys for Swainson's hawk in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SWTAC 2000, Appendix D). These methods require six surveys, three in each of the two survey periods, prior to project initiation. Surveys shall be conducted within a minimum 0.5-mile radius around the Project site. 3. If an active Swainson's hawk nest is found within 0.5 miles of the Project site, and the qualified biologist determines that Project activities would disrupt the nesting birds, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.	Madera USD	Prior to and/or during construction	Madera USD and construction contractor	
BIO-2: Compensate for loss of Swainson's hawk foraging habitat. Compensate for loss of Swainson's hawk foraging	Madera USD	Prior to and/or during construction	Madera USD and construction contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
habitat (i.e., grassland on the Project site) in accordance with the CDFW *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (CDFG 1994, Appendix B of Appendix A). The CDFW requires that projects adversely affecting Swainson's hawk foraging habitat provide Habitat Management (HM) lands to the department. Projects within 1 mile of an active nest shall provide one acre of HM lands for each acre of development authorized (1:1 ratio). Projects within 5 miles of an active nest but greater than 1 mile from the nest shall provide 0.75 acres of HM lands for each acre of urban development authorized (0.75:1 ratio). And projects within 10 miles of an active nest but greater than 5 miles from an active nest shall provide 0.5 acres of HM lands for each acre of urban development authorized (0.5:1 ratio). No compensation is required if an active nest is not found within 10 miles of the Project site. The nearest nest is determined using methods identified in Mitigation Measure BIO1 during the nesting season before or during construction.				
BIO-3: Protect San Joaquin kit fox. To protect San Joaquin kit fox, a qualified biologist shall conduct a preconstruction survey within 30 days prior to the start of ground-disturbing activities to identify potential dens (burrows larger than 4 inches in diameter) in suitable land cover types on and within 250 feet of the Project site. If potential dens for San Joaquin kit fox are present, their disturbance and destruction shall be avoided. Exclusion zones shall be implemented based on the type of den and current	Madera USD	Prior to and/or during construction	Madera USD and construction contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
use: Potential Den—50 feet; Known Den—100 feet; Natal or Pupping Den—to be determined on a case-by-case basis in coordination with USFWS and CDFW. All pipes greater than 4 inches in diameter stored on the construction site shall be capped, and exit ramps shall be installed in trenches and other excavations to avoid direct mortality. When possible, construction shall be conducted outside of the breeding season from October 1 to November 30. If den avoidance is not possible, procedures in *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior or During Ground Disturbance* (USFWS 2011) shall be followed.				
BIO-4: Protect burrowing owl. 1. Conduct focused burrowing owl surveys to assess the presence/absence of burrowing owl in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1997). These involve conducting four pre-construction survey visits. 2. If a burrowing owl or sign of burrowing owl use (e.g., feathers, guano, pellets) is detected on or within 500 feet of the Project site, and the qualified biologist determines that Project activities would disrupt the owl(s), a construction-free buffer, limited operating period, or passive relocation shall be implemented in consultation with the CDFW.	Allensworth CSD	Prior to and/or during construction	Allensworth CSD and construction contractor	
Cultural Resources				

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
CUL-1: The following measures shall be implemented: • Before initiation of construction or ground-disturbing activities associated with the Project, MUSD shall require all construction personnel to be alerted to the possibility of buried cultural resources, including historic, archeological and paleontological resources; • The general contractor and its supervisory staff shall be responsible for monitoring the construction Project for disturbance of cultural resources; and • If a potentially significant historical, archaeological, or paleontological resource, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains or trash deposits are encountered during subsurface construction activities (i.e., trenching, grading), all construction activities within a 100-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation (DPR) forms. The archaeologist shall determine whether the	Madera USD	Prior to and/or during construction	Madera USD and construction contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
item requires further study. If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under California Environmental Quality Act, the archaeologist shall recommend feasible mitigation measures, which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. MUSD shall implement said measures.				
CUL-2 MUSD will incorporate into the construction contract(s) a provision that in the event a fossil or fossil formations are discovered during any subsurface construction activities for the proposed Project (i.e., trenching, grading), all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at MUSD, who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under CEQA, MUSD shall implement those measures, which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code section 21083.2.	Madera USD	Prior to and/or during construction	Madera USD and construction contractor	
Noise				
NO-1 Construction activities shall be limited to between	Madera USD	During	Madera USD	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
6:00 A.M. and 9:00 P.M. Monday through Friday and between 7:00 A.M. and 5:00 PM on Saturday or Sunday to avoid noise-sensitive hours of the day. Construction activities shall be prohibited on holidays (President's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving, Day after Thanksgiving, Christmas Day, and New Year's Day).		construction	and construction contractor	
NO-2 The construction contract shall require the construction contractor to ensure that construction equipment noise is minimized by muffling and shielding intakes and exhaust on construction equipment (in accordance with the manufacturer's specifications) and by shrouding or shielding impact tools.	Madera USD	During construction	Madera USD and construction contractor	
Transportation / Traffic				
TR-1: School Drive / Cleveland Avenue: ▪ Add a second eastbound through lane with a receiving lane east of Cleveland Avenue; and ▪ Add a second westbound through lane with a receiving lane west of Cleveland Avenue. ▪ Design and construct the intersection under the assumption a signal will be installed. These improvements include: o Curb returns o Traffic signal poles (no mast arms) and luminaire on the southeast and southwest corners of the intersection. o Underground conduit under the permanently paved areas of the	Madera USD	Ongoing	Madera USD	

Mitigation Measure	Party responsible for Implementing Mitigation	Implementation Timing	Party responsible for Monitoring	Verification (name/date)
intersection				
TR-2: Granada Drive / Riverview Drive ▪ Stripe a southbound right-turn lane within the available paving width; and ▪ Modify the southbound left-through-right lane to a left-through lane.	Madera USD	Ongoing	Madera USD	
TR-3: The Project shall pay into the City of Madera Transportation Facility Impact Fee Program, as applicable. The fee will be calculated and assessed during the building permit process.				

Appendices

Appendix A

Biological Assessment

BIOLOGICAL RESOURCE EVALUATION

May 2022

Madera K-8 School Project
MADERA COUNTY, CALIFORNIA

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Executive Summary

Madera Unified School District proposes to construct a new K-8 school in Madera, Madera County, California. The proposed development project (Project) will involve construction on an 18.7-acre parcel that currently supports disturbed grassland.

To evaluate whether the Project may affect biological resources under California Environmental Quality Act (CEQA) purview, we (1) obtained lists of special-status species from the United States Fish and Wildlife Service, the California Department of Fish and Wildlife, and the California Native Plant Society; (2) reviewed other relevant background information such as aerial images and topographic maps; and (3) conducted a field reconnaissance survey at the Project site.

This biological resource evaluation summarizes (1) existing biological conditions on the Project site, (2) the potential for special-status species and regulated habitats to occur on or near the Project site, (3) the potential impacts of the proposed Project on biological resources and regulated habitats, and (4) measures to reduce those potential impacts to less-than-significant levels under CEQA.

We concluded the Project could affect three special-status wildlife species: the state listed as threatened Swainson's hawk (*Buteo swainsoni*), the federally listed as endangered and state listed as threatened San Joaquin kit fox (*Vulpes macrotis mutica*), and the state species of special concern burrowing owl (*Athene cunicularia*). Nesting migratory birds could also be impacted. However, impacts to all species can be reduced to less-than-significant levels with mitigation.

Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
FC	Federal Candidate for listing under the FESA
FE	Federally listed as Endangered
FESA	Federal Endangered Species Act
FP	State Fully Protected
FT	Federally listed as Threatened
MBTA	Migratory Bird Treaty Act
NRCS	Natural Resources Conservation Service
SE	State listed as Endangered
SSSC	State Species of Special Concern
ST	State listed as Threatened
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

1.1 Background

Madera Unified School District proposes to construct a new K-8 school on an approximately 18.7-acre parcel in northwest Madera, Madera County, California. The property currently supports disturbed grassland.

The purpose of this biological resource evaluation is to assess whether the Project will affect protected biological resources pursuant to California Environmental Quality Act (CEQA) guidelines. Such resources include species of plants or animals listed or proposed for listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA) as well as those covered under the Migratory Bird Treaty Act (MBTA), the California Native Plant Protection Act, and various other sections of California Fish and Game Code (CFGC). This biological resource evaluation also addresses Project-related impacts to regulated habitats, which are those under the jurisdiction of the United States Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), or California Department of Fish and Wildlife (CDFW).

1.2 Project Description

The Project will involve constructing a new K-8 school and associated facilities to accommodate up to 800 students.

1.3 Project Location

The approximately 18.7-acre Project site is south of Cleveland Avenue, north of Running Brook Street, and east of Encantada Avenue in northwest Madera, Madera County, California (Figures 1 and 2). The Project site is approximately 0.25 miles north of the Fresno River.

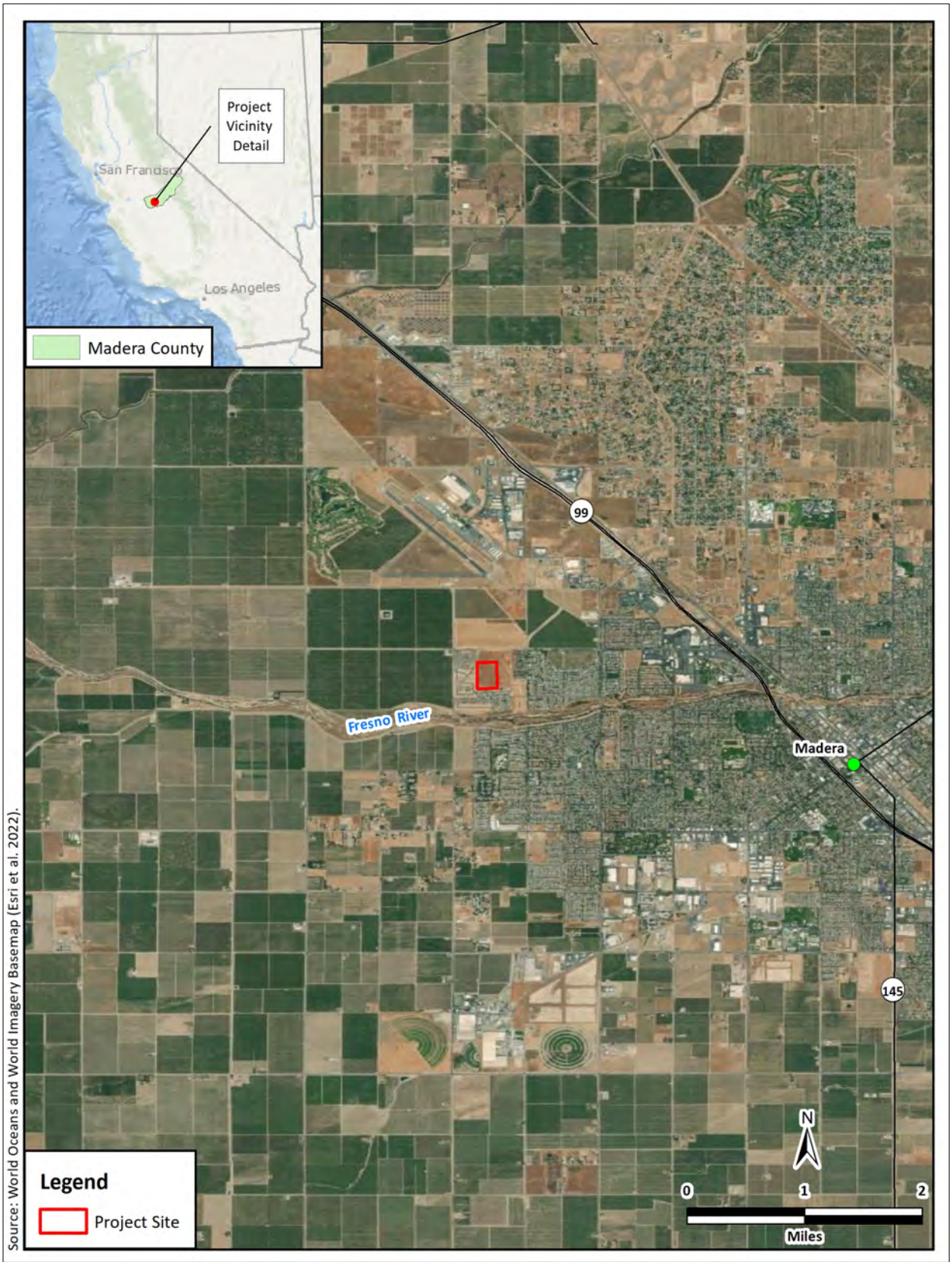

Figure 1. Project site vicinity map.

Figure 2. Project site map.

1.4 Regulatory Framework

The relevant state and federal regulatory requirements and policies that guide the impact analysis of the Project are summarized below.

1.4.1 State Requirements

California Department of Fish and Wildlife Jurisdiction. The CDFW has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from the streambed, may require that the project applicant enter into a Lake and Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code [CFGC] Section 1602.

California Endangered Species Act. The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq., and California Code of Regulations (CCR) Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the CDFW when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special-status species. CDFW can authorize take of state listed species under Sections 2080.1 and 2081(b) of the CFGC in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code § 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

California Environmental Quality Act. The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation regardless of whether they are afforded protection through any other statute or regulation. The

California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity (CNPS 2022). Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the CFGC dealing with rare and endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFW Service or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

California Native Plant Protection Act. The California Native Plant Protection Act of 1977 (CFGC §§ 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting birds. CFGC Sections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. CFGC Section 3511 lists birds that are "Fully Protected" as those that may not be taken or possessed except under specific permit.

***Porter-Cologne Water Quality Control Act*.** The Porter-Cologne Water Quality Control Act (California Water Code § 13000 et. sec.) was established in 1969 and entrusts the SWRCB and nine Regional Water Quality Control Boards (collectively Water Boards) with the responsibility to preserve and enhance all beneficial uses of California's diverse waters. The Act grants the Water Boards authority to establish water quality objectives and regulate point- and nonpoint-source pollution discharge to the state's surface and ground waters. Under the auspices of the United States Environmental Protection Agency, the Water Boards are responsible for certifying, under Section 401 of the federal Clean Water Act, that activities affecting waters of the United States comply California water quality standards. The Porter-Cologne Water Quality Control Act addresses all "waters of the State," which are more broadly defined than waters of the Unites States. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. They include artificial as well as natural water bodies and federally jurisdictional and federally non-jurisdictional waters. The Water Boards may issue a Waste Discharge Requirement permit for projects that will affect only federally non-jurisdictional waters of the State.

1.4.2 Federal Requirements

Federal Endangered Species Act. The USFWS and the National Oceanographic and Atmospheric Association and National Marine Fisheries Service enforce the provisions stipulated in the FESA of 1973 (FESA, 16 United States Code [USC] § 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the proposed action area and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC § 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

Migratory Bird Treaty Act. The federal MBTA (16 USC § 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. "Take" is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC § 703 and § 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an "active nest." However, the "Migratory Bird Permit Memorandum" issued by the USFWS in 2003 and updated in 2018 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction (USFWS 2018).

United States Army Corps of Engineers Jurisdiction. Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3). Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement (USACE 1987 and 2008). Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of

the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The SWRCB is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

2.0 Methods

2.1 Desktop Review

As a framework for the evaluation and reconnaissance survey, we obtained an official USFWS species list for the Project (USFWS 2022a, Appendix A). In addition, we searched the California Natural Diversity Database (CNDDB, CDFW 2022, Appendix B) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2022, Appendix C) for records of special-status plant and animal species from the vicinity of the Project site. Regional lists of special-status species were compiled using CNDDB and CNPS database searches confined to the Madera 7.5-minute United States Geological Survey (USGS) topographic quadrangle, which encompasses the Project site, and the eight surrounding quadrangles (Daulton, Gregg, Herndon, Gravelly Ford, Biola, Bonita Ranch, Berenda, and Kismet). A local list of special-status species was compiled using CNDDB records from within 5 miles of the Project site. Species that lacked a CEQA-recognized special-status designation by state or federal regulatory agencies or public interest groups were omitted from the final list. Species for which the Project site does not provide habitat were eliminated from further consideration. We also reviewed aerial imagery from Google Earth (Google 2022) and other sources, USGS topographic maps, the Web Soil Survey (NRCS 2022), the National Wetlands Inventory (USFWS 2022b), and relevant literature.

2.2 Reconnaissance Survey

Colibri Senior Scientist Ryan Slezak conducted a field reconnaissance survey of the Project site on 19 April 2022. The Project site and a 50-foot buffer surrounding the Project site (Figure 3) were walked and thoroughly inspected to evaluate and document the potential for the area to support state or federally protected resources. All plants except those under cultivation or planted in residential areas and all vertebrate wildlife species observed within the survey area were identified and documented. The survey area was evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the *Wetlands Delineation Manual* and regional supplement (USACE 1987, 2008) and as defined by the CDFW (https://www.wildlife.ca.gov/conservation/lsa) or under the Porter-Cologne Water Quality Control Act. An additional buffer of 0.5 miles around the Project site was inspected for potential nesting habitat for special-status raptors. The 0.5-mile buffer was surveyed by driving public roads and identifying the presence of large trees or other potentially suitable substrates for nesting raptors as well as open areas that could provide foraging habitat.

2.3 Significance Criteria

CEQA defines “significant effect on the environment” as “a substantial, or potentially substantial, adverse change in the environment” (California Public Resource Code § 21068). Under CEQA

Guidelines Section 15065, a Project's effects on biological resources are deemed significant where the Project would do the following:

a) Substantially reduce the habitat of a fish or wildlife species,
b) Cause a fish or wildlife population to drop below self-sustaining levels,
c) Threaten to eliminate a plant or animal community, or
d) Substantially reduce the number or restrict the range of a rare or endangered plant or animal.

In addition to the Section 15065 criteria, Appendix G within the CEQA Guidelines includes six additional impacts to consider when analyzing the effects of a project. Under Appendix G, a project's effects on biological resources are deemed significant where the project would do any of the following:

e) 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 CDFW or USFWS;

f) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

g) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

h) 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;

i) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

j) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These criteria were used to determine whether the potential effects of the Project on biological resources qualify as significant.

Figure 3. Reconnaissance survey area map.

3.0 Results

3.1 Desktop Review

The USFWS species list for the Project included 10 species listed as threatened or endangered under the FESA (USFWS 2022a, Table 1, Appendix A). Of those 10 species, only San Joaquin kit fox (*Vulpes macrotis mutica* – FE, ST) has the potential to occur on or near the Project site. The remaining nine species have been excluded from further consideration due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Table 1). As identified in the species list, the Project site does not occur in USFWS-designated or proposed critical habitat for any species (USFWS 2022a, Appendix A).

Searching the CNDDB for records of special-status species from the Madera 7.5-minute USGS topographic quad and the eight surrounding quads produced 210 records of 34 species (Table 1, Appendix B). Of those 34 species, six are not given further consideration because they are not CEQA-recognized as special-status species by state or federal regulatory agencies or public interest groups or are considered extirpated in California (Appendix B). Of the remaining 28 species, eight are known from within 5 miles of the Project site (Table 1, Figure 4). Of those species, only Swainson's hawk (*Buteo swainsoni* – ST) and burrowing owl (*Athene cunicularia* – SSSC) could occur on or near the Project site (Table 1). In addition, San Joaquin kit fox was identified in the nine-quad search and could occur on or near Project site (Table 1).

Searching the CNPS inventory of rare and endangered plants of California yielded 17 species (CNPS 2022, Appendix C), 16 of which have a CRPR of 1 or 2 (Table 1). None of these species are expected to occur on or near the Project site due to either (1) lack of habitat, (2) the Project site being outside the current range of the species, or (3) lack of detection during the 19 April 2022 field survey (Table 1).

The Project site is underlain by Pachappa fine sandy loam, 0 to 1 percent slopes, Tujunga loamy sand, 0 to 3 percent slopes, and Pachappa fine sandy loam, slightly saline-alkali, 0 to 1 percent slopes (NCRS 2022). The Project site is at an elevation of 249–252 feet above mean sea level (Google 2022).

Table 1. Special-status species, their listing status, habitats, and potential to occur on or near the Project site.

Species	Status[1]	Habitat	Potential to Occur[2]
Federally and State-Listed Endangered or Threatened Species			
Greene's tuctoria (*Tuctoria greenei*)	FE, 1B.1	Vernal pools in open grasslands below 3445 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools.
Hairy Orcutt grass (*Orcuttia pilosa*)	FE, SE, 1B.1	Vernal pools below 650 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, SE, 1B.1	Vernal pools at or below 2700 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools.
Succulent owl's clover (*Castilleja campestris* var. *succulenta*)	FT, SE, 1B.2	Vernal pools and moist places at or below 2460 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools and moist places.
Monarch California overwintering population (*Danaus plexippus*)	FC	Groves of trees within 1.5 miles of the ocean that produce suitable micro-climates for overwintering such as high humidity, dappled sunlight, access to water and nectar, and protection from wind.	**None.** Habitat lacking; the Project site is not within 1.5 miles of the ocean.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Elderberry (*Sambucus* sp.) plants with stems > 1-inch diameter at ground level.	**None.** The Project site is outside the currently recognized range of this species.
Vernal pool fairy shrimp[3] (*Branchinecta lynchi*)	FT	Vernal pools and ponds.	**None.** Habitat lacking; the Project site lacks vernal pools or ponds.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	Shallow, fresh, or slightly brackish backwater sloughs and edgewaters.	**None.** Habitat lacking; the Project site lacks connectivity to the aquatic habitat this species requires.

Blunt-nosed leopard lizard[3] (*Gambelia sila*)	FE, SE	Upland scrub and sparsely vegetated grassland with small mammal burrows below 2400 feet elevation.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
California tiger salamander[3] (*Ambystoma californiense*)	FT, ST	Vernal pools or seasonal ponds for breeding; small mammal burrows for upland refugia in natural grasslands.	**None.** Habitat lacking; the Project site supported grassland with small mammal burrows but was unsuitable due to periodic disking, historical farming operations dating back to at least 1985 (Google 2022), and surrounding residential development.
Giant garter snake (*Thamnophis gigas*)	FT, ST	Marshes, sloughs, drainage canals, irrigation ditches, and slow-moving creeks.	**None.** The Project site is outside the current known range of this species.
Swainson's hawk[3] (*Buteo swainsoni*)	ST	Large trees for nesting with adjacent grasslands, alfalfa fields, or grain fields.	**Moderate.** Riparian trees 0.25 miles south of the Project site along the Fresno River provide potential nesting habitat; grassland on the Project site provides foraging habitat. Two Swainson's hawks were observed near the Project site during the 19 April 2022 survey.
Tricolored blackbird (*Agelaius tricolor*)	ST, SSSC	Freshwater emergent wetlands and silage fields near dairies for nesting and nearby agricultural fields,	**None.** Habitat lacking; no aquatic resources or suitable agricultural land in the survey area.

		irrigated pastures, and grassland for foraging.	
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, SE	Sandy, alkaline, saline, and clay soils in upland scrub and grassland.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, ST	Grassland and fallowed agricultural lands adjacent to natural grasslands or upland scrub.	**Low.** The Project site supported grassland with small mammal burrows, but the habitat was disturbed.
State Species of Special Concern			
Coast horned lizard (*Phrynosoma blainvillii*)	SSSC	Grasslands, woodlands, and upland scrub, with open areas and patches of loose, sandy soil.	**None.** Habitat lacking; the Project site supported grassland but is unsuitable due to periodic disking, historical farming operations dating back to at least 1985 (Google 2022), and surrounding residential development.
Western spadefoot[3] (*Spea hammondii*)	SSSC	Rain pools for breeding and small mammal burrows or other suitable refugia for nonbreeding upland cover.	**None.** Habitat lacking; vernal pools or other ephemeral pools were absent from the Project site.
Burrowing owl[3] (*Athene cunicularia*)	SSSC	Grassland and upland scrub with friable soil; agricultural or other developed and disturbed areas with ground squirrel burrows.	**Low.** The Project site contained grassland with friable soil and ground squirrel burrows but is periodically disked and was historically farmed (Google 2022).

American badger (*Taxidea taxus*)	SSSC	Open, dry areas with friable soils and small mammal populations in grassland, conifer forests, and desert.	**None.** Habitat lacking; the Project site and surrounding area are too fragmented and routinely disturbed to support this species.
California Rare Plants			
Alkali-sink goldfields (*Lasthenia chrysantha*)	1B.1	Vernal pools and wet saline flats below 320 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
California alkali grass (*Puccinellia simplex*)	1B.2	Scrub, meadows, seeps, grassland, vernal pools with saline soils, saline flats, and mineral springs below 3000 feet elevation.	**None.** Grassland was present; however, the Project site lacks saline soils.
Earlimart orache (*Atriplex cordulata* var. *erecticaulis*)	1B.2	Saline or alkaline soils in Central Valley and foothill grassland below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Heartscale (*Atriplex cordulata* var. *cordulata*)	1B.2	Saline or alkaline soils in Central Valley and foothill grassland below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Lesser saltscale (*Atriplex minuscula*)	1B.1	Sandy alkaline soils in chenopod scrub, playa, and grassland in the San Joaquin Valley below 328 feet elevation.	**None.** Grassland habitat was present; however, the Project site lacks alkaline soils.
Madera leptosiphon[3] (*Leptosiphon serrulatus*)	1B.2	Woodlands, chaparral, and yellow pine forests in the Sierra Nevada foothills from Madera to Kern counties	**None.** Habitat lacking; the Project site lacks woodlands, chaparral, and yellow pine forests.

Munz's tidy-tips[3] (*Layia munzii*)	1B.2	Alkaline, clay soils at 164–2625 feet elevation.	**None.** Habitat lacking; the Project site lacks alkaline, clay soils.
Recurved larkspur (*Delphinium recurvatum*)	1B.2	Poorly drained, fine, alkaline soils in chenopod scrub, cismontane woodland, and valley and foothill grassland at 10–2800 feet elevation.	**None.** Grassland habitat was present; however, the Project site lacks poorly drained, alkaline soils.
Sanford's arrowhead (*Sagittaria sanfordii*)	1B.2	Ponds, sloughs, and ditches at sea level to 650 feet elevation.	**None.** Habitat lacking; the Project site lacks ponds, sloughs, and ditches.
Shining navarretia (*Navarretia nigelliformis ssp. radians*)	1B.2	Vernal pools and clay depressions at 292–3281 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools and clay depressions
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	1B.2	Vernal pools and swales in valley and foothill grassland at 330–4200 feet elevation.	**None.** Habitat lacking; the Project site lacks vernal pools and swales.
Subtle orache (*Atriplex subtilis*)	1B.2	Saline depressions below 230 feet elevation.	**None.** Habitat lacking; the Project site is above the known elevational range of this species.
Vernal pool smallscale (*Atriplex persistens*)	1B.2	Alkaline vernal pools in the Central Valley below 377 feet elevation.	**None.** Habitat lacking; the Project site lacks alkaline vernal pools.

CDFW (2022), CNPS (2022), USFWS (2022).

Status[1]	**Potential to Occur**[2]	
FE = Federally listed Endangered	None:	Species or sign not observed; conditions unsuitable for occurrence.
FT = Federally listed Threatened	Low:	Neither species nor sign observed; conditions marginal for occurrence.
FP = State Fully Protected	Moderate:	Neither species nor sign observed; conditions suitable for occurrence.
FC = Federal Candidate of listing under the FESA	High:	Neither species nor sign observed; conditions highly suitable for occurrence.
SE = State listed Endangered	Present:	Species or sign observed; conditions suitable for occurrence.
ST = State listed Threatened		
SSSC = State Species of Special Concern		

CNPS California Rare Plant Rank[1]**:**	**Threat Ranks**[1]**:**
1B – plants rare, threatened, or endangered in California and elsewhere.	0.1 – seriously threatened in California (> 80% of occurrences).
2B – plants rare, threatened, or endangered in California but more common elsewhere.	0.2 – moderately threatened in California (20-80% of occurrences).
3 – plants about which more information is needed.	0.3 – not very threatened in California (<20% of occurrences).
4 – plants have limited distribution in California.	

[3]Record from within 5 miles of the Project site.

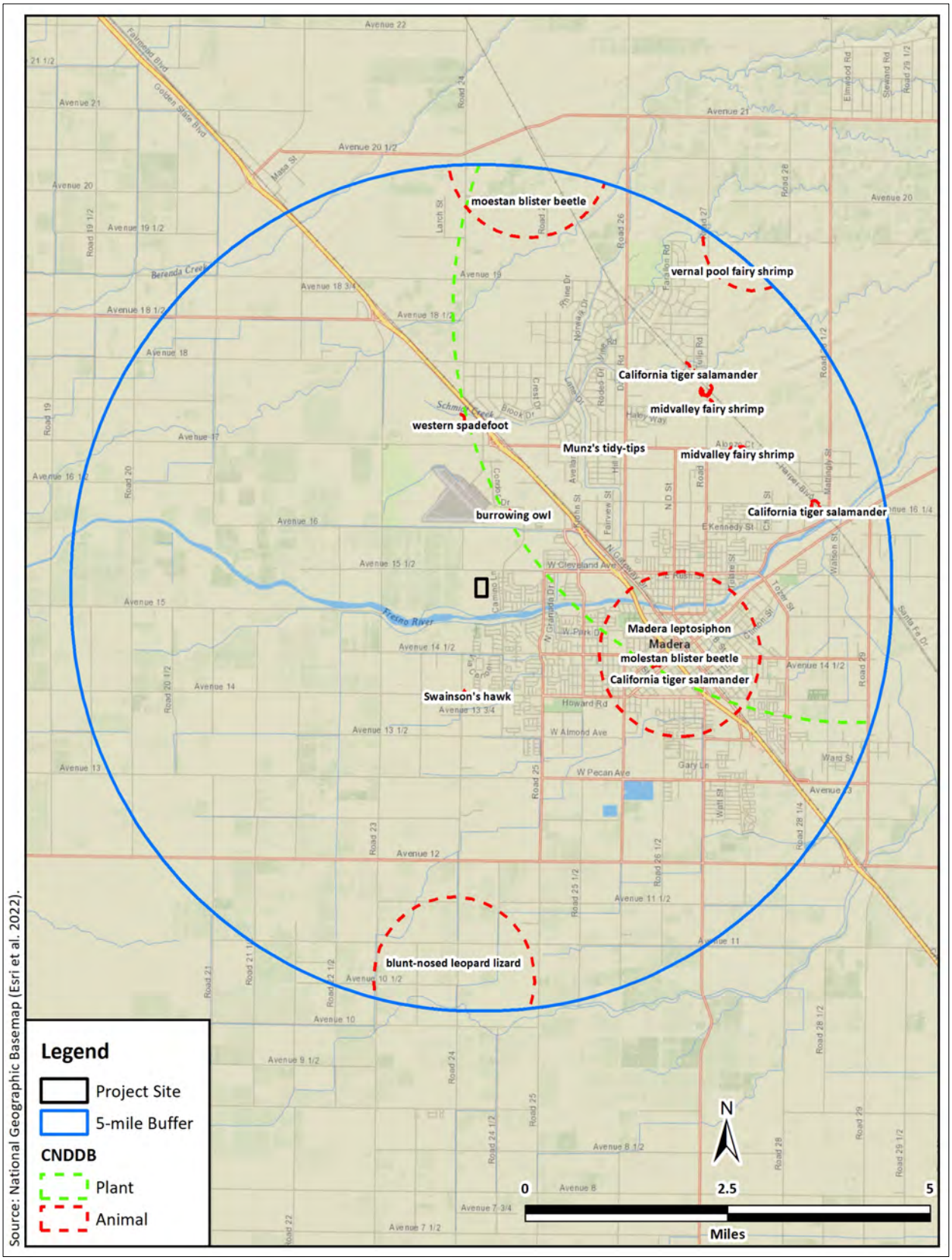

Figure 4. CNDDB occurrence map.

3.2 Reconnaissance Survey

3.2.1 Land Use and Habitats

The Project site supported disturbed grassland dominated by nonnative grasses and ruderal forbs (Figures 5 and 6). It was bordered by residential development to the west, south, and east and disturbed grassland to the north. Trash and debris were scattered throughout the Project site (Figure 7). Vegetated spoil piles were distributed across the northeast quadrant of the Project site (Figure 8). Ground squirrel burrows were present in the vegetated spoil piles and along the west, south, and east boundaries of the Project site. The site is periodically disked and was subject to farming operations dating back to at least 1985 (Google 2022).

Figure 5. Photograph of the Project site, looking northwest, showing disturbed grassland.

Figure 6. Photograph of the Project site, looking southeast, showing disturbed grassland.

Figure 7. Photograph of the Project site, looking northwest, showing scattered trash and debris.

Figure 8. Photograph of the northeast quadrant of the Project site, looking northeast, showing vegetated spoil piles.

3.2.2 Plant and Animal Species Observed

A total of 30 plant species (five native and 25 nonnative), 13 bird species, and two mammal species were observed during the survey (Table 2).

Table 2. Plant and animal species observed during the reconnaissance survey.

Common Name	Scientific Name	Status
Plants		
Family Asteraceae		
Common sow thistle	*Sonchus oleraceus*	Nonnative
Milk thistle	*Silybum marianum*	Nonnative
Pineapple weed	*Matricaria discoidea*	Native
Prickly lettuce	*Lactuca serriola*	Nonnative
Stinking chamomile	*Anthemis cotula*	Nonnative
Family Boraginaceae		
Common fiddleneck	*Amsinckia intermedia*	Native
Common phacelia	*Phacelia distans*	Native
Family Brassicaceae		
Black mustard	*Brassica nigra*	Nonnative
Indian hedge mustard	*Sysmbrium orientale*	Nonnative
London rocket	*Sisymbium irio*	Nonnative
Shepherd's purse	*Capsella bursa-pastoris*	Nonnative
Wild radish	*Raphanus raphanistrum*	Nonnative
Family Caryophyllaceae		
Hairy sand spurry	*Spergularia villosa*	Nonnative
Red sand spurry	*Spergularia rubra*	Nonnative
Family Convolvulaceae		
Field bindweed	*Convolvulus arvensis*	Nonnative
Family Fabaceae		
California burclover	*Medicago polymorpha*	Nonnative
Annual yellow sweetclover	*Melilotus indicus*	Nonnative
Family Geraniaceae		
Longbeak stork's bill	*Erodium botrys*	Nonnative
Family Juncaceae		

Toad rush	*Juncus bufonius*	Native
Family Lythracaea		
Hyssop loosestrife	*Lythrum hyssopifolia*	Nonnative
Family Malvaceae		
Cheeseweed	*Malva parviflora*	Nonnative
Family Plantaginaceae		
Neckweed	*Veronica peregrina*	Native
Family Poaceae		
Italian ryegrass	*Festuca perennis*	Nonnative
Rattail sixweeks grass	*Festuca myuros*	Nonnative
Red brome	*Bromus madritensis*	Nonnative
Ripgut brome	*Bromus diandrus*	Nonnative
Soft brome	*Bromus hordeaceus*	Nonnative
Wall barley	*Hordeum murinum*	Nonnative
Wild oat	*Avena fatua*	Nonnative
Family Polygonaceae		
Prostrate knotweed	*Polygonum aviculare*	Nonnative
Birds		
Family Accipitridae		
Cooper's hawk	*Accipiter cooperii*	MBTA, CFGC
Red-tailed hawk	*Buteo jamaicensis*	MBTA, CFGC
Swainson's hawk	*Buteo swainsoni*	ST, MBTA, CFGC
Family Cathartidae		
Turkey vulture	*Cathartes aura*	MBTA, CFGC
Family Columbidae		
Mourning dove	*Zenaida macroura*	MBTA, CFGC
Rock pigeon	*Columba livia*	MBTA, CFGC
Family Corvidae		
American crow	*Corvus brachyrhynchos*	MBTA, CFGC
Family Fringillidae		
American goldfinch	*Spinus tristis*	MBTA, CFGC
House finch	*Haemorhous mexicanus*	MBTA, CFGC
Family Passerellidae		
Lincoln's sparrow	*Melospiza lincolnii*	MBTA, CFGC
Savannah sparrow	*Passerculus sandwichensis*	MBTA, CFGC
Family Passeridae		

House sparrow	*Passer domesticus*	None
Family Sturnidae		
European starling	*Sturnus vulgaris*	None
Mammals		
Family Leporidae		
Desert cottontail	*Sylvilagus audubonii*	--
Family Sciuridae		
California ground squirrel	*Otospermophilus beecheyi*	--

MBTA = Protected under the Migratory Bird Treaty Act (16 USC § 703 et seq.); CFGC = Protected under the California Fish and Game Code (FGC §§ 3503 and 3513); ST = State listed as Threatened.

3.2.3 Nesting Birds

Migratory birds could nest on or near the Project site. Bird species that may nest on or near the property include, but are not limited to, mourning dove (*Zenaida macroura*) and house finch (*Haemorhous mexicanus*).

3.2.4 Regulated Habitats

No habitats regulated under jurisdiction of the CDFW, SWRCB, or USACE were present in the survey area.

3.3 Special-Status Species

The following three special-status species could occur on or near the Project site based on the presence of habitat:

3.3.1 Swainson's hawk (*Buteo swainsoni*, ST)

Swainson's hawk is a state listed as threatened raptor in the family Accipitridae. It is a migratory breeding resident of Central California. It uses open areas including grassland, sparse shrubland, pasture, open woodland, and annual agricultural fields such as grain and alfalfa to forage on small mammals, birds, and reptiles. After breeding, it eats mainly insects, especially grasshoppers (Bechard et al. 2020). Swainson's hawks build small to medium-sized nests in medium to large trees near foraging habitat. The nesting season begins in March or April in Central California when this species returns to its breeding grounds from wintering areas in Mexico and Central and South America. Nest building commences within one to two weeks of arrival to the breeding area and lasts about one week (Bechard et al. 2020). One to four eggs are laid and incubated for about 35 days. Young typically fledge in about 38–46 days and tend to leave the nest territory within 10 days of fledging (Bechard et al. 2020). Swainson's hawks depart for the non-breeding grounds between August and September.

There is one record of Swainson's hawk from within 5 miles of the Project site: a 2016 CNDDB occurrence record from approximately 1.1 miles south. Although there are no trees on the Project site, potential nest trees are present within 0.5 miles of the Project site along the Fresno River. In addition, the open grassland on the Project site provides potential foraging habitat for Swainson's hawk. Two Swainson's hawks were observed flying near the Project site during the 19 April 2022 reconnaissance survey. Therefore, the potential for this species to occur is moderate.

3.3.2 San Joaquin kit fox (*Vulpes macrotis mutica*, FE, ST)

San Joaquin kit fox is a federally listed as endangered and state listed as threatened member of the family Canidae (USFWS 1998; CDFW 2022). San Joaquin kit fox is primarily nocturnal and typically occupies valley grassland or mixed shrub/grassland habitats in low, rolling hills and valleys (Morrell 1972). San Joaquin kit fox uses grazed grasslands as well as grasslands with scattered structures such as power poles and wind turbines. This species also lives adjacent to, and forages in, tilled and fallow fields and irrigated row crops. However, large tracts of higher quality grassland or rangeland nearby is required to support the species (Warrick et al. 2007). The diet of the San Joaquin kit fox varies geographically, seasonally, and annually but consists primarily of rodents, rabbits, ground-nesting birds, and insects (Scrivner et al. 1987; Spiegel et al. 1996). Giant kangaroo rat (*Dipodomys ingens*) is a favored prey item (Cypher et al. 2000).

San Joaquin kit fox requires underground dens to regulate its temperature and for shelter, reproduction, and predator avoidance (Morrell 1972). The species commonly modifies and uses dens constructed by other animals, such as ground squirrels and badgers, and will use human-made structures as well (USFWS 1998). Dens are usually made in loose-textured soils on slopes of less than 40 degrees, but the number of openings, entrance shape, and the slope of the ground on which they occur vary across the geographic range of the species (USFWS 1998). San Joaquin kit fox changes den locations often, typically using numerous dens each year. Koopman et al. (1998) estimated that a San Joaquin kit fox will use an average of about 12 dens over the course of a year and will often not use the same dens the following year. This species is subject to predation or competitive exclusion by other species such as coyote (*Canis latrans*), domestic dog (*Canis familiaris*), bobcat (*Felis rufus*), and nonnative red fox (*Vulpes vulpes*), as well as large raptors (Benedict and Forbes 1979; Cypher and Spencer 1998; Clark et al. 2005, 2007).

Although there are no records of San Joaquin kit fox from within 5 miles of the Project site, one CNDDB occurrence record from 1993 was found in the nine-quad search (CDFW 2022). The Project site contained grassland that could provide habitat for this species. Ground squirrel burrows on the Project site may serve as San Joaquin kit fox dens. Although the Project site is outside the current known local range of this species, the large tract of undeveloped land may serve as a temporary refuge for dispersing individuals. Therefore, the potential for San Joaquin kit fox to occur on or near the Project site is low.

3.3.3 Burrowing owl (*Athene cunicularia*, SSSC)

Burrowing owl is a member of the family Strigidae recognized as a species of special concern by the CDFW (CDFW 2022). Burrowing owl depends on burrow systems excavated by other species such as California ground squirrel (*Otospermophilus beecheyi*) and American badger (*Taxidea taxus*) (Poulin et al. 2020). Burrowing owl uses burrows for protection from predators, weather, as roosting sites, and dwellings to raise young (Poulin et al. 2020). It commonly perches outside burrows on mounds of soil or nearby fence posts. Prey types include insects, especially grasshoppers and crickets, small mammals, frogs, toads, and lizards (Poulin et al. 2020). The nesting season begins in March, and incubation lasts 28–30 days. The female incubates the eggs while the male forages and delivers food items to the burrow-nest; young then fledge between 44 and 53 days after hatching (Poulin et al. 2020). Adults can live up to 8 years in the wild.

Three CNDDB records of burrowing owl, from 1984–2005, were found in the nine-quad search (CDFW 2022). Of those records, only two are extant. The ground squirrel burrows in the northeast quadrant of the Project site and along the west, south, and east boundaries of the Project site could support the species. Grassland on the Project site could also provide foraging habitat. However, the habitat is periodically disturbed, and no sign of burrowing owl was detected during the 19 April 2022 reconnaissance survey. Therefore, the potential for this species to occur on the Project site is low.

4.0 Environmental Impacts

4.1 Significance Determinations

This Project, which will result in temporary and permanent impacts to grassland, will not: (1) substantially reduce the habitat of a fish or wildlife species (criterion a) as no such habitat is present on the Project site; (2) cause a fish or wildlife population to drop below self-sustaining levels (criterion b) as no such potentially vulnerable population is known from the area; (3) threaten to eliminate a plant or animal community (criterion c) as no such potentially vulnerable communities are known from the area; (4) substantially reduce the number or restrict the range of a rare or endangered plant or animal (criterion d) as no such potentially vulnerable species are known from the area; (5) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (criterion f) as no riparian habitat or other sensitive natural community was present in the survey area; (6) have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (criterion g) as no impacts to wetlands will occur; (7) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (criterion i) as no trees or biologically sensitive areas will be impacted; or (8) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan (criterion j) as no such plan has been adopted. Thus, these significance criteria are not analyzed further.

The remaining statutorily defined criteria provided the framework for Criterion BIO1 and Criterion BIO2 below. These criteria are used to assess the impacts to biological resources stemming from the Project and provide the basis for determinations of significance:

- Criterion BIO1: 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 CDFW or USFWS (significance criterion e).

- Criterion BIO2: 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 (significance criterion h).

4.1.1 Direct and Indirect Impacts

4.1.1.1 Potential Impact: Have a substantial Effect on any Special-Status Species (Criterion BIO1)

The Project could adversely affect three special-status animal species that could occur on or near the Project site. Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species could constitute a significant impact. We recommend that Mitigation Measures BIO1, BIO2, BIO3, and BIO4 (below) be included in the conditions of approval to reduce the potential impacts to a less-than-significant level.

Mitigation Measure BIO1. Protect nesting Swainson's hawks.

1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August.
2. If it is not possible to schedule construction between September and February, a qualified biologist shall conduct surveys for Swainson's hawk in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SWTAC 2000, Appendix D). These methods require six surveys, three in each of the two survey periods, prior to project initiation. Surveys shall be conducted within a minimum 0.5-mile radius around the Project site.
3. If an active Swainson's hawk nest is found within 0.5 miles of the Project site, and the qualified biologist determines that Project activities would disrupt the nesting birds, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

Mitigation Measure BIO2. Compensate for loss of Swainson's hawk foraging habitat.

1. Compensate for loss of Swainson's hawk foraging habitat (i.e., grassland on the Project site) in accordance with the CDFW *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (CDFG 1994, Appendix E). The CDFW requires that projects adversely affecting Swainson's hawk foraging habitat provide Habitat Management (HM) lands to the department. Projects within 1 mile of an active nest shall provide one acre of HM lands for each acre of development authorized (1:1 ratio). Projects within 5 miles of an active nest but greater than 1 mile from the nest shall provide 0.75 acres of HM lands for each acre of urban development authorized (0.75:1 ratio). And projects within 10 miles of an active nest but greater than 5 miles from an active nest shall provide 0.5 acres of HM lands for each acre of urban development authorized (0.5:1 ratio). No compensation is required if an active nest is not found within 10 miles of the Project site. The nearest nest is determined using methods

identified in Mitigation Measure BIO1 during the nesting season before or during construction.

Mitigation Measure BIO3. Protect San Joaquin kit fox.

1. To protect San Joaquin kit fox, a qualified biologist shall conduct a pre-construction survey within 30 days prior to the start of ground-disturbing activities to identify potential dens (burrows larger than 4 inches in diameter) in suitable land cover types on and within 250 feet of the Project site. If potential dens for San Joaquin kit fox are present, their disturbance and destruction shall be avoided. Exclusion zones shall be implemented based on the type of den and current use: Potential Den—50 feet; Known Den—100 feet; Natal or Pupping Den—to be determined on a case-by-case basis in coordination with USFWS and CDFW. All pipes greater than 4 inches in diameter stored on the construction site shall be capped, and exit ramps shall be installed in trenches and other excavations to avoid direct mortality. When possible, construction shall be conducted outside of the breeding season from October 1 to November 30. If den avoidance is not possible, procedures in *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior or During Ground Disturbance* (USFWS 2011) shall be followed.

Mitigation Measure BIO4. Protect burrowing owl.

1. Conduct focused burrowing owl surveys to assess the presence/absence of burrowing owl in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1997). These involve conducting four pre-construction survey visits.
2. If a burrowing owl or sign of burrowing owl use (e.g., feathers, guano, pellets) is detected on or within 500 feet of the Project site, and the qualified biologist determines that Project activities would disrupt the owl(s), a construction-free buffer, limited operating period, or passive relocation shall be implemented in consultation with the CDFW.

4.1.1.2 Potential Impact: Interfere Substantially with Native Wildlife Movements, Corridors, or Nursery Sites (Criterion BIO2)

The Project could impede the use of nursery sites for native birds protected under the MBTA and CFGC. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA and CFGC. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird on the Project site or immediately adjacent to the construction zone could constitute a significant impact. We recommend that Mitigation Measure BIO4 (below) be

included in the conditions of approval to reduce the potential effect to a less-than-significant level.

Mitigation Measure BIO5. Protect nesting birds.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.
2. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

4.1.2 Cumulative Impacts

The Project will involve constructing a new K-8 school on 18.7 acres of disturbed grassland. The Project site could provide habitat for three special-status animals. Nesting habitat for migratory birds is also present. However, implementing Mitigation Measures BIO1 through BIO5 would reduce any contribution to cumulative impacts on biological resources to a less-than-significant level.

4.1.3 Unavoidable Significant Adverse Impacts

No unavoidable significant adverse effects on biological resources would occur from implementing the Project.

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Appendix A. USFWS list of threatened and endangered species.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2022-0033402
Project Name: Madera School

April 19, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2022-0033402
Event Code: None
Project Name: Madera School
Project Type: New Constr - Above Ground
Project Description: The proposed project will involve constructing a school on approximately 15 acres that will accommodate about 800 students.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.971555949999996,-120.1061769294929,14z

Counties: Madera County, California

Endangered Species Act Species

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Fresno Kangaroo Rat *Dipodomys nitratoides exilis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5150	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Hairy Orcutt Grass *Orcuttia pilosa* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2262	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Colibri Ecological Services
Name: Ryan Slezak
Address: 9493 N Ft Washington Rd
City: Fresno
State: CA
Zip: 93730
Email rslezak@colibri-ecology.com
Phone: 5592426178

Appendix B. CNDDB occurrence records.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Daulton (3711918) OR Gregg (3611988) OR Herndon (3611978) OR Gravelly Ford (3612072) OR Biola (3612071) OR Bonita Ranch (3612082) OR Madera (3612081) OR Berenda (3712012) OR Kismet (3712011))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Agelaius tricolor tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	165 343	955 S:3	0	0	0	0	0	3	1	2	3	0	0
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	G2G3T3 S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	100 575	1265 S:36	1	9	3	4	6	13	15	21	30	5	1
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	200 385	2011 S:3	0	1	0	0	1	1	1	2	2	1	0
Atriplex cordulata var. cordulata heartscale	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	185 195	66 S:6	2	0	1	0	2	1	6	0	4	0	2
Atriplex minuscula lesser saltscale	G2 S2	None None	Rare Plant Rank - 1B.1	185 190	52 S:6	3	0	1	0	0	2	6	0	6	0	0
Atriplex persistens vernal pool smallscale	G2 S2	None None	Rare Plant Rank - 1B.2	182 205	41 S:4	1	2	1	0	0	0	4	0	4	0	0
Atriplex subtilis subtle orache	G1 S1	None None	Rare Plant Rank - 1B.2	185 190	24 S:3	2	0	0	0	0	1	2	1	3	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	189 382	795 S:22	0	5	3	4	0	10	10	12	22	0	0
Branchinecta mesovallensis midvalley fairy shrimp	G2 S2S3	None None		294 299	144 S:2	0	0	2	0	0	0	0	2	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	175 466	2541 S:9	0	4	1	0	0	4	3	6	9	0	0
Castilleja campestris var. succulenta succulent owl's-clover	G4?T2T3 S2S3	Threatened Endangered	Rare Plant Rank - 1B.2	300 420	99 S:4	0	2	0	0	0	2	4	0	4	0	0
Delphinium recurvatum recurved larkspur	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden	185 185	119 S:1	0	1	0	0	0	0	1	0	1	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2T3 S3	Threatened None		225 225	271 S:1	0	0	0	0	0	1	1	0	1	0	0
Dipodomys nitratoides exilis Fresno kangaroo rat	G3TH SH	Endangered Endangered	IUCN_VU-Vulnerable	200 200	12 S:1	0	0	0	0	0	1	1	0	1	0	0
Eryngium spinosepalum spiny-sepaled button-celery	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	183 330	108 S:2	0	0	0	0	0	2	2	0	2	0	0
Gambelia sila blunt-nosed leopard lizard	G1 S1	Endangered Endangered	CDFW_FP-Fully Protected IUCN_EN-Endangered	180 232	418 S:11	0	0	0	0	1	10	11	0	10	1	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority	270 270	238 S:1	0	0	0	0	0	1	1	0	1	0	0
Lasthenia chrysantha alkali-sink goldfields	G2 S2	None None	Rare Plant Rank - 1B.1	195 195	55 S:1	0	0	0	0	1	0	1	0	0	1	0
Layia munzii Munz's tidy-tips	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		68 S:1	0	0	0	0	0	1	1	0	1	0	0
Leptosiphon serrulatus Madera leptosiphon	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	270 270	27 S:1	0	0	0	0	0	1	1	0	1	0	0
Linderiella occidentalis California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	285 403	508 S:30	0	14	2	0	0	14	17	13	30	0	0
Lytta moesta moestan blister beetle	G2 S2	None None		280 280	12 S:1	0	0	0	0	0	1	1	0	0	1	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Lytta molesta molestan blister beetle	G2 S2	None None		270 270	17 S:1	0	0	0	0	0	1	1	0	0	1	0
Navarretia nigelliformis ssp. radians shining navarretia	G4T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		102 S:2	0	0	0	0	2	0	2	0	0	2	0
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	G3 S3.1	None None		290 350	126 S:5	0	1	1	1	0	2	5	0	5	0	0
Orcuttia inaequalis San Joaquin Valley Orcutt grass	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1	305 400	47 S:3	0	0	0	1	2	0	2	1	1	1	1
Orcuttia pilosa hairy Orcutt grass	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	275 400	35 S:11	0	2	0	3	6	0	7	4	5	4	2
Perognathus inornatus San Joaquin pocket mouse	G2G3 S2S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern	265 265	140 S:1	0	0	0	0	1	0	1	0	0	0	1
Phrynosoma blainvillii coast horned lizard	G3G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	183 183	784 S:1	0	1	0	0	0	0	0	1	1	0	0
Puccinellia simplex California alkali grass	G3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	180 200	80 S:5	0	0	0	0	0	5	0	5	5	0	0
Sagittaria sanfordii Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	295 295	143 S:1	0	0	0	0	0	1	0	1	1	0	0
Spea hammondii western spadefoot	G2G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	192 472	1422 S:29	6	5	2	4	0	12	3	26	29	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	182 400	594 S:4	0	0	0	0	0	4	3	1	4	0	0
Tuctoria greenei Greene's tuctoria	G1 S1	Endangered Rare	Rare Plant Rank - 1B.1	325 325	50 S:1	0	0	0	0	1	0	1	0	0	1	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Valley Sacaton Grassland	G1	None		175	9	0	0	1	0	0	0	1	0	1	0	0
Valley Sacaton Grassland	S1.1	None		175	S:1											
Vulpes macrotis mutica	G4T2	Endangered		185	1020	0	0	0	0	0	2	2	0	2	0	0
San Joaquin kit fox	S2	Threatened		302	S:2											

Appendix C. CNPS plant list.

CALIFORNIA NATIVE PLANT SOCIETY

Search Results

17 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [**3711918:3611988:3611978:3612072:3612071:3612082:3612081:3712012:3712011**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun-Oct	None	None	G2	S2	1B.2
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2
Castilleja campestris var. *succulenta*	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	(Mar)Apr-May	FT	CE	G4?T2T3	S2S3	1B.2
Delphinium hansenii ssp. *ewanianum*	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	None	None	G4T3	S3	4.2
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1
Layia munzii	Munz's tidy-tips	Asteraceae	annual herb	Mar-Apr	None	None	G2	S2	1B.2
Leptosiphon serrulatus	Madera leptosiphon	Polemoniaceae	annual herb	Apr-May	None	None	G3	S3	1B.2
Navarretia nigelliformis ssp. *radians*	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	None	None	G4T2	S2	1B.2
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	May-Sep	FE	CE	G1	S1	1B.1
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G3	S2	1B.2
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1

Showing 1 to 17 of 17 entries

Showing 1 to 47 of 47 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 19 April 2022].

Appendix D. Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley.

RECOMMENDED TIMING AND METHODOLOGY FOR SWAINSON'S HAWK NESTING SURVEYS IN CALIFORNIA'S CENTRAL VALLEY

Swainson's Hawk Technical Advisory Committee

May 31, 2000

This set of survey recommendations was developed by the Swainson's Hawk Technical Advisory Committee (TAC) to maximize the potential for locating nesting Swainson's hawks, and thus reducing the potential for nest failures as a result of project activities/disturbances. The combination of appropriate surveys, risk analysis, and monitoring has been determined to be very effective in reducing the potential for project-induced nest failures. As with most species, when the surveyor is in the right place at the right time, Swainson's hawks may be easy to observe; but some nest sites may be very difficult to locate, and even the most experienced surveyors have missed nests, nesting pairs, mis-identified a hawk in a nest, or believed incorrectly that a nest had failed. There is no substitute for specific Swainson's hawk survey experience and acquiring the correct search image.

METHODOLOGY

Surveys should be conducted in a manner that maximizes the potential to observe the adult Swainson's hawks, as well as the nest/chicks second. To meet the California Department of Fish and Game's (CDFG) recommendations for mitigation and protection of Swainson's hawks, surveys should be conducted for a ½ mile radius around all project activities, and if active nesting is identified within the ½ mile radius, consultation is required. In general, the TAC recommends this approach as well.

Minimum Equipment

Minimum survey equipment includes a high-quality pair of binoculars and a high quality spotting scope. Surveying even the smallest project area will take hours, and poor optics often result in eye-strain and difficulty distinguishing details in vegetation and subject birds. Other equipment includes good maps, GPS units, flagging, and notebooks.

Walking vs Driving

Driving (car or boat) or "windshield surveys" are usually preferred to walking if an adequate roadway is available through or around the project site. While driving, the observer can typically approach much closer to a hawk without causing it to fly. Although it might appear that a flying bird is more visible, they often fly away from the observer using trees as screens; and it is difficult to determine from where a flying bird came. Walking surveys are useful in locating a nest after a nest territory is identified, or when driving is not an option.

Angle and Distance to the Tree

Surveying subject trees from multiple angles will greatly increase the observer's chance of detecting a nest or hawk, especially after trees are fully leafed and when surveying multiple trees

in close proximity. When surveying from an access road, survey in both directions. Maintaining a distance of 50 meters to 200 meters from subject trees is optimal for observing perched and flying hawks without greatly reducing the chance of detecting a nest/young: Once a nesting territory is identified, a closer inspection may be required to locate the nest.

Speed
Travel at a speed that allows for a thorough inspection of a potential nest site. Survey speeds should not exceed 5 miles per hour to the greatest extent possible. If the surveyor must travel faster than 5 miles per hour, stop frequently to scan subject trees.

Visual and Aural Ques
Surveys will be focused on both observations and vocalizations. Observations of nests, perched adults, displaying adults, and chicks during the nesting season are all indicators of nesting Swainson's hawks. In addition, vocalizations are extremely helpful in locating nesting territories. Vocal communication between. hawks is frequent during territorial displays; during courtship and mating; through the nesting period as mates notify each other that food is available or that a threat exists; and as older chicks and fledglings beg for food.

Distractions
Minimize distractions while surveying. Although two pairs of eyes may be better than one pair at times, conversation may limit focus. Radios should be off, not only are they distracting, they may cover a hawk's call.

Notes and Species Observed
Take thorough field notes. Detailed notes and maps of the location of observed Swainson's hawk nests are essential for filling gaps in the Natural Diversity Data Base; please report all observed nest sites. Also document the occurrence of nesting great homed owls, red-tailed hawks, red-shouldered hawks and other potentially competitive species. These species will infrequently nest within 100 yards of each other, so the presence of one species will not necessarily exclude another.

TIMING

To meet **the minimum level** of protection for the species, surveys should be completed for **at least** the two survey periods immediately prior to a project's initiation. For example, if a project is scheduled to begin on June 20, you should complete 3 surveys in Period III and 3 surveys in Period V. However, it is always recommended that surveys be completed in Periods II, III and V. **Surveys should not be conducted in Period IV.**

The survey periods are defined by the timing of migration, courtship, and nesting in a "typical" year for the majority of Swainson's hawks from San Joaquin County to Northern Yolo County. Dates should be adjusted in consideration of early and late nesting seasons, and geographic differences (northern nesters tend to nest slightly later, etc). If you are not sure, contact a TAC member or CDFG biologist.

Survey dates **Justification and search image**	**Survey time**	**Number of Surveys**
I. *January-March 20 (recommended optional)*	*All day*	*1*

Prior to Swainson's hawks returning, it may be helpful to survey the project site to determine potential nest locations. Most nests are easily observed from relatively long distances, giving the surveyor the opportunity to identify potential nest sites, as well as becoming familiar with the project area. It also gives the surveyor the opportunity to locate and map competing species nest sites such as great homed owls from February on, and red-tailed hawks from March on. After March 1, surveyors are likely to observe Swainson's hawks staging in traditional nest territories.

II. *March 20 to April 5*	*Sunrise to 1000* *1600 to sunset*	*3*

Most Central Valley Swainson's hawks return by April 1, and immediately begin occupying their traditional nest territories. For those few that do not return by April 1, there are often hawks ("floaters") that act as place-holders in traditional nest sites; they are birds that do not have mates, but temporarily attach themselves to traditional territories and/or one of the site's "owners." Floaters are usually displaced by the territories' owner(s) if the owner returns.

Most trees are leafless and are relatively transparent; it is easy to observe old nests, staging birds, and competing species. The hawks are usually in their territories during the survey hours, but typically soaring and foraging in the mid-day hours. Swainson's hawks may often be observed involved in territorial and courtship displays, and circling the nest territory. Potential nest sites identified by the observation of staging Swainson's hawks will usually be active territories during that season, although the pair may not successfully nest/reproduce that year.

III. *April 5 to April 20*	*Sunrise to 1200* *1630 to Sunset*	***3***

Although trees are much less transparent at this time, 'activity at the nest site increases significantly. Both males and females are actively nest building, visiting their selected site frequently. Territorial and courtship displays are increased, as is copulation. The birds tend to vocalize often, and nest locations are most easily identified. This period may require a great deal of "sit and watch" surveying.

IV. *April 21 to June 10*	*Monitoring known nest sites only* ***Initiating Surveys is not recommended***	

Nests are extremely difficult to locate this time of year, and even the most experienced surveyor will miss them, especially if the previous surveys have not been done. During this phase of nesting, the female Swainson's hawk is in brood position, very low in the nest, laying eggs, incubating, or protecting the newly hatched and vulnerable chicks; her head may or may not be visible. Nests are often well-hidden, built into heavily vegetated sections of trees or in clumps of mistletoe, making them all but invisible. Trees are usually not viewable from all angles, which may make nest observation impossible.

Following the male to the nest may be the only method to locate it, and the male will spend hours away from the nest foraging, soaring, and will generally avoid drawing attention to the nest site. Even if the observer is fortunate enough to see a male returning with food for the female, if the female determines it is not safe she will not call the male in, and he will not approach the nest; this may happen if the observer, or others, are too close to the nest or if other threats, such as rival hawks, are apparent to the female or male.

V. ***June 10 to JuIy 30 (post-fledging)*** ***Sunrise to 1200*** ***3***
1600 to sunset

Young are active and visible, and relatively safe without parental protection. Both adults make numerous trips to the nest and are often soaring above, or perched near or on the nest tree. The location and construction of the nest may still limit visibility of the nest, young, ‘and adults.

DETERMINING A PROJECT'S POTENTIAL
FOR IMPACTING SWAINSON'S HAWKS

LEVEL OF RISK	REPRODUCTIVE SUCCESS (Individuals)	LONGTERM SURVIVABILITY (Population)	NORMAL SITE CHARACTERISTICS (Daily Average)	NEST MONI-TORING
HIGH	Direct physical contact with the nest tree while the birds are on eggs or protecting young. (Helicopters in close proximity)	Loss of available foraging area.	Little human-created noise, little human use: nest is well away from dwellings, equipment yards, human access areas, etc. *Do not include general cultivation practices in evaluation.*	**MORE**
		Loss of nest trees.		
	Loss of nest tree after nest building is begun prior to laying eggs.	Loss of potential nest trees.		
	Personnel within 50 yards of nest tree (out of vehicles) for extended periods while birds are on eggs or protecting young that are < 10 days old.	Cumulative: Multi-year, multi-site projects with substantial noise/personnel disturbance.		
	Initiating construction activities (machinery and personnel) within 200 yards of the nest after eggs are laid and before young are > 10 days old.	Cumulative: Single-season projects with substantial noise/personnel disturbance that is greater than or significantly different from the daily norm.		
	Heavy machinery only working within 50 yards of nest.		Substantial human-created noise and occurrence: nest is near roadways, well-used waterways, active airstrips, areas that have high human use. *Do not include general cultivation practices in evaluation.*	
	Initiating construction activities within 200 yards of nest before nest building begins or after young > 10 days old.	Cumulative: Single-season projects with activities that "blend" well with site's "normal' activities.		
LOW	All project activities (personnel and machinery) greater than 200 yards from nest.			**LESS**

Appendix E. Staff report regarding mitigation for impacts to Swainson's hawk (*Buteo swainsoni*) in the Central Valley of California.

Nongame Bird and Mammal Section Report # 94.18

State of California

Memorandum

To : Div. Chiefs - IFD, BDD, NHD, WMD
Reg. Mgrs. - Regions 1, 2, 3, 4

Date : November 8, 1994

From : Department of Fish and Game

Subject : Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California

I am hereby transmitting the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California for your use in reviewing projects (California Environmental Quality Act [CEQA] and others) and in developing 2081 Management Authorizations and 2090 Biological Opinions which may affect Swainson's hawk habitat in the Central Valley. The staff report has been developed during the last 18 months by the Environmental Services Division (ESD) in cooperation with the Wildlife Management Division (WMD) and Regions 1, 2, and 4. It has been sent out for public review on several occasions and redrafted as appropriate.

Either the mitigation measures in the staff report may be used or project specific measures may be developed. Alternative project specific mitigation measures proposed by the Department Divisions/Regions or by project sponsors will also be considered. However, such mitigation measures must be submitted to ESD for review. The review process will focus on the consistency of the proposed measure with Department, Fish and Game Commission, and legislative policy and with laws regarding raptors and listed species. ESD will coordinate project specific mitigation measure review with WMD.

If you have any questions regarding the report, please contact Mr. Ron Rempel, Program Supervisor, Habitat Conservation Planning and Endangered Species Permitting, Environmental Services Division at (916) 654-9980.

COPY Original signed by
A. Petrovich, Jr.
For
Boyd Gibbons
Direction

Enclosure

cc: Mr. Ron Rempel
Department of Fish and Game
Sacramento

file; d, exfile, esd, chron
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Staff Report regarding Mitigation
for Impacts to Swainson's Hawks (*Buteo swainsoni*)
in the Central Valley of California

INTRODUCTION

The Legislature and the Fish and Game Commission have developed the policies, standards and regulatory mandates which, if implemented, are intended to help stabilize and reverse dramatic population declines of threatened and endangered species. In order to determine how the Department of Fish and Game (Department) could judge the adequacy of mitigation measures designed to offset impacts to Swainson's hawks in the Central Valley, Staff (WMD, ESD and Regions) has prepared this report. To ensure compliance with legislative and Commission policy, mitigation requirements which are consistent with this report should be incorporated into: (1) Department comments to Lead Agencies and project sponsors pursuant to the California Environmental Quality Act (CEQA); (2) Fish and Game Code Section 2081 Management Authorizations (Management Authorizations); and (3) Fish and Game Code Section 2090 Consultations with State CEQA Lead Agencies.

The report is designed to provide the Department (including regional offices and divisions), CEQA Lead Agencies and project proponents the context in which the Environmental Services Division (ESD) will review proposed project specific mitigation measures. This report also includes "model" mitigation measures which have been judged to be consistent with policies, standards and legal mandates of the Legislature and Fish and Game Commission. Alternative mitigation measures, tailored to specific projects, may be developed if consistent with this report. Implementation of mitigation measures consistent with this report are intended to help achieve the conservation goals for the Swainson's hawk and should complement multi-species habitat conservation planning efforts currently underway.

The Department is preparing a recovery plan for the species and it is anticipated that this report will be revised to incorporate recovery plan goals. It is anticipated that the recovery plan will be completed by the end of 1995. The Swainson's hawk recovery plan will establish criteria for species recovery through preservation of existing habitat, population expansion into former habitat, recruitment of young into the population, and other specific recovery efforts.

During project review the Department should consider whether a proposed project will adversely affect suitable foraging habitat within a ten (10) mile radius of an active (used during one or more of the last 5 years) Swainson's hawk nest(s). Suitable Swainson's hawk foraging habitat will be those habitats and crops identified in Bechard (1983), Bloom (1980), and Estep (1989). The following vegetation types/agricultural crops are considered small mammal and insect foraging habitat for Swainson's hawks:

- alfalfa
- fallow fields
- beet, tomato, and other low-growing row or field crops
- dry-land and irrigated pasture

- rice land (when not flooded)
- cereal grain crops (including corn after harvest)

The ten mile radius standard is the flight distance between active (and successful) nest sites and suitable foraging habitats, as documented in telemetry studies (Estep 1989, Babcock 1993). Based on the ten mile radius, new development projects which adversely modify nesting and/or foraging habitat should mitigate the project's impacts to the species. The ten mile foraging radius recognizes a need to strike a balance between the biological needs of reproducing pairs (including eggs and nestlings) and the economic benefit of developments) consistent with Fish and Game Code Section 2053.

Since over 95% of Swainson's hawk nests occur on private land, the Department's mitigation program should include incentives that preserve agricultural lands used for the production of crops, which are compatible with Swainson's hawk foraging needs, while providing an opportunity for urban development and other changes in land use adjacent to existing urban areas.

LEGAL STATUS

Federal

The Swainson's hawk is a migratory bird species protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in Section 50 of the Code of Federal Regulations (C.F.R.) Part 10, including feathers or other parts, nests, eggs or products, except as allowed by implementing regulations (50 C.F.R. 21).

State

The Swainson's hawk has been listed as a threatened species by the California Fish and Game Commission pursuant to the California Endangered Species Act (CESA), see Title 14, California Code of Regulations, Section 670.5(b)(5)(A).

LEGISLATIVE AND COMMISSION POLICIES,
LEGAL MANDATES AND STANDARDS

The FGC policy for threatened species is, in part, to: "Protect and preserve all native species ... and their habitats...." This policy also directs the Department to work with all interested persons to protect and preserve sensitive resources and their habitats. Consistent with this policy and direction, the Department is enjoined to implement measures that assure protection for the Swainson's hawk.

The California State Legislature, when enacting the provisions of CESA, made the following findings and declarations in Fish and Game Code Section 2051:

a) "Certain species of fish, wildlife, and plants have been rendered extinct as a consequence of man's activities, untempered by adequate concern and conservation";

b) "Other species of fish, wildlife, and plants are in danger of, or threatened with, extinction because their habitats are threatened with destruction, adverse modification, or severe curtailment because of overexploitation, disease, predation, or other factors (emphasis added)";and

c) "These species of fish, wildlife, and plants are of ecological, educational, historical, recreational, esthetic, economic, and scientific value to the people of this state, and the conservation, protection, and enhancement of these species and their habitat is of statewide concern" (emphasis added).

The Legislature also proclaimed that it "is the policy of the state to conserve, protect, restore, and enhance any endangered or threatened species and its habitat and that it is the intent of the Legislature, consistent with conserving the species, to acquire lands for habitat for these species" (emphasis added).

Section 2053 of the Fish and Game Code states, in part, "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species and or its habitat which would prevent jeopardy" (emphasis added).

Section 2054 states "The Legislature further finds and declares that, in the event specific economic, social, and or other conditions make infeasible such alternatives, individual projects may be approved if appropriate mitigation and enhancement measures are provided" (emphasis added).

Loss or alteration of foraging habitat or nest site disturbance which results in:

(1) nest abandonment; (2) loss of young; (3) reduced health and vigor of eggs and/or nestlings (resulting in reduced survival rates), may ultimately result in the take (killing) of nestling or fledgling Swainson's hawks incidental to otherwise lawful activities. The taking of Swainson's hawks in this manner can be, a violation of Section 2080 of the Fish and Game Code. This interpretation of take has been judicially affirmed by the landmark appellate court decision pertaining to CESA (DFG v. ACID, 8 CA App.4, 41554). The essence of the decision emphasized that the intent and purpose of CESA applies to all activities that take or kill endangered or threatened species, even when the taking is incidental to otherwise legal activities. To avoid potential violations of Fish and Game Code Section 2080, the Department recommends and encourages project sponsors to obtain 2081 Management Authorizations for their projects.

Although this report has been prepared to assist the Department in working with the development community, the prohibition against take (Fish and Game Code Section 2080) applies to all persons, including those engaged in agricultural activities and routine maintenance of facilities. In addition, sections 3503, 3503.5, and 3800 of the Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

To avoid potential violation of Fish and Game Code Section 2080 (i.e. killing of a listed species), project-related disturbance at active Swainson's hawk nesting sites should be reduced or eliminated during critical phases of the nesting cycle (March 1 - September 15 annually). Delineation of specific activities which could cause nest abandonment (take) of Swainson's hawk during the nesting period should be done on a case-by-case basis.

CEQA requires a mandatory findings of significance if a project's impacts to threatened or endangered species are likely to occur (Sections 21001 (c), 21083, Guidelines Sections 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports findings of Overriding Consideration. The CEQA Lead Agency's Findings of Overriding Consideration does not eliminate the project sponsor's obligation to comply with Fish and Game Code Section 2080.

NATURAL HISTORY

The Swainson's hawk (Buteo swainsoni) is a large, broad winged buteo which frequents open country. They are about the same size as a red-tailed hawk (Buteo jatnaicensis), but trimmer, weighing approximately 800-1100 grams (1.75 - 2 lbs). They have about a 125 cm. (4+foot) wingspan. The basic body plumage may be highly variable and is characterized by several color morphs - light, dark, and rufous. In dark phase birds, the entire body of the bird may be sooty black. Adult birds generally have dark backs. The ventral or underneath sections may be light with a characteristic dark, wide "bib" from the lower throat down to the upper breast, light colored wing linings and pointed wing tips. The tail is gray ventrally with a subterminal dusky band, and narrow, less conspicuous barring proximally. The sexes are similar in appearance; females however, are slightly larger and heavier than males, as is the case in most sexually dimorphic raptors. There are no recognized subspecies (Palmer 1988).

The Swainson's hawk is a long distance migrator. The nesting grounds occur in northwestern Canada, the western U.S., and Mexico and most populations migrate to wintering grounds in the open pampas and agricultural areas of South America (Argentina, Uruguay, southern Brazil). The species is included among the group of birds known as "neotropical migrants". Some individuals or small groups (20-30 birds) may winter in the U.S., including California (Delta Islands). This round trip journey may exceed 14,000 miles. The birds return to the nesting grounds and establish nesting territories in early March.

Swainson's hawks are monogamous and remain so until the loss of a mate (Palmer 1988). Nest construction and courtship continues through April. The clutch (commonly 3-4 eggs) is generally laid in early April to early May, but may occur later. Incubation lasts 34-35 days, with both parents participating in the brooding of eggs and young. The young fledge (leave the nest) approximately 42-44 days after hatching and remain with their parents until they depart in the fall. Large groups (up to 100+ birds) may congregate in holding areas in the fall and may exhibit a delayed migration depending upon forage availability. The specific purpose of these congregation areas is as yet unknown, but is likely related to: increasing energy reserves for migration; the timing of migration; aggregation into larger migratory groups (including assisting the young in learning migration routes); and providing a pairing and courtship opportunity for unattached adults.

Foraging Requirements

Swainson's hawk nests in the Central Valley of California are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. These open fields and pastures are the primary foraging areas. Major prey items for Central Valley birds include: California voles (*Microtus californicus*), valley pocket gophers (*Thomomys bottae*), deer mice (*Peromyscus maniculatus*), California ground squirrels (*Spermophilus beecheyi*), mourning doves (*Zenaida macroura*), ring-necked pheasants (*Phasianus colchicus*), meadowlarks (*Sturnella neglecta*), other passerines, grasshoppers (*Conocephalinae sp*.), crickets (*Gryllidae sp*.), and beetles (Estep 1989). Swainson's hawks generally search for prey by soaring in open country and agricultural fields similar to northern hariers (*Circus cyaneus*) and ferruginous hawks (*Buteo regalis*). Often several hawks may be seen foraging together following tractors or other farm equipment capturing prey escaping from farming operations. During the breeding season, Swainson's hawks eat mainly vertebrates (small rodents and reptiles), whereas during migration vast numbers of insects are consumed (Palmer 1988).

Department funded research has documented the importance of suitable foraging habitats (e.g., annual grasslands, pasture lands, alfalfa and other hay crops, and combinations of hay, grain and row crops) within an energetically efficient flight distance from active Swainson's hawk nests (Estep pers. comm.). Recent telemetry studies to determine foraging requirements have shown that birds may use in excess of 15,000 acres of habitat or range up to 18.0 miles from the nest in search of prey (Estep 1989, Babcock 1993). The prey base (availability and abundance) for the species is highly variable from year to year, with major prey population (small mammals and insects) fluctuations occurring based on rainfall patterns, natural cycles and agricultural cropping and harvesting patterns. Based on these variables, significant acreages of potential foraging habitat (primarily agricultural lands) should be preserved per nesting pair (or aggregation of

nesting pairs) to avoid jeopardizing existing populations. Preserved foraging areas should be adequate to allow additional Swainson's hawk nesting pairs to successfully breed and use the foraging habitat during good prey production years.

Suitable foraging habitat is necessary to provide an adequate energy source for breeding adults, including support of nestlings and fledglings. Adults must achieve an energy balance between the needs of themselves and the demands of nestlings and fledglings, or the health and survival of both may be jeopardized. If prey resources are not sufficient, or if adults must hunt long distances from the nest site, the energetics of the foraging effort may result in reduced nestling vigor with an increased likelihood of disease and/or starvation. In more extreme cases, the breeding pair, in an effort to assure their own existence, may even abandon the nest and young (Woodbridge 1985).

Prey abundance and availability is determined by land and farming patterns including crop types, agricultural practices and harvesting regimes. Estep (1989) found that 73.4% of observed prey captures were in fields being harvested, disced, mowed, or irrigated. Preferred foraging habitats for Swainson's hawks include:

- alfalfa;
- fallow fields;
- beet, tomato, and other low-growing row or field crops;
- dry-land and irrigated pasture;
- rice land (during the non-flooded period); and
- cereal grain crops (including corn after harvest).

Unsuitable foraging habitat types include crops where prey species (even if present) are not available due to vegetation characteristics (e.g. vineyards, mature orchards, and cotton fields, dense vegetation).

Nesting Requirements

Although the Swainson's hawk's current nesting habitat is fragmented and unevenly distributed, Swainson's hawks nest throughout most of the Central Valley floor. More than 85% of the known nests in the Central Valley are within riparian systems in Sacramento, Sutter, Yolo, and San Joaquin counties. Much of the potential nesting habitat remaining in this area is in riparian forests, although isolated and roadside trees are also used. Nest sites are generally adjacent to or within easy flying distance to alfalfa or hay fields or other habitats or agricultural crops which provide an abundant and available prey source. Department research has shown that valley oaks (Quercus lobata), Fremont's cottonwood (Populus fremontii), willows (Salix spp.), sycamores (Platanus spp.), and walnuts (juglans spp.) are the preferred nest trees for Swainson's hawks (Bloom 1980, Schlorff and Bloom 1983, Estep 1989).

Fall and Winter Migration Habitats

During their annual fall and winter migration periods, Swainson's hawks may congregate in large groups (up to 100+ birds). Some of these sites may be used during delayed migration periods lasting up to three months. Such sites have been identified in Yolo, Tulare, Kern and San Joaquin counties and protection is needed for these critical foraging areas which support birds during their long migration.

Historical and Current Population Status

The Swainson's hawk was historically regarded as one of the most common and numerous raptor species in the state, so much so that they were often not given special mention in field notes. The breeding population has declined by an estimated 91% in California since the turn of the century (Bloom 1980). The historical Swainson's hawk population estimates are based on current densities and extrapolated based on the historical amount of available habitat. The historical population estimate is 4,284-17,136 pairs (Bloom 1980). In 1979, approximately 375 (± 50) breeding pairs of Swainson's hawks were estimated in California, and 280 (75%) of those pairs were estimated to be in the Central Valley (Bloom 1980). In 1988, 241 active breeding pairs were found in the Central Valley, with an additional 78 active pairs known in northeastern California. The 1989 population estimate was 430 pairs for the Central Valley and 550 pairs statewide (Estep, 1989). This difference in population estimates is probably a result of increased survey effort rather than an actual population increase.

Reasons for decline

The dramatic Swainson's hawk population decline has been attributed to loss of native nesting and foraging habitat, and more recently to the loss of suitable nesting trees and the conversion of agricultural lands. Agricultural lands have been converted to urban land uses and incompatible crops. In addition, pesticides, shooting, disturbance at the nest site, and impacts on wintering areas may have contributed to their decline. Although losses on the wintering areas in South America may occur, they are not considered significant since breeding populations outside of California are stable. The loss of nesting habitat within riparian areas has been accelerated by flood control practices and bank stabilization programs. Smith (1977) estimated that in 1850

over 770,000 acres of riparian habitat were present in the Sacramento Valley. By the mid-1980s, Warner and Hendrix (1984) estimated that there was only 120,000 acres of riparian habitat remaining in the Central Valley (Sacramento and San Joaquin Valleys combined). Based on Warner and Hendrix's estimates approximately 93% of the San Joaquin Valley and 73% of the Sacramento Valley riparian habitat has been eliminated since 1850.

MANAGEMENT STRATEGIES

Management and mitigation strategies for the Central Valley population of the Swainson's hawk should ensure that:

- suitable nesting habitat continues to be available (this can be accomplished by protecting existing nesting habitat from destruction or disturbance and by increasing the number of suitable nest trees); and

- foraging habitat is available during the period of the year when Swainson's hawks are present in the Central Valley (this should be accomplished by maintaining or creating adequate and suitable foraging habitat in areas of existing and potential nest sites and along migratory routes within the state).

A key to the ultimate success in meeting the Legislature's goal of maintaining habitat sufficient to preserve this species is the implementation of these management strategies in cooperation with project sponsors and local, state and federal agencies.

DEPARTMENT'S ROLES AND RESPONSIBILITIES IN PROJECT CONSULTATION AND ADMINISTRATION OF CEQA AND THE FISH AND GAME CODE

The Department, through its administration of the Fish and Game Code and its trust responsibilities, should continue its efforts to minimize further habitat destruction and should seek mitigation to offset unavoidable losses by (1) including the mitigation measures in this document in CEQA comment letters and/or as management conditions in Department issued Management Authorizations or (2) by developing project specific mitigation measures (consistent with the Commission's and the Legislature's mandates) and including them in CEQA comment letters and/or as management conditions in Fish and Game Code Section 2081 Management Authorizations issued by the Department and/or in Fish and Game Code Section 2090 Biological Opinions.

The Department should submit comments to CEQA Lead Agencies on all projects which adversely affect Swainson's hawks. CEQA requires a mandatory findings of significance if a project's impacts to threatened or endangered species are likely to occur (Sections 21001 fc), 21083. Guidelines 15380, 15064, 15065). Impacts must be: (1) avoided; or (2) appropriate mitigation must be provided to reduce impacts to less than significant levels; or (3) the lead agency must make and support findings of overriding consideration. If the CEQA Lead Agency makes a Finding of Overriding Consideration, it does not eliminate the project sponsor's obligation to comply with the take prohibitions of Fish and Game Code Section 2080. Activities

which result in (1) nest abandonment; (2) starvation of young; and/or (3) reduced health and vigor of eggs and nestlings may result in the take (killing) of Swainson's hawks incidental to otherwise lawful activities (urban development, recreational activities, agricultural practices, levee maintenance and similar activities. The taking of Swainson's hawk in this manner may be a violation of Section 2080 of the Fish and Game Code. To avoid potential violations of Fish and Game Code Section 2080, the Department should recommend and encourage project sponsors to obtain 2081 Management Authorizations.

In aggregate, the mitigation measures incorporated into CEQA comment letters and/or 2081 Management Authorizations for a project should be consistent with Section 2053 and 2054 of the Fish and Game Code. Section 2053 states, in part, "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species and or its habitat which would prevent jeopardy" - Section 2054 states: "The Legislature further finds and declares that, in the event specific economic, social, and or other conditions make infeasible such alternatives, individual projects may be approved if appropriate mitigation and enhancement measures are provided."

State lead agencies are required to consult with the Department pursuant to Fish and Game Code Section 2090 to ensure that any action authorized, funded, or carried out by that state agency will not jeopardize the continued existence of any threatened or endangered species. Comment letters to State Lead Agencies should also include a reminder that the State Lead Agency has the responsibility to consult with the Department pursuant to Fish and Game Code Section 2090 and obtain a written findings (Biological Opinion). Mitigation measures included in Biological Opinions issued to State Lead Agencies must be consistent with Fish and Game Code Sections 2051-2054 and 2091-2092.

NEST SITE AND HABITAT LOCATION INFORMATION SOURCES

The Department's Natural Diversity Data Base (NDDB) is a continually updated, computerized inventory of location information on the State's rarest plants, animals, and natural communities. Department personnel should encourage project proponents and CEQA Lead Agencies, either directly or through CEQA comment letters, to purchase NDDB products for information on the locations of Swainson's hawk nesting areas as well as other sensitive species. The Department's Nongame Bird and Mammal Program also maintains information on Swainson's hawk nesting areas and may be contacted for additional information on the species.

Project applicants and CEQA Lead Agencies may also need to conduct site specific surveys (conducted by qualified biologists at the appropriate time of the year using approved protocols) to determine the status (location of nest sites, foraging areas, etc.) of listed species as part of the CEQA and 2081 Management Authorization process. Since these studies may require multiple years to complete, the Department shall identify any needed studies at the earliest possible time in the project review process. To facilitate project review and reduce the potential for costly

project delays, the Department should make it a standard practice to advise developers or others planning projects that may impact one or more Swainson's hawk nesting or foraging areas to initiate communication with the Department as early as possible .

MANAGEMENT CONDITIONS

Staff believes the following mitigation measures (nos. 1-4) are adequate to meet the Commission's and Legislature's policy regarding listed species and are considered as preapproved for incorporation into any Management Authorizations for the Swainson's hawk issued by the Department. The incorporation of measures 1-4 into a CEQA document should reduce a project's impact to a Swainson's hawk(s) to less than significant levels. Since these measures are Staff recommendations, a project sponsor or CEQA Lead agency may choose to negotiate project specific mitigation measures which differ. In such cases, the negotiated Management Conditions must be consistent with Commission and Legislative policy and be submitted to the ESD for review and approval prior to reaching agreement with the project sponsor or CEQA Lead Agency.

Staff recommended Management Conditions are:

1. No intensive new disturbances (e.g. heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other project related activities which may cause nest abandonment or forced fledging, should be initiated within 1/4 mile (buffer zone) of an active nest between March 1 - September 15 or until August 15 if a Management Authorization or Biological Opinion is obtained for the project. The buffer zone should be increased to ½ mile in nesting areas away from urban development (i.e. in areas where disturbance [e.g. heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities] is not a normal occurrence during the nesting season). Nest trees should not be removed unless there is no feasible way of avoiding it. If a nest tree must be removed, a Management Authorization (including conditions to off-set the loss of the nest tree) must be obtained with the tree removal period specified in the Management Authorization, generally between October 1- February 1. If construction or other project related activities which may cause nest abandonment or forced fledging are necessary within the buffer zone, monitoring of the nest site (funded by the project sponsor) by a qualified biologist (to determine if the nest is abandoned) should be required . If it is abandoned and if the nestlings are still alive, the project sponsor shall fund the recovery and hacking (controlled release of captive reared young) of the nestling(s). Routine disturbances such as agricultural activities, commuter traffic, and routine facility maintenance activities within 1/4 mile of an active nest should not be prohibited.

2. Hacking as a substitute for avoidance of impacts during the nesting period may be used in unusual circumstances after review and approval of a hacking plan by ESD and WMD. Proponents who propose using hacking will be required to fund the full costs of the effort, including any telemetry work specified by the

Department.

3. To mitigate for the loss of foraging habitat (as specified in this document), the Management Authorization holder/project sponsor shall provide Habitat Management (HM) lands to the Department based on the following ratios:

(a) Projects within I mile of an active nest tree shall provide:

- one acre of HM land (at least 10% of the HM land requirements shall be met by fee title acquisition or a conservation easement allowing for the active management of the habitat, with the remaining 90% of the HM lands protected by a conservation easement [acceptable to the Department] on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk) for each acre of development authorized (1:1 ratio); or

- One-half acre of HM land (all of the HM land requirements shall be met by fee title acquisition or a conservation easement [acceptable to the Department) which allows for the active management of the habitat for prey production on-the HM lands) for each acre of development authorized (0.5:1 ratio).

(b) Projects within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall plovide 0.75 acres of HM land for each acre of urban development authorized (0-75:1 ratio). All HM lands protected under this requirement may be protected through fee title acquisition or conservation easement (acceptable to the Department) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk.

(c) Projects within 10 miles of an active nest tree but gleater than 5 miles from an active nest tree shall provide 0.5 acres of HM land for each acre of urban development authorized (0.5:1 ratio). All HM lands- protected under this requirement may be protected through fee title acquisition or a conservation easement (acceptable to the Department) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk.

4. Management Authorization holders/project sponsors shall provide for the long-term management of the HM lands by funding a management endowment (the interest on which shall be used for managing the HM lands) at the rate of $400 per HM land acre (adjusted annually for inflation and varying interest rates).

Some project sponsors may desire to provide funds to the Department for HM land protection. This option is acceptable to the extent the proposal is consistent with Department policy regarding acceptance of funds for land acquisition. All HM lands should be located in areas which are consistent with a multi-species habitat conservation focus. Management

Authorization holders/project sponsors who are willing to establish a significant mitigation bank (> 900 acres) should be given special consideration such as 1.1 acres of mitigation credit for each acre preserved.

PROJECT SPECIFIC MITIGATION MEASURES

Although this report includes recommended Management Measures, the Department should encourage project proponents to propose alternative mitigation strategies that provide equal or greater protection of the species and which also expedite project environmental review or issuance of a CESA Management Authorization. The Department and sponsor may choose to conduct cooperative, multi-year field studies to assess the site's habitat value and determine its use by nesting and foraging Swainson's hawk. Study plans should include clearly defined criteria for judging the project's impacts on Swainson's hawks and the methodologies (days of monitoring, foraging effort/efficiency, etc.) that will be used.

The study plans should be submitted to the Wildlife Management Division and ESD for review. Mitigation measures developed as a result of the study.must be reviewed by ESD (for consistency with the policies of the Legislature and Fish and Game Commission) and approved by the Director.

EXCEPTIONS

Cities, counties and project sponsors should be encouraged to focus development on open lands within already urbanized areas. Since small disjunct parcels of habitat seldom provide foraging habitat needed to sustain the reproductive effort of a Swainson's hawk pair, Staff does not recommend requiring mitigation pursuant to CEQA nor a Management Authorization by the Department for infill (within an already urbanized area) projects in areas which have less than 5 acres of foraging habitat and are surrounded by existing urban development, unless the project area is within 1/4 mile of an active nest tree.

REVIEW

Staff should revise this report at least annually to determine if the proposed mitigation strategies should be retained, modified or if additional mitigation strategies should be included as a result of new scientific information.

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Appendix B

Cultural Records Search Results

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

To: Travis Crawford
Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 310
Visalia, CA 93291

Record Search 22-469

Date: December 20, 2022

Re: Madera Unified School District - New K-8 School

County: Madera

Map(s): Madera 7.5'

CULTURAL RESOURCES RECORDS SEARCH

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.

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the OHP 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.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there have been no previous cultural resource studies completed within the project area. Additionally, there have been no cultural resource studies conducted within the the one-half mile radius.

Record Search 22-469

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there are no recorded resources within the Project Area, and it is unknown if any exist there. There is one recorded resource within the one-half mile radius: P-20-002308.

P-20-002308 is a segment of the Madera Irrigation District; this historic era canal has been given a National Register status code of 2D2, indication this resource is a contributor to a district that has been determined eligible for listing in the National Register of Historic Places by consensus through the Section 106 process. It is also listed in the California Register of Historical Resources. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, for the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand the Madera Unified School District (MUSD) intends to construct and operate a Kindergarten through 8th grade school campus for approximately 1,100 students and staff and will include classroom facilities, administrative facilities, playgrounds, play courts, parking lots, bus areas and related infrastructure improvements. Further, we understand this project site is a vacant agricultural field. Please note that agriculture does not constitute previous development, as it does not destroy cultural resources, but merely moves them around within the plow zone. Because this property has not been previously studied for cultural resources, it is unknown if any are present. As such, prior to ground disturbance activities, we recommend a qualified, professional consultant conduct a field survey to determine if cultural resources are present. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:

Jeremy E. David, Assistant Coordinator **Date**: December 20, 2022

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Appendix C

Infrastructure Analysis Report



Infrastructure Report
New K-8 School
Madera Unified School District

Madera, California

September 23rd, 2022

Blair, Church & Flynn
CONSULTING ENGINEERS

451 Clovis Avenue, Suite 200
Clovis, California 93612
Tel (559) 326-1400
Fax (559) 326-1500
www.bcf-engr.com

Infrastructure Report
New K-8 School
Madera Unified School District
September 23rd, 2022

Prepared for:

Madera Unified School District

1902 Howard Road

Madera, CA 93637

Prepared by:

Blair, Church & Flynn
CONSULTING ENGINEERS
451 Clovis Avenue, Suite 200
Clovis, California 93612
Tel (559) 326-1400
Fax (559) 326-1500
www.bcf-engr.com

Date Signed: 09/22/2022

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1. Executive Summary

This project plans to construct a 15-acre K-8 school campus near the western most border of the City of Madera on the southern side of Cleveland Avenue (Avenue 15-1/2) between N Westberry Blvd and Avenue 16. The project will be constructed by the Madera Unified School District (School District) to provide adequate school facilities for students in the developing western edge of Madera.

This report provides a description of the infrastructure required to support the project, the potential project and cumulative impacts due to the project, an evaluation of the significance of the impacts, and mitigation measures to reduce the impacts to less than significant.

See Exhibit 1 included in Appendix A for a summary of existing utility facilities for the project site.

1.1. Project Setting

The proposed project is located on the south side of Cleveland Avenue (Avenue 15-1/2) generally bound by Avenue 16 to the west, N Westberry Blvd to the east, and Running Brook Street to the south. The area immediately north of the project location is predominantly farmland, while the areas to the west, east and south consist of residential housing developments.

The planned land use of the project area according to the City of Madera General Plan is low density residential.

Existing water mains are located in Cleveland Avenue along the north edge of the project site and San Phillipe at the southwest corner of the project site, existing wastewater facilities are located in Fairway Avenue to the east of the project site and Running Brook treet to the south, natural gas facilities are located in Fairway Avenue on the east side of the project site and in Cleveland Ave to the north, and existing underground and overhead electrical facilities are located in Cleveland Avenue along the north edge of the project site, and San Philippe and San Pietro Drive south of the project site.

The nearest storm drainage basin is the Berry/Home Ranch Basin located less than ¼ mile away due south of the project location. Per the Madera Storm Drainage System Master Plan, the project site is within the area designated to discharge stormwater runoff to the Berry/Home Ranch Basin. The Madera Storm Drainage System Master Plan lists the proposed project site as a residential land use classification, which typically produces greater flows than school sites due to increased amounts of impervious surfaces compared to schools, which often have more permeable surfaces such as sports fields. Further analysis should be completed to determine whether the Berry/Home Ranch Basin has sufficient capacity to serve the project site. If the Berry/Home Ranch Basin's ultimate capacity is insufficient, the basin may be excavated to provide the required capacity (Email from Keith Helmuth, 2022).

1.2. Project Description

The project will construct a new K-8 school campus for approximately 1,100 students and staff and will include classroom facilities, administrative facilities, playgrounds, play courts, parking lots, street improvements, parking facilities, bus loading and unloading zone, student drop-off and pick-up area for parents, and all construction related to underground facilities required to serve the site. Underground infrastructure to the project will consist of wet utilities including domestic water, sanitary sewer, and storm drainage, and dry utilities including natural gas, electric, telephone, cable, and data. Some dry utilities may be provided by above-grade utility lines or underground conduits.

The project will take approximately 14 months to construct and will be completed by August 2024 for the start of the school year.

1.3. Impacts and Mitigations

If the utility facilities designed to serve the Project Site are constructed in line with each respective Master Plan's required improvements, no additional mitigations should be required. However, the schedule of construction for the Master-Planned utility infrastructure is unknown, and thus each utility's Master Plan should be updated to account for the change in development with regards to this proposed school site.

Changes in the site imperviousness will significantly impact the peak runoff rates, runoff volumes, and site recharge rates when compared to existing and planned land use. These impacts can be mitigated by preparing a detailed storm drainage report on the project which evaluates the project runoff patterns, runoff rates, runoff volumes, and describes the necessary changes to the City of Madera Storm Drainage System Master Plan to reduce the impacts to within the design requirements of said Master Plan.

2. Domestic Water

The City of Madera will provide domestic water to the project site through a network of groundwater wells, pumps, and water distribution system. This section discusses the availability of water, the quality of available water, the system of pumps and water mains that provide domestic water to the site, the expected demand from the project, and the evaluation of the impacts and comparison of those impacts to thresholds of significance.

The proposed project is a K-8 school campus for 1,100 students and staff. The campus is estimated to be 15-acres and will be located on the south side of Cleveland Avenue between Avenue 16 and N Westberry Blvd. The campus domestic water uses will include drinking fountains, sinks, urinals, toilets, and landscape irrigation. Water may be required for a variety of ancillary uses around campus; however, these demands will not significantly impact the overall demand of the site. Demands provided by the students & staff will comprise the majority of water demand for the site at approximately 57% and irrigation will make up the rest requiring a share of roughly 43% of the site's water demand while school is in session.

Service to the site will be provided by constructing a domestic water service, an irrigation service, and a fire service; the domestic and fire services may share a trench to save on labor and earthwork costs. There is an existing 12-inch water main in Cleveland Avenue along the northern border of the project site, and there is a 12-inch water main in Running Brook Street just south of the project site. The water services (domestic, fire, and irrigation) will either connect to the existing 12-inch Cleveland Avenue water main or the existing 12-inch Running Brook Street water main; it will be up to the School District to work with the City of Madera to determine exact service locations for each service type. It is assumed that the water main extensions for each service will be generally located within paved areas for street improvements, and the service materials (e.g. water meters, backflow preventers, etc.) will be placed at a location to be decided upon by the School District and the City of Madera. Materials for the services will be Polyvinyl Chloride (PVC) pipe. The service lines will be installed in trenches that will be excavated, backfilled, and compacted in compliance with Madera City standards. Temporary pavement will be installed where pavement has been removed in streets to install the water services. Permanent pavement will be installed with the street improvements for the campus. Water meters and backflow prevention devices will be installed for the domestic and irrigation water services. The fire service will be installed with backflow prevention and a fire detection check valve.

Exhibit 1 included in Appendix A shows the existing domestic water facilities for the project site.

2.1. Water Source

The Madera sub-basin of the San Joaquin Valley Groundwater Basin is the sole source of water for the City of Madera (Akel Engineering Group, Inc 2014W). The overall groundwater storage capacity reduced by approximately 112,000 acre-feet between the Spring of 2020 and 2021 (Madera County Water, 2022). This shows a continuing trend of over drafting for the Madera sub-basin, which will continue to drop the water table, thereby continuing to reduce storage capacity. Madera County has employed a number of water conservation efforts which have resulted in a reduction of groundwater usage.

The quality of the water from the aquifer is considered to be of good quality and does not require additional treatment at this time. Well numbers 25, 29, and 32 are the three closest wells to the proposed project location. While these wells do not have immediate water quality issues, Figure 5.3, “High Levels of Constituents in Groundwater,” in the Water System Master Plan shows that wells 29 and 32 are within an area that contains a high level of manganese, though it should be noted that the manganese concentrations were based on information from test wells and were present at specific depth intervals usually in the deeper groundwater (Akel Engineering Group, Inc 2014W). Figure 1 shows the locations of the wells with respect to the project site.

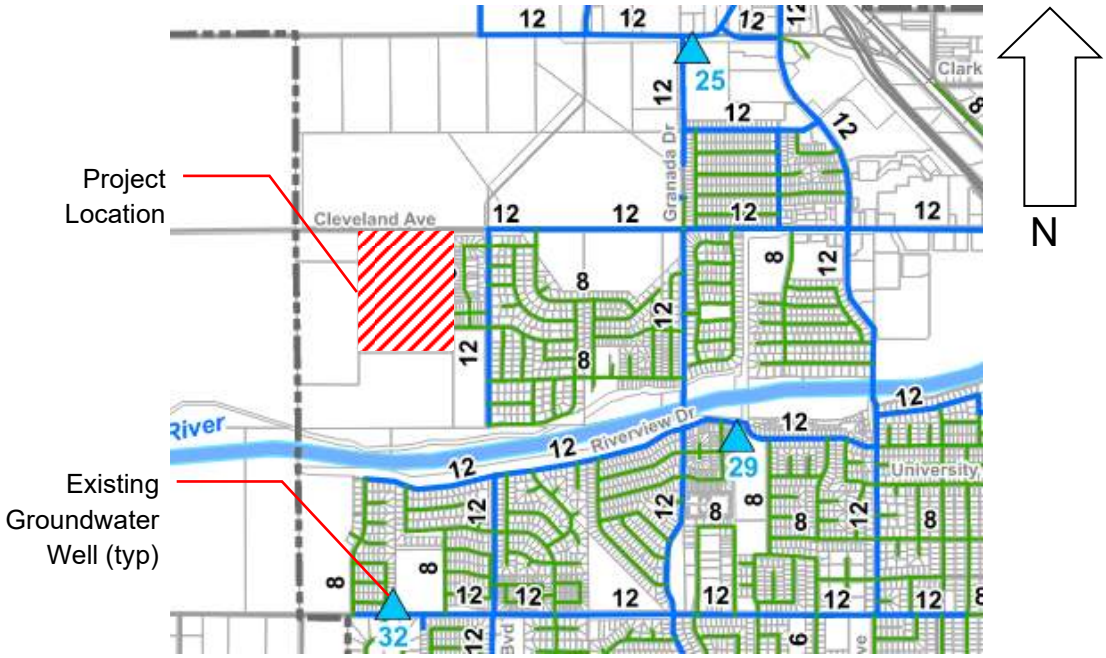

Figure 1. Figure 4.1 from City of Madera Water System Master Plan

2.2. Water System

With the construction of the K-8 school following recent housing developments in the area, the water system for the surrounding area has been constructed. Wells 25, 29 and 32 are in service and are connected to the water main distribution grid system. The water main distribution grid system consists largely of 12-inch diameter pipelines which are available to provide service to the site (Akel Engineering

Group, Inc 2014W). However, the Madera Water Master Plan includes the construction of several new wells in the area of the project site – GW-15 near the intersection of Cleveland Avenue and Avenue 16, GW-16 north of the intersection of Cleveland Avenue and Avenue 16, and GW-4 near the intersection of Cleveland Avenue and Granada Drive – as well as several new 8- and 12-inch water mains in the vicinity of the project site as requirements for buildout of the Master Plan.

Additionally, a technical memorandum was prepared to complete hydraulic modeling of the existing and planned water system for development of the area surrounding and including the project site (Links Ranch Technical Memorandum, Akel Engineering Group, Inc. 2022). In this memorandum, the project site is known as "Villa de Roma," and analyzed as a residential land use classification. It was recommended that for future development if the area, at least one (1) new groundwater well be constructed to meet the projected water demands.

Per utility drawings obtained for the project area, a number of 8- and 12-inch water mains have been installed to serve the surrounding housing developments, however the City of Madera has confirmed that no new wells in the area of the project have been constructed, though at least one new well is planned for future construction. The schedule for construction of Master-Planned water facilities is unknown, and thus additional analysis and hydraulic modeling will be required of the project is constructed prior to the Master-Planned infrastructure.

The system is capable of meeting fire flow demands for the project area in its Master-Planned land use classification of low-density residential, which is 1,500 gpm for two hours. Institutional fire flow rates are listed in the City of Madera Water Master Plan as 2,500 gpm for three hours (Akel Engineering Group, Inc 2014W). The water supply to meet fire flow demand is provided within the City's infrastructure by a one-million-gallon tank and Well No. 26 (Akel Engineering Group, Inc 2014W). Modeling of the transmission system should be performed to verify the system can provide the higher fire flows of 2,500 gpm for three hours to the project site.

2.3. Project Construction Activities

The project will need to construct water service connections from either of the existing 12-inch diameter water mains located in Cleveland Avenue or San Phillipe to the campus. The water service connections will consist of a domestic service connection, a fire service connection, and an irrigation service connection. The domestic and irrigation services will be metered and require the installation of backflow prevention devices between the City water main and the project site. The proposed locations of the services are unknown and will need to be determined by the School District with approval from the City of Madera. Temporary pavement will be installed where pavement has been removed to install all required appurtenances. Permanent pavement will be installed with street improvements to be constructed by the project.

2.4. Project Impacts and Levels of Significance

The project is estimated to have a domestic water demand of 2,800 gpd/acre based on 1,100 students, a project area of 15-acres, and a daily demand per student of 38.2 gpd/student (Gleick, et al. 2003). The Water System Master Plan assigned the project site a land use designation of low density residential, which has an average water demand of 2,850 gpd/acre (Akel Engineering Group, Inc 2014W). This means the proposed school will reduce the overall demand of water for the site compared to the Master-Planned use by 50 gpd/acre. Additionally, the school year typically has 180 days with class in session,

meaning there are 185 days of the year where the demand for the school site is significantly lower than the typical demand, and the demand for the Master-Planned land use classification.

If all Master-Planned water infrastructure is constructed, the project will not require the construction of any additional off-site water distribution, storage, or supply systems; the proposed project will have a lower water demand than the Master-Planned land use, thus the Master-Planned water facilities will be sufficient to meet the school's water demand. However, the schedule for construction of the Master-Planned utilities is unknown, and per the City of Madera, a new groundwater well will be constructed in the future per the Water System Master Plan. If the proposed school is planned to be constructed prior to build-out of the Water System Master Plan for the area, then further analysis and hydraulic modeling are required to determine if additional water supply facilities are needed to serve the school.

The project will construct service lines from existing 12-inch diameter water mains in either Cleveland Avenue or San Phillipe to serve the proposed school; the exact locations, size, and alignment of such services will be determined by the School District with approval from the City of Madera. The project will result in temporary impacts during the construction of the water services. These impacts may include disruptions to traffic, increased dust, increased sediments in rainfall runoff, and increased air emissions from construction equipment. Construction is to be completed by a licensed contractor under a permit issued by the City of Madera. Runoff from the project site during the construction period will be covered by the General Construction permit issued by the State of California Water Resources Control Board; the Contractor will be required to install and maintain all necessary Best Management Practices (BMPs) for stormwater runoff management and erosion control. A San Joaquin Valley Air Pollution District permit and dust control requirements will be adhered to during the construction period. Construction activities should not result in significant project impacts or cumulative impacts to the environment.

2.5. Mitigation

Additional analyses shall be completed to determine if additional water supplies are required in the form of groundwater wells, and when the Master-Planned water facilities in the project area will be constructed. The City of Madera Water System Master Plan should be updated to reflect the change in development.

3. Wastewater

The City of Madera will provide wastewater collection, treatment and disposal for the wastewater generated by the project site. Wastewater collection is provided through a series of existing sanitary sewer mains and trunk sewers that convey wastewater from the project and areas surrounding the project to the existing wastewater treatment plant. Treatment and disposal are provided at the City's wastewater treatment plant located at 13048 Road 21-½, west of the City of Madera. This section discusses the capacity of the existing sanitary sewer collection system, the capacity of the wastewater treatment plant, the expected wastewater discharge from the project, and the evaluation of the impacts and comparison of those impacts to thresholds of significance.

The project will produce an estimated 680 gpd/acre of wastewater based on a projected 1,100 students and staff, a project area of 15-acres, and the typical wastewater production per student of 10.2 gpd for a campus with sinks, urinals, and toilets only (Gleick, et al. 2003). This is down from the estimated 1,250 gpd/acre for the Master-Planned land use of low density residential which has a 1,200 gpd/acre wastewater discharge rate; the proposed school will produce just over half of the wastewater projected for the Master-Planned land use (Akel Engineering Group, Inc 2014W).

Exhibit 1 included in Appendix A shows the existing wastewater facilities for the project site.

3.1. Project Construction Activities

Service to the site will be provided by constructing a sanitary sewer service line from an existing sewer main. The existing sewer mains in the vicinity of the project site include an 8-inch diameter sanitary sewer main in Fairway Avenue on the east side of the project site, and a 15-inch sanitary sewer main in Running Brook Street just south of the project site, both of which serve the surrounding housing developments and eventually discharge into the Westberry Trunk sewer, an existing 33-inch diameter sanitary sewer located in W Westberry Blvd. There is an existing sewer lift station near the intersection of San Pietro Drive and Fairfield Way that helps convey the wastewater collected from the developments to the Westberry Trunk sewer. The Westberry Trunk connects to the Pecan Trunk which delivers the sewage to Madera's wastewater treatment plant.

Per the Links Ranch Technical Memorandum, the Sanitary Sewer System Master Plan included the project site (defined as "Villa de Roma") as tributary to the Westberry Trunk, indicating that the Westberry Trunk has sufficient capacity for the project site as defined by the Master Plan as low volume residential. There is a Master-Planned trunk sewer in Road 23 west of the proposed school, but the project site was not included as tributary to that future trunk as part of the Links Ranch Technical Memorandum or the Sanitary Sewer System Master Plan. Since the proposed school will result in a lower rate of wastewater discharge, the Master-Planned facilities will be sufficient to accommodate the proposed project. However, the existing sewer mains and lift station conveying wastewater from the existing developments to the Westberry Trunk were not designed as part of the Sanitary Sewer System Master Plan and will need to be assessed to determine if they have sufficient capacity to accommodate the flows from the proposed project. If not, new wastewater collection facilities will need to be constructed to convey the school's wastewater to the Westberry Trunk. Materials for the services will be PVC pipe. The service line will be installed in a trench that will be excavated, backfilled, and compacted. Temporary pavement will be installed where pavement has been removed to install all required appurtenances. Permanent pavement will be installed with street improvements to be constructed by the project.

3.2. Collection System

A new sanitary sewer collection system and service will be required to serve the school; the service will either tie into the 8-inch diameter sewer main in Fairway Avenue or the 15-inch diameter sewer main in Running Brook St. The Master-Planned land use for the project site is single-family residential, which has an estimated wastewater generation rate of 1,250 gpd/acre, while the proposed land use of a school site has a wastewater generation rate of 680 gpd/acre. Assuming the sewer system was constructed in line with the Sanitary Sewer System Master Plan this would indicate there is capacity for the school's wastewater production. The existing sewer mains should be evaluated to ensure they have sufficient capacity to accommodate the project flows. The exact location of the proposed service is unknown and will need to be determined by the School District with input and approval from the City of Madera. Tapping into the Running Brook Street sewer main will likely require an on-site sewer lift station to be owned and operated by the School District due to the difference in elevation between the proposed school buildings and the existing sewer main. The proposed on-site buildings are roughly 1,500 feet from the existing 15-inch main in Running Brook St, and sewer laterals typically require a minimum slope of 2%. The sewer main in Running Brook St is at an approximate depth of 9'; assuming a 1,500-foot long lateral, this would result in a minimum of 30' of elevation loss. Comparatively, the existing sewer main in Fairway Ave is at an approximate depth of 7' and would likely require a significantly shorter service at less than 100-feet in length. The Sanitary Sewer System Master Plan does not indicate where the service should be connected for the project site, and thus the service location will need to be determined by the School District in coordination with the City of Madera.

3.3. Treatment Capacity

The wastewater treatment plant provides primary and secondary treatment and was upgraded to a capacity of 10.1 MGD in 2005. As of 2018 the average flow into the wastewater treatment plant was 4.84 MGD and had a maximum flow rate of 7.91 MGD (Akel Engineering Group, Inc 2014W). Given Madera's wastewater treatment system was designed to accommodate the development of the project site in accordance with the Master-Planned land use of single family residential, and that the proposed school is estimated to generate 570 gpd/acre less than the Master-Planned land use, then the currently existing wastewater infrastructure constructed per the Sanitary Sewer System Master Plan and the future facilities to be built per the Master Plan will have capacity for the proposed project's wastewater generation, including the wastewater treatment facility.

3.4. Project Impacts and Levels of Significance

The proposed project plans to construct a K-8 campus for approximately 1,100 students and staff. The campus site is projected to be 15-acres and will be located on the south side of Cleveland Ave between Avenue 16 and N Westberry Blvd. The campus wastewater will be produced by sinks, urinals, and toilets.

According to the School District, school hours are typically 8:00 A.M – 3:15 P.M. The project site will likely experience peak flows during this time frame with lower flows expected in the early morning before the beginning of the school day as students are dropped off, and waning demand into the afternoon hours with a fraction of staff and students participating in after school extracurricular activities. Peak flows from the site will likely occur during various breaks throughout the day , and is expected to begin dropping off from the site as the school day begins to come to a close.

The project site will not require the construction of any additional off-site sanitary sewer collection system or treatment facilities. The Master Plan does not indicate the intended route for the wastewater generated by the proposed school site. Further analysis will be required to determine the optimal sewer lateral connection point. The project will require the construction of a sanitary sewer service line from the school site into one of the sewer mains in the area including Fairway Avenue (8-inch) east of the site or the sewer main in Running Brook St (15-inch) due south of the project. Construction is to be performed by a licensed contractor under a permit issued by the City of Madera. Runoff from the project site during the construction period will be covered by the General Construction Permit issued by the State of California Water Resources Control Board. The contractor will be required to install and maintain all necessary Best Management Practices (BMPs) for stormwater runoff management and erosion control. A San Joaquin Valley Air Pollution District permit and dust control requirements will be adhered to during the construction period. Construction activities should not result in significant project impacts of cumulative impacts to the environment.

3.5. Mitigations

While there are no mitigations required, the City of Madera Sanitary Sewer System Master Plan should be updated to reflect the change in development, and the existing sewer mains that may receive wastewater flows from the proposed school should be evaluated to ensure they have capacity to accommodate the additional flows.

4. Stormwater

The City of Madera will provide stormwater collection and disposal for the project site. Stormwater disposal from the site will be provided by a storm drain system of inlets and pipelines that will be used to drain the project site. From the site, it will tie into an existing storm drain pipeline in N Westberry Blvd before being discharged into the Berry/Home Ranch storm drainage Basin located south of the proposed campus which has a capacity of 50 acre-feet. Further analysis will be required to determine if the Berry/Home Ranch storm drain basin will be able to provide the required stormwater storage for the proposed site; if not, the basin will need to be excavated to provide required additional capacity. This section discusses the expected runoff rate and volume from the project, and the evaluation of the impacts and comparison of those impacts to thresholds of significance.

The project will consist of a K-8 campus housing 1,100 students and staff. The campus site area is estimated at 15-acres and will be located on the south side of Cleveland Ave between N Westberry Blvd and Avenue 16. The campus will be a traditional K-8 school campus consisting of classrooms, an administration building, a multipurpose building, faculty and visitor parking lot, a pickup and drop off zone, a bus loading and unloading zone, hard play courts, landscaping, and natural grass fields.

4.1. Collection System

The stormwater collection system that will serve the campus does not currently exist, however the Storm Drainage System Master Plan denotes that the area will be served by the Berry/Home Ranch Basin. The proposed site's storm drain system will need to tie into nearby existing storm drainpipes to convey stormwater runoff to the retention basin. There is an existing 42-inch storm drain in N Westberry Blvd that discharges to the Berry/Home Ranch Basin. Per the Storm Drainage System Master Plan, the area in which the project site is encompassed will drain to the Berry/Home Ranch Basin via the storm drain pipeline in Westberry Road. However, due to the distance between the project site and the existing storm drain main, a booster pump may be needed to deliver the runoff to the pipe.

There are also existing storm drainpipes that have been installed throughout the recently constructed housing developments adjacent to the project site that discharge directly into the Berry/Home Ranch Basin via two drainage outlets. It is unknown whether these existing pipes have sufficient capacity to carry the additional runoff resulting from the project site. The Storm Drainage System Master Plan does not indicate where the service should be connected for the project site, and thus the service location will need to be determined by the School District in coordination with the City of Madera.

4.2. Disposal

Per the Storm Drainage System Master Plan, stormwater disposal will be provided for the Project Site by the Berry/Home Ranch stormwater basin as indicated by Figure ES.4 from the Storm Drainage System Master Plan. This basin is located approximately 1,100 feet due south of the project location just north of the Fresno River. The basin has an existing capacity of 50 acre-feet and can be excavated to increase capacity should further analysis require it.

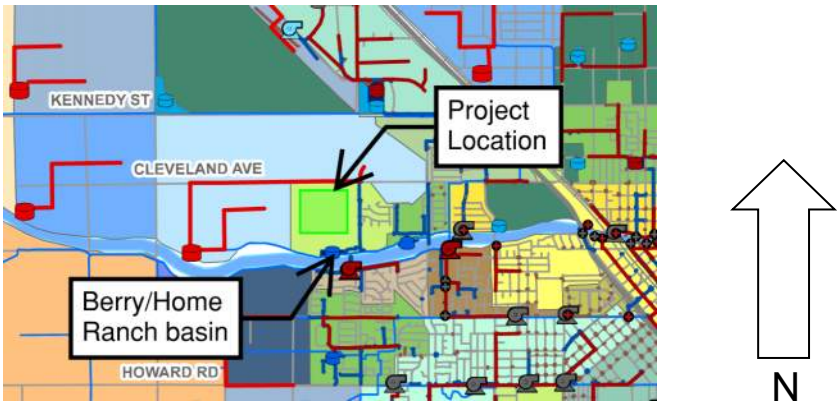

Figure 2. Figure ES.4 from City of Madera Storm Drainage System Master Plan

4.3. Project Impacts and Levels of Significance

The project will have three significant impacts on the proposed site's hydrology.

1. Rainfall runoff discharge rates will increase as compared to existing conditions but decrease as compared to the original planned use of the site.

2. Rainfall runoff volume will increase as compared to existing conditions but will decrease as compared to the original planned use of the site.

3. Ground water recharge at the site will decrease as a result of increased imperviousness as compared to existing conditions.

Rainfall runoff discharge rates and volumes will increase compared to existing conditions as a result of the following improvements to the site:

1. Street frontage will be improved, and pavement width will convert pervious area to impervious area.

2. The infrastructure required for the school campus including school buildings, concrete & pavement improvements will convert currently pervious area to impervious area.

3. The site will be graded, and concrete surface drainage improvements will be added to route runoff water from the site, increasing the speed at which the runoff will travel.

4. Storm drain inlets and underground storm drainage collection systems will be added which will further channel runoff off of campus and increase its speed.

These improvements will result in an increase in peak runoff rate and runoff volume as compared to existing conditions; however, the peak runoff rate and runoff volume will likely decrease when compared to the Master-Planned land use. The Storm Drainage System Master Plan anticipated that the project area would develop as low density residential per the Madera General Plan. The project will result in a slight decrease in runoff volume when developed as a school site compared to the runoff volume from the Master-Planned usage of single family residential; this is largely due to the sizable grass fields to be installed as part of the school campus which will reduce impervious surfaces when compared to residential neighborhoods which are typically comprised largely of concrete and asphalt with much

smaller amounts of landscaping. Changes to site grading will also change the anticipated rainfall runoff rates and volumes.

4.4. Mitigations

The project will need to mitigate the increase in runoff discharge rate and volume from the site compared to existing conditions. At the time of development, a project storm drainage report should be prepared which will determine the peak runoff rates from the project site. It will also determine the size of storm drain pipeline required to convey the runoff discharge rates from the project site. The report should be submitted to the City of Madera for review, comment, and approval. The City of Madera Storm Drainage System Master Plan should be updated to reflect the change in development.

Implementation of the recommendations of the storm drainage report and construction of the storm drain pipeline will mitigate the increased runoff rates and volume from the site by providing infrastructure to drain away from the site. These impacts do not result in significant project or cumulative impacts to the environment.

Dust from the site and basin grading activities and the construction of storm drain facilities will be mitigated by conformance with the San Joaquin Valley Air Pollution Control District permit.

Sediments and pollutants in site runoff due to grading activities and construction of storm drainage facilities will be mitigated through conformance with the National Pollution Discharge Elimination System (NPDES) General Construction Permit issued by the State Water Resources Control Board. Contractor will be required to install and maintain all necessary Best Management Practices (BMPs) for stormwater runoff management and erosion control.

Construction activities will not result in significant project or cumulative impacts to the environment.

5. Dry Utilities

Dry utilities consist of natural gas pipelines, television, telephone, data cables, and electrical conductors. These utilities are provided by regulated utility companies as follows.

Company Name	**Utility Type**
Pacific Gas & Electric Company	Natural Gas & Electric
AT&T	Data
AT&T	Telephone
Comcast	Cable TV

This section includes a discussion of the existing dry utilities, an evaluation of the impacts to provide these utilities, and a comparison of those impacts to thresholds of significance.

The proposed project is a K-8 school to support 1,100 students and staff. The campus site area is estimated to be 15-acres and will be located on the southern side of Cleveland Ave between Avenue 16 and N Westberry Blvd. The campus will use natural gas to heat the buildings and water for sinks;

electricity for lighting, HVAC equipment, pumps, computers, office equipment, copiers and printers, and audio-visual equipment; telecommunication equipment for telephone service, access to the internet and data; and potentially cable television for audio-visual instruction.

Exhibit 1 included in Appendix A shows the existing dry utility facilities for the project site.

6. Natural Gas

Underground natural gas is available in the project vicinity. PG&E did not report that there was insufficient capacity within their existing infrastructure to provide natural gas service to the site. There are existing gas mains in the area including in Fairway Ave, San Philippe Dr, and San Pietro Dr. these include 2-inch mains in Fairway Ave and San Pietro Dr, a 1-inch main in San Phillipe, and an 8-inch main in Cleveland Avenue. PG&E will design the required gas service for the project. The School District may elect to have PG&E construct the facilities or have them constructed by their contractor to be inspected and approved by PG&E. PG&E will ultimately own and maintain the gas service from the main to the meter.

6.1. Project Construction Activities

Natural gas service to the site will be provided by constructing a service line from one of the existing natural gas distribution mains adjacent to the campus. The Madera Master Plan does not indicate where the service should be connected for the project site, and thus the service location will need to be determined by the School District in coordination with the City of Madera. Materials for the service will be PVC pipe or High-Density Polyethylene (HDPE) pipe. The service line will be installed in a trench that will be excavated, backfilled, and compacted. Temporary pavement will be installed where pavement has been removed to install all required appurtenances. Permanent pavement will be installed with street improvements to be constructed by the project.

7. Electrical Power

Underground and overhead electrical services are available in the project vicinity. PG&E did not report that there was insufficient capacity within their existing infrastructure to provide electrical service to the site. There is an overhead 12 kV electrical line located along the east side of the project location running between the project site and Camino Lane, and there is a 12 kV underground line in San Pietro Dr. PG&E will design the required primary electrical service, transformer, and secondary electrical line to the service meter for the project. The School District may elect to have PG&E construct the facilities or have them constructed by their contractor and inspected by PG&E. PG&E will ultimately own and maintain the electrical line and service from the main to the meter.

7.1. Project Construction Activities

The primary and secondary electrical service lines to the site will be provided by constructing an underground primary service line from the existing overhead 12kV electrical line located along the east side of the project site, or the existing underground 12 kV electrical line located in San Pietro Dr. The Madera Master Plan does not indicate where the service should be connected for the project site, and thus the service location will need to be determined by the School District in coordination with the City of Madera. Materials for the electrical line will be PVC or HDPE conduit and copper or aluminum conductor with plastic coating. Electrical vaults will be constructed of concrete and steel. The transformer will most likely be above ground. Fabrication will be accordance with PG&E standards. Installation will include a concrete pad, steel bollard protection posts, and the transformer itself. The service line will be installed in

a trench that will be excavated, backfilled, and compacted. Vaults will be installed by excavating a hole in the ground, compacting the subgrade at the bottom of the hole, installing the vault, and backfilling around and above the vault. The access hole to the vault will be adjusted to match flush with the surrounding surface. Temporary pavement will be installed where pavement has been removed to install all required appurtenances. Permanent pavement will be installed with street improvements to be constructed by the project.

8. Communications and Data

The School District utilizes AT&T as their telephone and data/internet provider. Underground service is available in Cleveland Avenue on the north side of the project site. AT&T did not report that there was insufficient capacity within their existing infrastructure to provide telephone service to the site. Underground fiber optic service is available as well. AT&T will ultimately own and maintain the telephone and data lines as well.

8.1. Project Construction Activities

The telephone and fiber optic service lines to the site will be provided by constructing underground facilities from a point of connection with the existing AT&T infrastructure to the project site. The Madera Master Plan does not indicate where the service should be connected for the project site, and thus the service location will need to be determined by the School District in coordination with the City of Madera.. The fiber optic service lines to the site will be constructed as an underground service line from the nearest AT&T point of connection to the project. Materials for the underground conduit for the fiber or copper lines will be PVC or HDPE pipe. The conductors will be either multi-pair copper wire with plastic coating or fiber optic bundles. Communication vaults will be constructed of concrete and steel and installed underground at major junction points and turns. Copper wire service line will be installed in conduits that are laid in a trench that will be excavated, backfilled, and compacted. The copper wire conductors are pulled through the conduits after the trench has been compacted and accepted. Fiber optic lines will be in conduits that will be installed in excavated trenches or via direct bore methods that do not require trenching except at the boring location and the receiving end of the bore. These points will be backfilled and compacted once the boring is completed, and the connections have been made to the existing infrastructure. Vaults will be installed by excavating a hole in the ground, compacting the subgrade at the bottom of the hole, installing the vault and backfilling around and above the vault. The access hole to the vault will be adjusted to match flush with the surrounding surface Temporary pavement will be installed where pavement has been removed to install all required appurtenances. Permanent pavement will be installed with street improvements to be constructed by the project.

9. Cable TV

Cable television (TV) is available at the site and is provided by Comcast. Underground facilities are available in the project vicinity. Comcast did not report that there was insufficient capacity within their existing infrastructure to provide television service to the site. Underground communication lines are located in San Pietro Dr and San Phillipe. Comcast will design the cable TV service lines from their infrastructure to the project. These facilities are constructed by Comcast, and they will ultimately own and maintain the cable TV facilities.

9.1. Project Construction Activities

The cable TV lines to the site will be provided by constructing an underground conduit and coaxial cable from the existing underground TV infrastructure. The Madera Master Plan does not indicate where the service should be connected for the project site, and thus the service location will need to be determined by the School District in coordination with the City of Madera. Materials for the cable TV conduit will be PVC or HDPE. The conductor will be copper or aluminum coaxial cable. Cable TV vaults will be constructed of concrete and steel. The service line will be installed in a trench that will be excavated, backfilled, and compacted. Vaults will be installed by excavating a hole in the ground, compacting the subgrade at the bottom of the hole, installing the vault, and backfilling around and above the vault. The access hole to the vault will be adjusted to match flush with the surrounding surface. Temporary pavement will be installed where pavement has been removed to install all required appurtenances. Permanent pavement will be installed with street improvements to be constructed by the project.

10. Project Impacts and Levels of Significance

This project is not expected to require the installation of new off-site facilities to meet the natural gas, electrical, telephone, data, or cable television needs of the project. None of these utilities are expected to be adversely impacted by the project.

The project will require the construction of gas, electric, communications and TV lines to connect to existing facilities and services in the vicinity of the project site. Construction will be performed by a licensed contractor under a permit issued by the City of Madera. Runoff from the project site during the construction period will be covered by the General construction permit issued by the State of California Water Resources Control Board. Contractor will be required to install and maintain all necessary Best Management Practices (BMPs) for stormwater runoff management and erosion control. A San Joaquin Valley Air Pollution District permit and dust requirement will be adhered to during the construction period. Construction activities should not result in significant project impacts or cumulative impacts to the environment.

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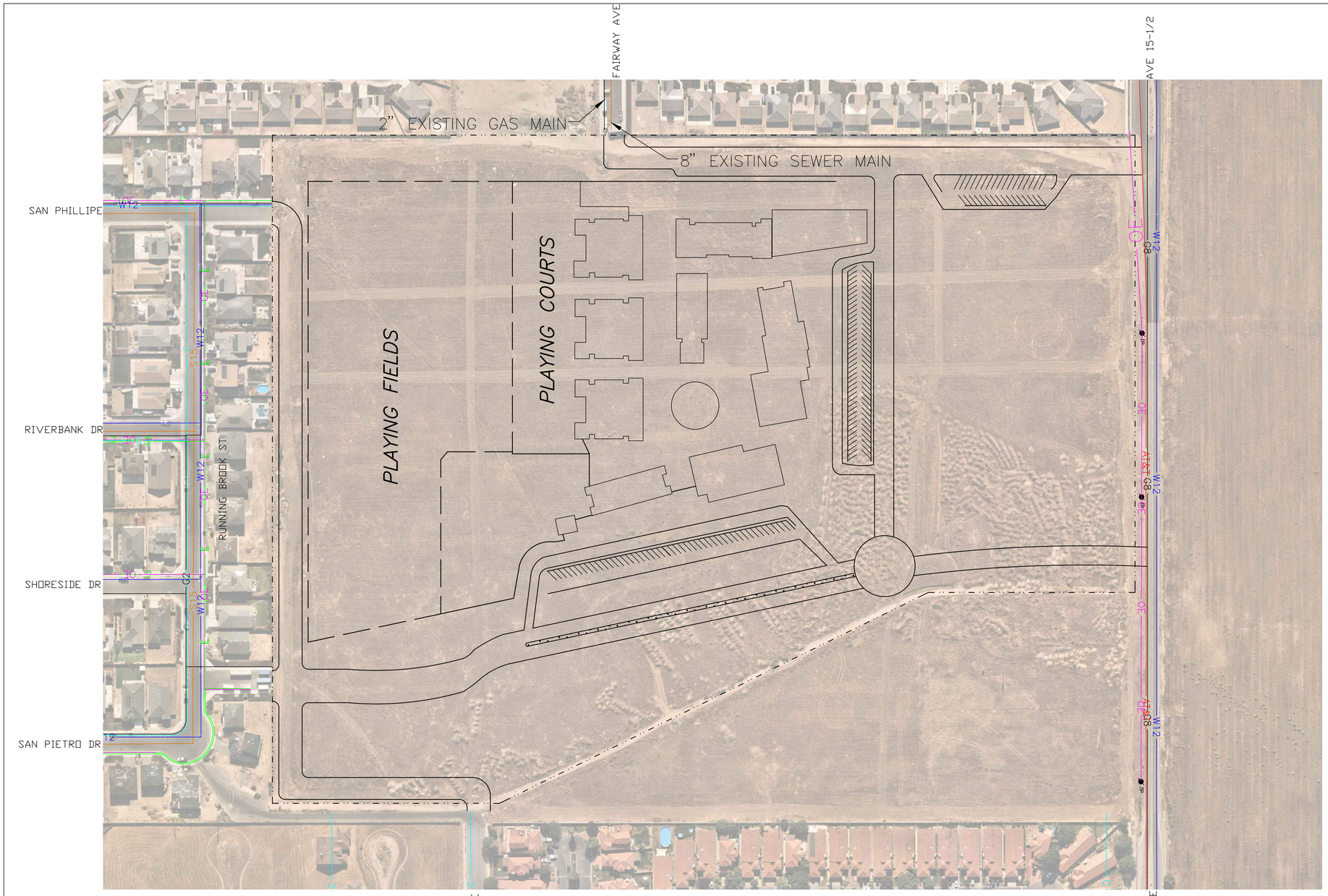
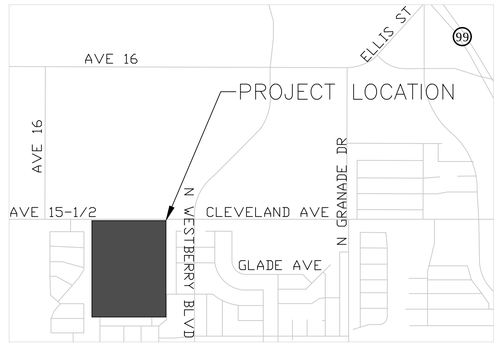
Appendix A

Site Utility Exhibit



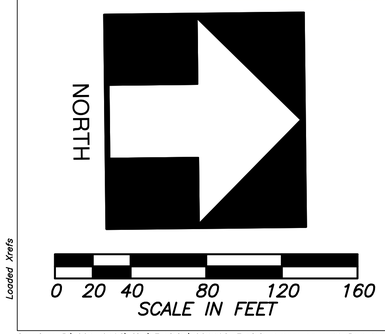


LOCATION MAP

1" = 1000'

LEGEND

PROPERTY LINE	
W	EXISTING WATER MAIN; SIZE AS NOTED
S	EXISTING SEWER MAIN; SIZE AS NOTED
G	EXISTING GAS LINE; SIZE AS NOTED
C	EXISTING UNDERGROUND COMCAST SERVICE
E	EXISTING UNDERGROUND ELECTRIC LINE
OET	EXISTING OVERHEAD ELECTRIC LINE
AT&T	EXISTING UNDERGROUND AT&T LINE
S	EXISTING SANITARY SEWER MANHOLE
TP	TELEPHONE POLE



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MADERA UNIFIED SCHOOL DISTRICT

NEW K-8 SCHOOL SITE
UTILITY EXHIBIT

DR. BY ACA
CH. BY LMG
DATE 9-15-22
SCALE: AS NOTED

SHEET NO. 1
OF 1 SHEETS

Appendix D

Traffic Impact Analysis

Traffic Impact Analysis Report

King Husein School

Located on the Southwest Quadrant of Westberry Boulevard and Cleveland Avenue

In the City of Madera, California

Prepared for:

Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 302
Visalia, CA 93291

October 6, 2023

Project No. 008-006

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Traffic Engineering, Transportation Planning, & Parking Solutions

Traffic Impact Analysis Report

For the King Husein School Project located on the Southwest Quadrant of Westberry Boulevard and Cleveland Avenue

In the City of Madera, CA

October 6, 2023

This Traffic Impact Analysis Report has been prepared under the direction of a licensed Traffic Engineer. The licensed Traffic Engineer attests to the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data from which recommendations, conclusions and decisions are based.

Prepared by:

Jose Luis Benavides, PE, TE

President

REGISTERED PROFESSIONAL ENGINEER
JOSE LUIS BENAVIDES
No.T 2328
Exp:06/30/25
TRAFFIC
STATE OF CALIFORNIA

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Introduction and Summary

Introduction

This Report describes a Traffic Impact Analysis (TIA) prepared by JLB Traffic Engineering, Inc. (JLB) for the King Husein School (Project) located on the southwest quadrant of Westberry Boulevard at Cleveland Avenue in the City of Madera by the Madera Unified School District (MUSD). The Project proposes to develop 29 acres with a school that serves approximately 1,000 students from transitional kindergarten through eighth grade. Figure 1 shows the location of the proposed Project site relative to the surrounding roadway network.

The purpose of the TIA is to evaluate the potential on-site and off-site traffic impacts, identify short-term and long-term roadway needs, determine potential roadway improvement measures and identify any critical traffic issues that should be addressed in the ongoing planning process. The TIA primarily focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. The Scope of Work was prepared via consultation with City of Madera, County of Madera and Caltrans staff.

Summary

The potential traffic impacts of the proposed Project were evaluated in accordance with the standards set forth by the Level of Service (LOS) policies of the City of Madera, County of Madera and Caltrans.

Existing Traffic Conditions

- JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) to obtain collision reports for the most recent five-year period. Based on a review of the collision reports, a total of forty-three (43) collisions were reported within the influence zones of the study intersections. Most study intersections had experienced a relatively low number of collisions with two exceptions. Recommendations for the study intersections of Granada Drive at Cleveland Avenue and Granada Drive at Riverview Drive can be found later in this Report.
- At present, the intersection of Granada Drive at Riverview Drive exceeds its LOS threshold during the AM peak period. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Existing plus Project Traffic Conditions

- JLB analyzed the location of the proposed roadways and access points relative to those in the vicinity of the proposed Project. A review of the access points to be constructed indicates that they are located at points that minimize traffic operational impacts to the existing roadway network with one exception. By the Cumulative 2042 Year plus Project Scenario is it recommended that access to the westerly driveway to Cleveland Avenue be limited to right-in and right-out access and that the School Drive access point to Cleveland Avenue be limited to left-in, right-in and right-out.
- At buildout, the proposed Project is estimated to generate approximately 2,236 daily trips, 726 AM peak hour trips and 158 PM peak hour trips.

- It is recommended that the Project implement a Class II Bikeways along its frontage to Cleveland Avenue.
- It is recommended that the Project construct ADA compliant pedestrian sidewalks along internal streets connecting to all external sidewalks and along its frontage to Cleveland Avenue.
- It is recommended that the Project construct a transit turnout for future transit extension at the intersection of School Drive at Cleveland Avenue.
- This TIA identifies preliminary routes to and from the proposed campus. These preliminary routes include infrastructure such as existing traffic controls, marked crosswalks and missing walkways (i.e. barriers to pedestrians). Most of the developed areas within the one mile no busing zone are well developed with walkways and intersection controls with a few exceptions. The exceptions are along the Project frontage to Cleveland Avenue, the south side of Cleveland Avenue west of Stephanie Lane and on the west side of Schnoor Street north of Foxglove Way. In addition to the ADA compliant walkway along the Project frontage to Cleveland Avenue it is recommended that the Project construct ADA compliant all-weather walkways along the south side of Cleveland Avenue west of Stephanie Lane and on the west side of Schnoor Street north of Foxglove Way. Furthermore, as residential development takes place, the City should consider the proposed school site and condition all new development proposals within the no busing zone to conduct a safe route to school evaluation from the residential project to the school sites and have them construct missing gaps in walkways, as applicable.
- Under this scenario, the intersection of Granada Drive at Riverview Drive is projected to exceed its LOS threshold during the AM peak period. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Existing plus Approved & Pending Project Traffic Conditions

- The total trip generation for the Approved & Pending Projects is 7,483 weekday daily trips, 458 weekday AM peak hour trips and 678 weekday PM peak hour trips.
- Under this scenario, the intersections of Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during the AM peak period. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Cumulative Year 2042 No Project Traffic Conditions

- Under this scenario, the intersections of Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during one or both peak periods. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Cumulative Year 2042 plus Project Traffic Conditions

- Under this scenario, the intersections of School Drive at Cleveland Avenue, Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during one or both peak periods. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Queuing Analysis

- It is recommended that the City consider left-turn and right-turn lane storage lengths as indicated in the Queuing Analysis.

Project's Equitable Fair Share

- It is recommended that the Project contribute its equitable Fair Share as presented in Table X for those future improvements which are not currently covered by an existing impact fee program or grant funds.

Scope of Work

The TIA focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. On June 8, 2022, a Draft Scope of Work for the preparation of a Traffic Impact Analysis for this Project was provided to the City of Madera, County of Madera and Caltrans for their review and comment.

On June 9, 2022, Caltrans responded to the Draft Scope of Work stating that they had no comment. On June 15, 2022, the City of Madera responded to the Draft Scope of Work with the following comments: include a safe routes map with the intent to provide to future parents and their children, clarify the location of the access point, the intersection of Granada Drive at Cleveland Avenue is currently being designed with a traffic signal, include three approved or pending projects (Village D, Home Ranch Phase V and Rancho Santa Fe), separate driveways by 400 to 500 feet and include a right turn-lane on Cleveland into the main project access with a minimum storage length of 100 feet. On June 28, 2022, the County of Madera responded to the Draft Scope of Work stating that they had no comment.

Based on the comments received, this TIA includes a safe routes map, the traffic signal at the intersection of Granada Drive at Cleveland Avenue starting with the Existing plus Approved & Pending Developments plus Project Scenario, Village D and Home Ranch Phase V as approved & pending developments and recommendations for the driveways. The Scope of Work and the comments received from the responsible agencies are included in Appendix A.

Study Facilities

The existing intersection peak hour turning movement counts were conducted at the study intersections in August 2022 while schools the vicinity of the Project site were in session. The intersection turning movement counts included pedestrian and bicycle volumes. The traffic counts for the existing study intersections are contained in Appendix B. The existing intersection turning movement volumes, intersection geometrics and traffic controls are illustrated in Figure 2.

Study Intersections

1. School Drive / Cleveland Avenue
2. Westberry Boulevard / Cleveland Avenue
3. Granada Drive / Cleveland Avenue
4. Westberry Boulevard / Fairway Avenue
5. Westberry Boulevard / Fairfield Way
6. Granada Drive / Pamela Drive
7. Granada Drive / Riverview Drive

Study Scenarios

Existing Traffic Conditions

This scenario evaluates the Existing Traffic Conditions based on existing traffic volumes and roadway conditions from traffic counts and field surveys conducted in August 2022.

Existing plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project Traffic Conditions. The Existing plus Project traffic volumes were obtained by adding the Project Only Trips to the Existing Traffic Conditions scenario. The Project Only Trips to the study facilities were developed based on existing travel patterns, the surrounding roadway network, engineering judgment, data provided by the MUSD, knowledge of the study area, existing residential and student population densities, and the City of Madera *General Plan* Circulation Element in the vicinity of the Project site. The Project Only Trip Distribution was included for review in the Draft Scope of Work presented to the City of Madera, County of Madera and Caltrans.

Existing plus Approved & Pending Developments plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Approved & Pending Developments plus Project Traffic Conditions. The Existing plus Approved & Pending Developments plus Project traffic volumes were obtained by adding the Approved & Pending Project related trips to the Existing plus Project Traffic Conditions scenario. Approved & Pending Projects were either requested by responsible agencies or discovered during field reconnaissance conducted by JLB staff.

Cumulative Year 2042 No Project Traffic Conditions

This scenario evaluates total traffic volumes and roadways conditions based on the Cumulative Year 2042 No Project Traffic Conditions. The Cumulative Year 2042 No Project traffic volumes were obtained by using the Madera County Transportation Commission (MCTC) Model (Base Year 2022 and Cumulative Year 2046) and existing traffic counts. Under this scenario, the increment method was utilized to determine the Cumulative Year 2042 No Project traffic volumes. The MCTC Model results are contained in Appendix C.

Cumulative Year 2042 plus Project Traffic Conditions

This scenario evaluates total traffic volumes and roadways conditions based on the Cumulative Year 2042 plus Project Traffic Conditions. The Cumulative Year 2042 plus Project traffic volumes were obtained by adding the Project Only Trips to the Cumulative Year 2042 No Project Traffic Conditions scenario. The Project Only Trips to the study facilities were developed based on existing travel patterns, the surrounding roadway network, engineering judgment, data provided by the MUSD, knowledge of the study area, existing residential and student population densities, and the City of Madera *General Plan* Circulation Element in the vicinity of the Project site.

LOS Methodology

LOS is a qualitative index of the performance of an element of the transportation system. LOS is a rating scale running from "A" to "F", with "A" indicating no congestion of any kind and "F" indicating unacceptable congestion and delays. LOS in this study describes the operating conditions for signalized and unsignalized intersections.

The *Highway Capacity Manual* (HCM) 7th Edition is the standard reference published by the Transportation Research Board and contains the specific criteria and methods to be used in assessing LOS. U-turn movements were analyzed using HCM 2000 methodologies and would yield more accurate results for the reason that HCM 6 Edition methodologies do not allow the analysis of U-turns. Lane configurations not reflective of existing conditions are a result of software limitations and thus represent a worst-case scenario. Synchro software was used to define LOS in this study. Details regarding these calculations are included in Appendix D.

While LOS is no longer the criteria of significance for traffic impacts in the state of California, the City of Madera continues to apply congestion-related conditions or requirements for land development projects through planning approval processes outside of CEQA Guidelines in order to continue the implementation of the City of Madera *General Plan* policies.

LOS Thresholds

The City of Madera *General Plan* has established LOS C as the acceptable level of traffic congestion on most roadways and intersections with three exceptions that the City seek to maintain LOS D or better. These exceptions are on arterial roadways or roadways with at-grade railway crossings, all freeways where Caltrans policies apply or in the Downtown District. As all study facilities fall within the City of Madera Sphere of Influence (SOI), LOS C or D, as appropriate, are used to evaluate the potential LOS impacts for all study intersections pursuant to the City of Madera *General Plan*. Cases in which a LOS criterion for facilities falls under an exception, such exceptions are identified in the roadway description.

The County of Madera *General Plan* has established LOS D as the acceptable level of traffic congestion on most major streets. In this TIA, all study intersections fall within the City of Madera SOI. Therefore, the City of Madera LOS thresholds are utilized.

Caltrans no longer considers delay as a significant impact to the environment, for land use projects and plans. According to the Caltrans document VMT Focused Transportation Impact Study Guidelines dated May 2020, Caltrans review of land use projects and plans is focused on a VMT metric consistent with CEQA. In this TIA, all study intersections fall within the City of Madera SOI. Therefore, the City of Madera LOS thresholds are utilized.

Operational Analysis Assumptions and Defaults

The following operational analysis values, assumptions and defaults were used in this study to ensure a consistent analysis of LOS among the various scenarios.

- Yellow time consistent with the *California Manual on Uniform Traffic Control Devices* (CA MUTCD) based on approach speeds (Caltrans 2020).
- Yellow time of 3.2 seconds for left-turn phases.
- All-red clearance intervals of 1.0 second for all phases.
- Walk intervals of 7.0 seconds.
- Flashing Don't Walk based on 3.5 feet/second walking speed with yellow plus all-red clearance subtracted and 2.0 seconds added.
- At existing intersections, the heavy vehicle factor observed for each intersection was utilized under all scenarios.
- The number of observed pedestrians at existing intersections was utilized under all study scenarios.
- An average of 3 pedestrian calls per hour at signalized intersections.
- At existing intersections, the observed approach Peak Hour Factor (PHF) is utilized in the Existing and Existing plus Project scenarios.
- For the Existing plus Project scenario, a PHF of 0.86 and 0.90, or the existing if higher, is utilized in the AM and PM peaks, respectively.
- For the Existing plus Approved & Pending plus Project and Cumulative Year 2042 scenarios, the following PHF was utilized to reflect traffic operations and an increase in future traffic volumes. As roadways start to reach their saturated flow rates, PHF's tend to increase to 0.90 or higher in urban settings. A PHF of 0.92, or the existing PHF if higher, is utilized for all remaining study intersections.
  - For study intersection(s) with movements leading to the school, the following PHF's were utilized on those movements:
    - A PHF of 0.86, or the existing if higher, is utilized during the AM peak.
    - A PHF of 0.90, or the existing if higher, is utilized during the PM peak.
  - A PHF of 0.92, or the existing if higher, is utilized for all remaining movements.

Existing Traffic Conditions

Roadway Network

The Project site and surrounding study area are illustrated in Figure 1. Important roadways serving the Project are discussed below.

Westberry Boulevard is an existing north-south two-lane divided arterial in the vicinity of the proposed Project site. In this area, Westberry Boulevard is a two-lane undivided arterial between Avenue 16 and Cleveland Avenue, a two-lane divided arterial between Cleveland Avenue and Avenue 13 ½ with a break at the Fresno River. The City of Madera *General Plan* Circulation Element designates Westberry Boulevard as an arterial between Avenue 16 and Avenue 13. As Westberry Boulevard is classified as an arterial, study facilities along Westberry Boulevard utilize an LOS Threshold of D

Granada Drive is an existing north-south two-lane undivided collector in the vicinity of the proposed Project site. In this area, Granada Drive is a two-lane collector divided by two-way left-turn lane between Avenue 16 and Cleveland Avenue, a two-lane undivided collector between Cleveland Avenue and Pecan Avenue and a two-lane undivided arterial between Pecan Avenue and Avenue 12. The City of Madera *General Plan* Circulation Element designates Granada Drive as a collector between Avenue 16 and Pecan Avenue and an arterial between Pecan Avenue and Avenue 12.

Cleveland Avenue is an existing east-west two-lane undivided arterial adjacent to the proposed Project site. In this area, Cleveland Avenue is a two-lane undivided arterial between Road 23 and Westberry Boulevard, a two-lane divided arterial between Westberry Boulevard and Granada Drive, a four-lane divided arterial between Granada Drive and Country Club Drive and a two-lane divided arterial between Country Club Drive and Raymond Road. The City of Madera *General Plan* Circulation Element designates Cleveland Avenue as an arterial throughout the City of Madera. As Cleveland Avenue is classified as an arterial, study facilities along Cleveland Avenue utilize an LOS Threshold of D

Fairway Avenue is an existing east-west two-lane undivided local roadway adjacent to the proposed Project site. In this area, Fairway Avenue is a two-lane undivided local roadway through the City of Madera. The City of Madera *General Plan* Circulation Element designates Fairway Avenue as a local roadway through the City of Madera.

Fairfield Way is an existing east-west two-lane undivided local roadway in the vicinity of the proposed Project site. In this area, Fairfield Way is a two-lane undivided local roadway through the City of Madera. The City of Madera *General Plan* Circulation Element designates Fairfield Way as a local roadway through the City of Madera.

Pamela Drive is an existing east-west two-lane undivided local roadway in the vicinity of the proposed Project site. In this area, Pamela Drive is a two-lane undivided local roadway through the City of Madera. The City of Madera *General Plan* Circulation Element designates Pamela Drive as a local roadway through the City of Madera.

Riverview Drive is an existing east-west two-lane undivided local roadway in the vicinity of the proposed Project site. In this area, Riverview Drive is a two-lane undivided local roadway through the City of Madera. The City of Madera *General Plan* Circulation Element designates Riverview Drive as a local roadway through the City of Madera.

Collision Analysis

JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) to obtain collision reports for the most recent five-year period (January 1, 2017 to December 31, 2021). The SWITRS "is a database that serves as a means to collect and process data gathered from a collision scene. The internet SWITRS application is a tool by which the California Highway Patrol (CHP) staff and members of its Allied Agencies throughout California can request various types of statistical reports in an electronic format." All collision reports between January 1, 2017 and December 31, 2021 were included in the collision analysis. In the five-year period, a total of forty-three (43) collisions were reported within the influence zone (assumed to be within 250 feet) of the study intersections. The SWITRS collision data are found in Appendix E.

Table I summarizes the type of collision, severity, violation, and identifies involvement with another vehicle, a pedestrian/bicyclist or a fixed object. Based on the five-year collision data contained within SWITRS, most study intersections have experienced a low number and severity of collisions per year with two exceptions. These exceptions are noted and discussed below.

- Granada Drive / Cleveland Avenue
    - This intersection experienced a total of 16 reported collisions within the five-year period. These included broadside (8), rear end (2), hit object (4) and sideswipe (2) collisions. These collisions were caused by violations of traffic signals and signs (3), right of way (5), unsafe speed (2), improper turning (5) and driving under the influence (1).
    - As this intersection is currently in the process of becoming signalized, it is projected that most broadside will be corrected by this change in traffic signal control. Therefore, no other changes are recommended for this intersection.
- Granada Drive / Riverview Drive
    - This intersection experienced a total of 15 reported collisions within the five-year period. These included broadside (8), rear end (3), hit object (2), sideswipe (1) and other (1) collisions. These collisions were caused by violations of traffic signals and signs (2), right of way (6), unsafe speed (4), improper turning (1), driving under the influence (1) and other (1).

- The fatality experienced at this intersection was a result of driving under the influence. The majority of broadside collisions were caused by motorists failing to come to a complete stop and access right of way. Also, field observations revealed that the stop sign on the north leg and the east leg were partially obstructed from vision by nearby foliage. It is recommended that stop ahead pavement markings be added on the north and south legs, a W3-1 sign be added on the east leg of this intersection and that foliage be trimmed or removed to ensure that stop signs are visible from the stopping sight distance. Furthermore, it is recommended that the City of Madera continue to monitor the collisions at this intersection to verify that the recommended changes are adequate in reducing collisions.

Table I: Five-Year (2017-2021) Intersection Collision Analysis

ID	Intersection	Number of Collisions	Type of Collision						Severity					Type of Violation								Motor Vehicle Involved with...			
			Broadside	Rear End	Head-On	Hit Object	Sideswipe	Other	Fatal	Severe Injury	Other Visible Injury	Complaint of Pain Injury	Property Damage Only	Traffic Signals & Signs	Right of Way	Unsafe Speed	Improper Turning	Driving Under Influence	Too Close	Pedestrian Violation	Other	Pedestrian/Bicyclist	Other Motor Vehicle	Fixed Object	Other
1	School Drive / Cleveland Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
2	Westberry Boulevard / Cleveland Avenue	5	2	1	-	1	1	-	-	-	1	-	4	-	2	1	1	1	-	-	-	-	3	2	2
3	Granada Drive / Cleveland Avenue	16	8	2	-	4	2	-	-	-	1	3	12	3	5	2	5	1	-	-	-	-	12	4	3
4	Westberry Boulevard / Fairway Avenue	1	1	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1	-	4
5	Westberry Boulevard / Fairfield Way	1	-	1	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	1	-	5
6	Granada Drive / Pamela Drive	5	3	2	-	-	-	-	-	-	-	-	5	-	3	2	-	-	-	-	-	-	5	-	6
7	Granada Drive / Riverview Drive	15	8	3	-	2	1	1	1	-	-	2	12	2	6	4	1	1	-	-	1	-	12	3	7

Traffic Signal Warrants

The CA MUTCD indicates that an engineering study of traffic conditions, pedestrian characteristics and physical features of an intersection shall be conducted to determine whether the installation of traffic signal controls are justified. The CA MUTCD provides a total of nine (9) warrants to evaluate the need for traffic signal controls. These warrants include 1) Eight-Hour Vehicular Volume, 2) Four-Hour Vehicular Volume, 3) Peak Hour, 4) Pedestrian Volume, 5) School Crossing, 6) Coordinated Signal System, 7) Crash Experience, 8) Roadway Network and 9) Intersection Near a Grade Crossing. Signalization of an intersection may be appropriate if one or more of the signal warrants are satisfied. However, the CA MUTCD also states that "[t]he satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic control signal" (Caltrans, 2021).

If traffic signal warrants are satisfied when a LOS threshold impact is identified at an unsignalized intersection, then installation of a traffic signal control may serve as an improvement measure. For instances where traffic signal warrants are satisfied, a traffic signal control is not considered to be the default improvement measure. Since the installation of a traffic signal control typically requires the construction of additional lanes, an attempt is made to improve the intersection approach lane geometrics in order to improve its LOS while maintaining the existing intersection controls. If the additional lanes did not result in acceptable LOS at the intersection, then in those cases implementation of a traffic signal control would be considered.

Warrant 3 was prepared for the unsignalized intersections under the Existing Traffic Conditions scenario. These warrants are contained in Appendix K. At present, Warrant 3 is met for the intersections of Granada Drive at Cleveland Avenue, Granada Drive at Pamela Drive and Granada Drive at Riverview Drive during both peak periods. Based on the traffic signal warrants, operational analysis and engineering judgment, signalization is not recommended for any study intersections; however, it is recommended that design for the construction of a traffic signal be considered for the intersection of Cleveland Avenue at Granada Drive.

Results of Existing Level of Service Analysis

Figure 2 illustrates the Existing Traffic Conditions turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing Traffic Conditions scenario are provided in Appendix F. Table II presents a summary of the Existing peak hour LOS at the study intersections.

At present, the intersection of Granada Drive at Riverview Drive exceeds its LOS threshold during the AM peak period. It is recommended that the following improvements be considered for implementation to improve the LOS at this intersection.

- Granada Drive / Riverview Drive
  - Stripe a southbound right-turn lane within the available paving width; and
  - Modify the southbound left-through-right lane to a left-through lane.

While this intersection is still projected to exceed the LOS threshold of LOS C by 1.9 seconds during the AM peak only, this minor delay will be short lived for approximately 15 minutes throughout a 24-hour period. Furthermore, with the striped southbound right-turn lane, it is anticipated that this improvement will be satisfactory as volumes increase in future scenarios. This is due to the traffic being dispersed throughout the peak hour more evenly and an increase in the ratio of through movements to turning movements.

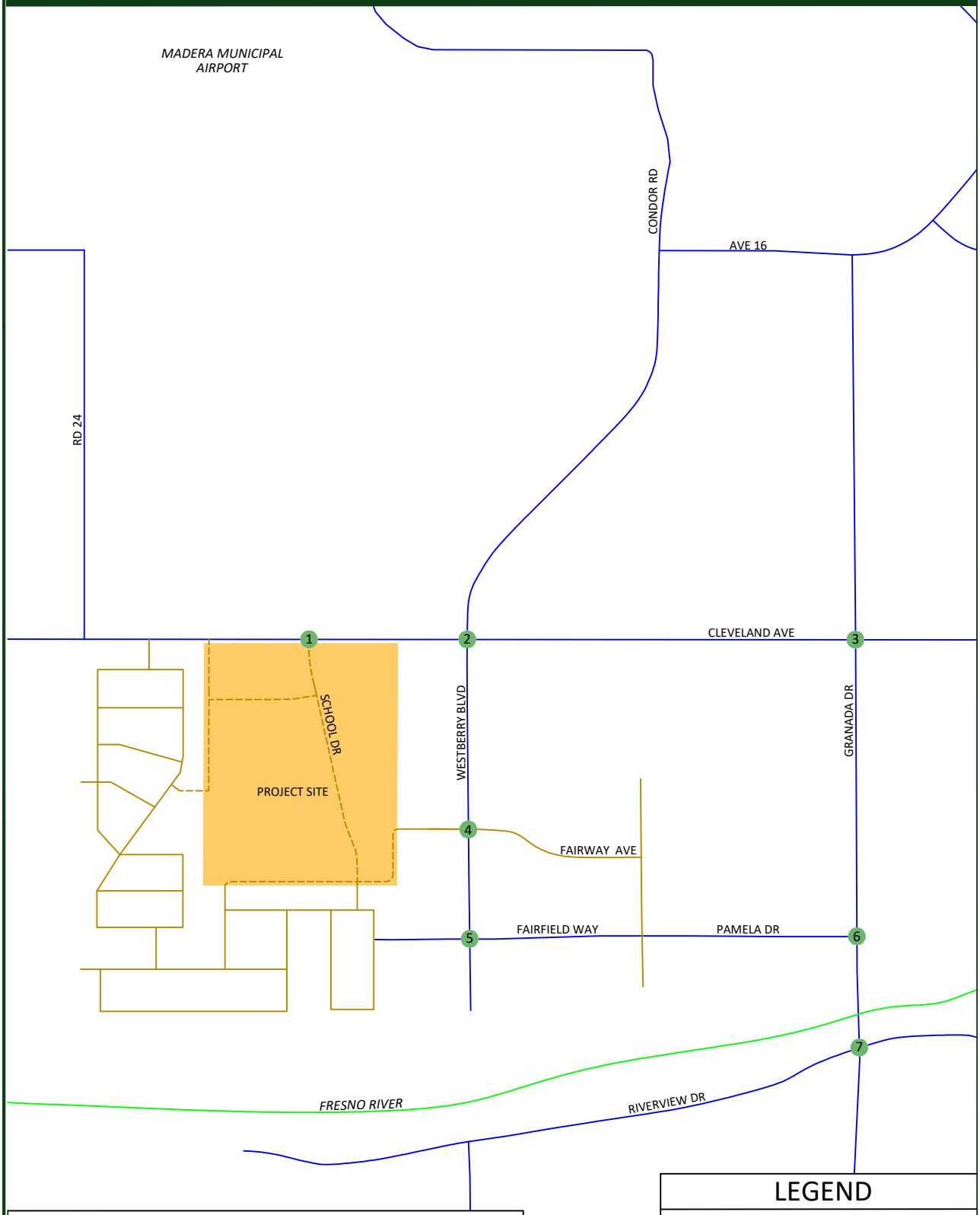
Table II: Existing Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7 - 9) Peak Hour*		*PM (4 - 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	School Drive / Cleveland Avenue	DNE	-	-	-	-
2	Westberry Boulevard / Cleveland Avenue	Two-Way Stop	11.9	B	12.2	B
3	Granada Drive / Cleveland Avenue	All-Way Stop	20.8	C	14.7	B
4	Westberry Boulevard / Fairway Avenue	Two-Way Stop	8.9	A	9.6	A
5	Westberry Boulevard / Fairfield Way	Two-Way Stop	10.2	B	9.8	A
6	Granada Drive / Pamela Drive	Two-Way Stop	23.3	C	15.2	C
7	Granada Drive / Riverview Drive	All-Way Stop	**83.5**	**F**	15.8	C
		All-Way Stop (Improved)	26.9	D	13.7	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

King Husein School - City of Madera
Vicinity Map

Figure 1



LEGEND

(#) = STUDY INTERSECTION

– – – = FUTURE ROADWAY

N

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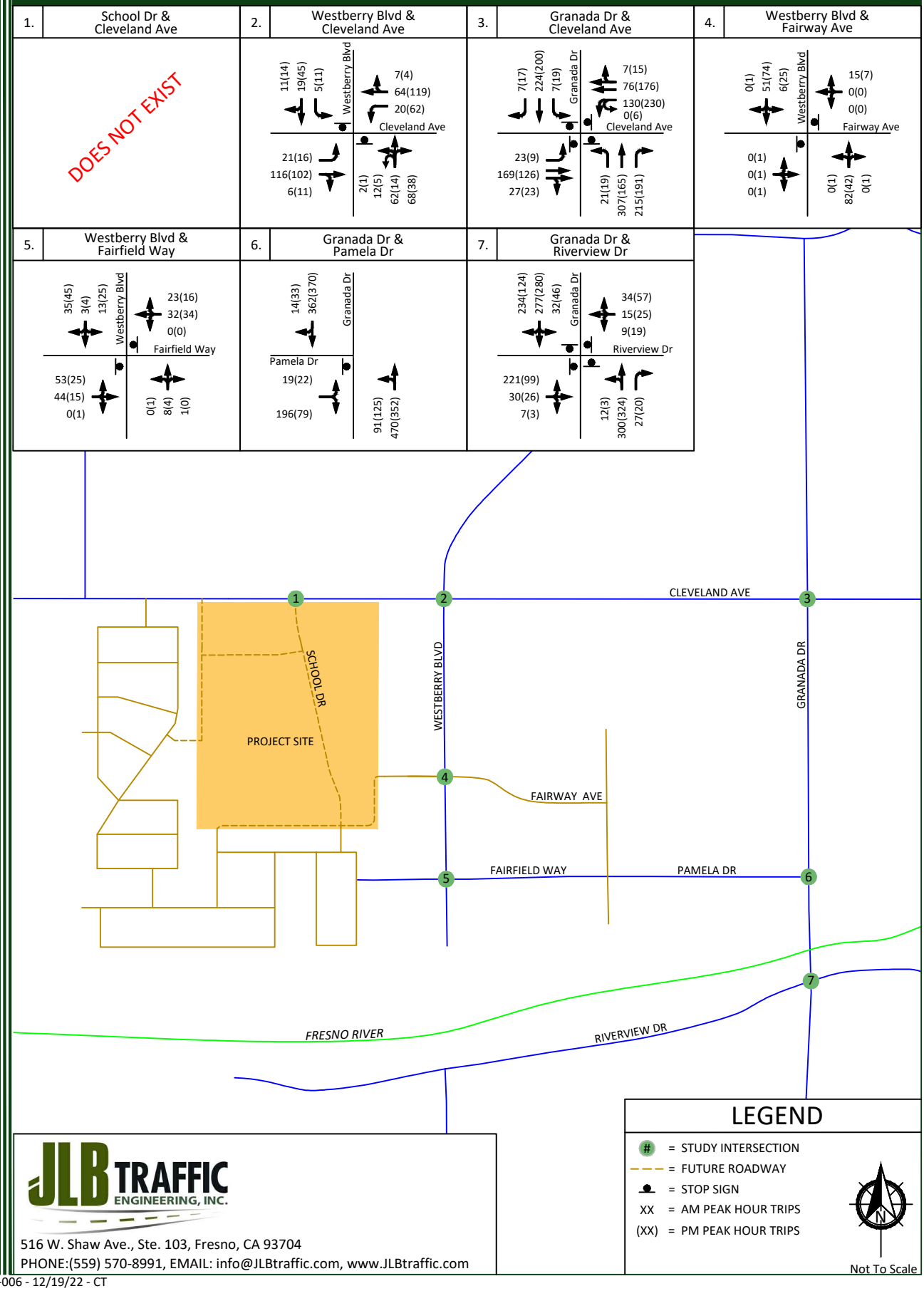
King Husein School - City of Madera
Existing- Traffic Volumes, Geometrics, and Controls

Figure 2



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Existing plus Project Traffic Conditions

Project Description

The Project is proposing to develop 29 acres on the southwest quadrant of Westberry Boulevard and Cleveland Avenue with a school that serves approximately 1,000 students from transitional kindergarten through eighth grade. Figure 3 illustrates the latest planning level concept Project Site Plan.

Project Access

Based on the latest Project Site Plan, access to and from the Project site will be from six (6) main access points in total. Two (2) access points are located along the south side of Cleveland Avenue approximately 1,700 and 1,000 feet west of Westberry Boulevard. The Project will have access to the existing streets of Fairway Avenue on the east and west side of the Project, San Phillipe Street on the south side of the Project and San Pietro Drive on the south side of the Projects. Initially, all access points are proposed to be full access. By the Cumulative 2042 Year plus Project Scenario, it is recommended that access to the westerly driveway to Cleveland Avenue be limited to right-in and right-out access.

JLB analyzed the location of the proposed roadways and access points relative to those in the vicinity of the Project. A review of the access points to be constructed indicates that they are located at points that minimize traffic operational impacts to the existing roadway network with one exception. Figure 3 illustrates the latest planning level concept Project Site Plan.

Project Trip Generation

The trip generation rates for the proposed Project were obtained from the 11th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table III presents the trip generation for the proposed Project with trip generation rates for Elementary School (520) and Middle School (522). At buildout, the proposed Project is estimated to generate approximately 2,236 daily trips, 726 AM peak hour trips and 158 PM peak hour trips.

Table III: Project Trip Generation

Land Use (ITE Code)	*Size*	*Unit*	*Daily*		*AM (7-9) Peak Hour*						*PM (4-6) Peak Hour*					
			Rate	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*
						%						*%*				
Elementary School (520)	800	Students	2.27	1,816	0.74	54	46	320	272	592	0.16	46	54	59	69	128
Middle School (522)	200	Students	2.10	420	0.67	54	46	72	62	134	0.15	48	52	14	16	30
Total Driveway Trips				**2,236**				**392**	**334**	**726**				**73**	**85**	**158**

Trip Distribution

The trip distribution assumptions were developed based on existing travel patterns, the existing roadway network, engineering judgment, data provided by the MUSD, knowledge of the study area, existing residential and student population densities and the City of Madera *General Plan* Circulation Element in the vicinity of the Project site. Figure 4 illustrates the Project Only Trips at the study intersections.

Bikeways

The MCTC *Madera Active Transportation Plan* (ATP) classifies bicycle facilities into the following types:

- Class I Bikeway (Bike Path) – Provides a completely separated right-of-way for exclusive use of bicycles and pedestrians with crossflow minimized.
- Class II Bikeway (Bike Lane) – Provides a striped lane for one-way bike travel on a street or highway.
- Class III Bikeway (Bike Route) – Provides a shared use with pedestrians or motor vehicle traffic, typically on lower volume roadways.
- Class IV Bikeways (Separated Bikeways) – Provides a protected lane for one-way bike travel (one-way cycle track) and protected lanes for two-way bike travel (two-way cycle track) on a street or highway.

Class II (Bike Lane) and Class III (Bike Route) Bikeways exist in the vicinity of the Project site. In the vicinity of the Project site, Class II Bikeways exist along portions of Cleveland Avenue. In the vicinity of the Project Class III bikeways exist along portions of Cleveland Avenue and Westberry Boulevard. The MCTC Madera ATP recommends that Class II Bikeways be implemented adjacent to and in the vicinity of the Project Site (MCTC, 2018). Adjacent to the Project, a Class II Bikeway is planned along Cleveland Avenue. In the vicinity of the Project site, Class II Bikeways are planned on Cleveland Avenue west of Westberry Boulevard and Granada Drive. Therefore, it is recommended that the Project construct a Class II Bikeway on its frontage to Cleveland Avenue.

Walkways

The MCTC ATP recommends that more sidewalks be constructed to improve safety and promote alternative modes of transportation. It is stated that the needs of pedestrians shall be considered and accommodated in all roadway construction and renovation projects. Therefore, it is recommended that the Project construct ADA compliant pedestrian sidewalks along internal streets connecting to all external sidewalks and along its frontage to Cleveland Avenue. Further discussion about walkways can be found in the Safe Routes to School section.

Transit

Madera Metro is the transit operator in the City of Madera. At present, there is one (1) Madera Metro transit route that operates in the vicinity of the proposed Project site. The closest is Route 2, which runs on Cleveland Avenue, approximately 1.2 miles east of the proposed Project site. Route 2 operates at 1-hour intervals on weekdays and weekends. It's nearest stop to the Project site is located on the north side of Cleveland Avenue approximately 150 feet east of Schnoor Street. This route provides a direct connection to Walmart, Lincoln Elementary School, Lions Town & Country Park, Walgreens, Madera High School, Madison Elementary School, Madera South High School, Parkwood Elementary School, Madera Community Hospital, Virginia Lee Rose School, Madera County Department of Corrections and Cotton Wood Creek. Retention of the existing and expansion of future transit routes is dependent on transit ridership demand and available funding. It is recommended that the Project construct a transit turnout for future transit extension at the intersection of School Drive at Cleveland Avenue.

Safe Routes to School

Kindergarten through 8th grade students in the boundary will be served by the Project. The District will provide busing services to all students that reside beyond 1.0 mile for Kindergarten through 6th grade and 1.5 miles for 7th and 8th grade. As a result, many of the students will likely need to walk, bike or be driven to school. It is recommended that the District work with the City to adopt a safe route to school plan for those that need to walk or bike to school. Figure 5 illustrates a draft safe routes to school map. The draft safe routes to school map was prepared based on information provided by the District and field surveys conducted by JLB.

Figure 5 identifies preliminary routes to and from the proposed Project site. These preliminary routes include infrastructure such as existing traffic controls, marked crosswalks, existing bike lanes and missing walkways (i.e. barriers to pedestrians). As can be seen on Figure 5, most of the developed areas within the one mile no busing zone are well developed with walkways and intersection controls with a few exceptions. The exceptions are along the Project frontage to Cleveland Avenue, the south side of Cleveland Avenue west of Stephanie Lane and on the west side of Schnoor Street north of Foxglove Way. In addition to the ADA compliant walkway along the Project frontage to Cleveland Avenue, it is recommended that the Project construct ADA complaint all-weather walkways along the south side of Cleveland Avenue west of Stephanie Lane and on the west side of Schnoor Street north of Foxglove Way.

Furthermore, as residential development takes place, particularly to the north and west of the Project, the City should consider the proposed Project and condition all new development proposals within a 1.5-mile radius to conduct a safe routes to school evaluation from the residential developments to the school sites and have them construct missing gaps in walkways, as applicable.

Roadway Network

The Existing plus Project Traffic Conditions scenario assumes that the existing roadway geometrics and traffic controls will remain in place except for the addition of the Project with its access points. The intersection of School Drive at Cleveland Avenue gets constructed with an eastbound right-turn lane and a westbound left-turn lane. Figure 6 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Existing plus Project Traffic Conditions scenario. These warrants are contained in Appendix K. Under this scenario, Warrant 3 is projected to be met for the intersections of Westberry Boulevard at Cleveland Avenue, Granada Drive at Cleveland Avenue, Granada Drive at Pamela Drive and Granada Drive at Riverview Drive during one or both peak periods. Based on the traffic signal warrants, operational analysis and engineering judgment, signalization is not recommended for any study intersections; however, it is recommended that design for the construction of a traffic signal be considered for the intersection of Cleveland Avenue at Granada Drive.

Results of Existing plus Project Level of Service Analysis

Figure 6 illustrates the Existing plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Project Traffic Conditions scenario are provided in Appendix G. Table IV presents a summary of the Existing plus Project peak hour LOS at the study intersections.

Under this scenario, the intersection of Granada Drive at Riverview Drive is projected to exceed its LOS threshold during the AM peak period. It should be noted that this intersection also exceeds its LOS threshold in the Existing Traffic Conditions without the Project. It is recommended that the following improvements be considered for implementation to improve the LOS at this intersection.

- Granada Drive / Riverview Drive
  - Stripe a southbound right-turn lane within the available paving width; and
  - Modify the southbound left-through-right lane to a left-through lane.

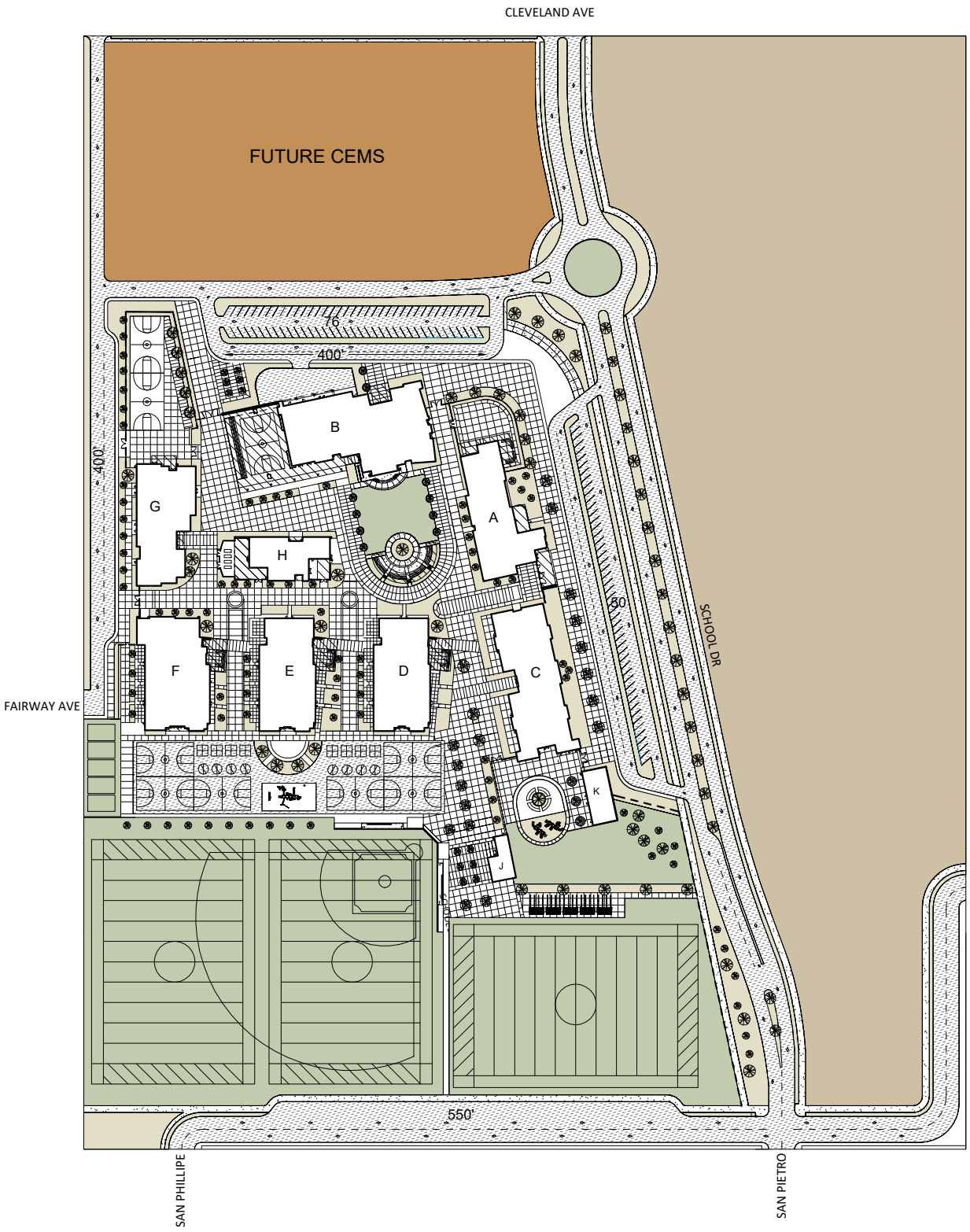
Table IV: Existing plus Project Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7 - 9) Peak Hour*		*PM (4 - 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	School Drive / Cleveland Avenue	One-Way Stop	10.7	B	9.4	A
2	Westberry Boulevard / Cleveland Avenue	Two-Way Stop	21.0	C	12.8	B
3	Granada Drive / Cleveland Avenue	All-Way Stop	32.7	D	15.7	C
4	Westberry Boulevard / Fairway Avenue	Two-Way Stop	11.5	B	10.1	B
5	Westberry Boulevard / Fairfield Way	Two-Way Stop	10.9	B	9.9	A
6	Granada Drive / Pamela Drive	Two-Way Stop	24.4	C	15.5	C
7	Granada Drive / Riverview Drive	All-Way Stop	**53.2**	**F**	16.0	C
		All-Way Stop (Improved)	20.6	C	13.8	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

King Husein School - City of Madera
Project Site Plan

Figure 3



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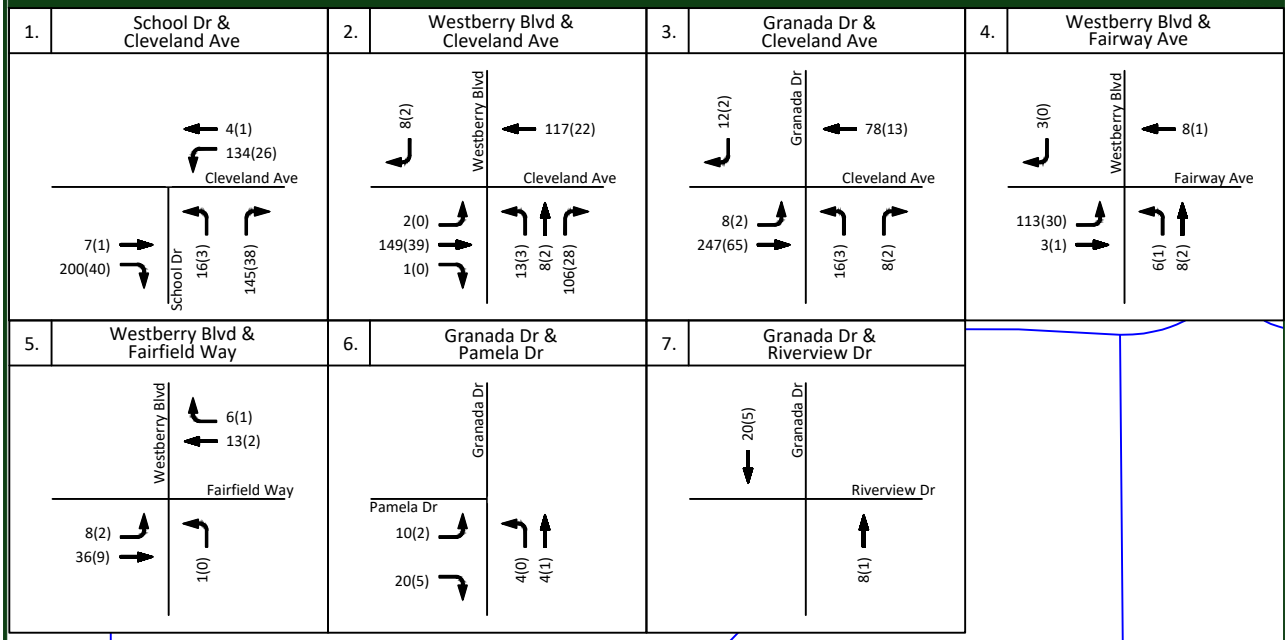
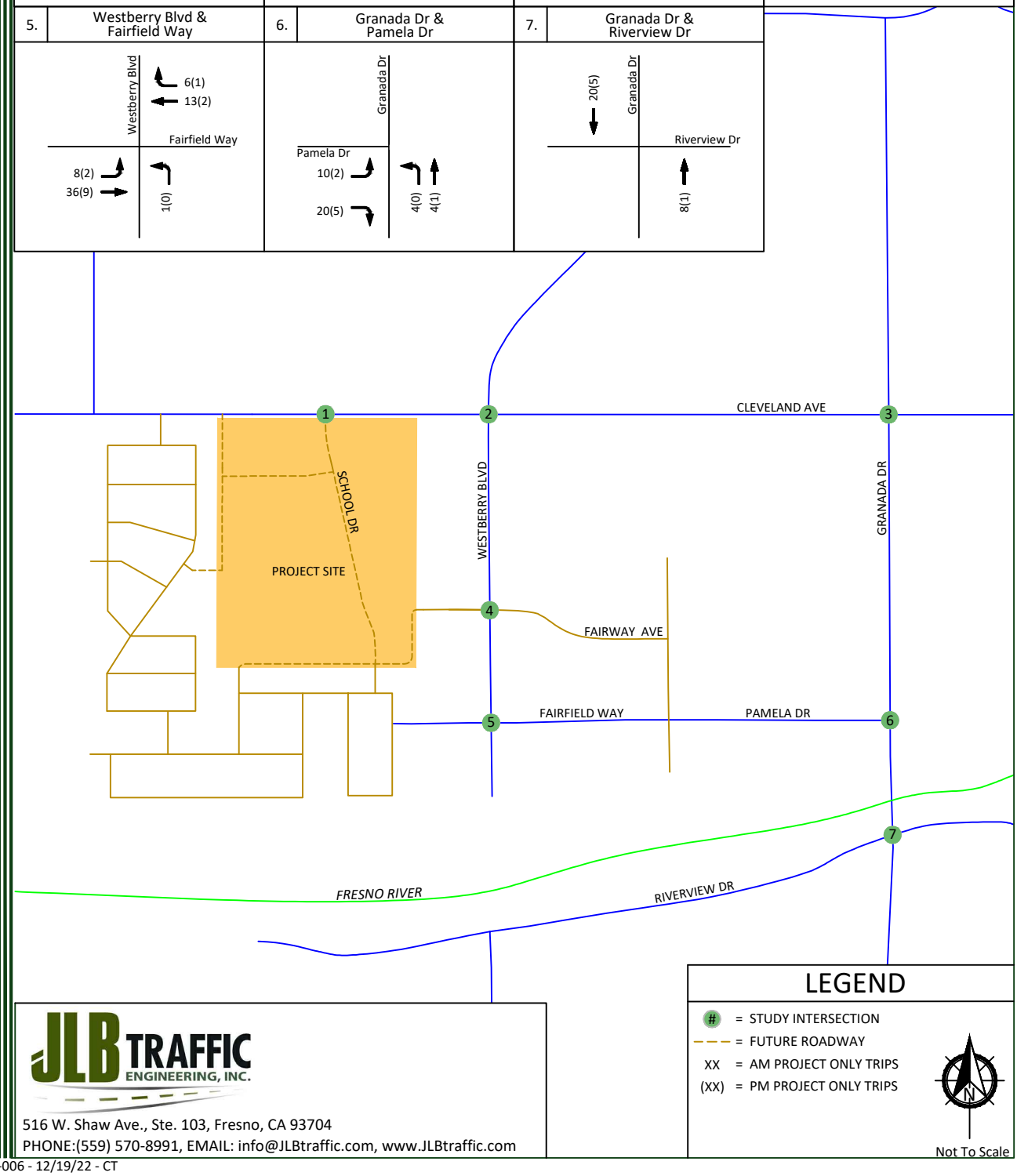
Not To Scale

King Husein School - City of Madera
Project Only Trips

Figure 4





LEGEND

- # = STUDY INTERSECTION
- = FUTURE ROADWAY
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS

Not To Scale

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Madera Elementary School - City of Madera
Evaluation of Safe Routes to School

Figure 5

AVENUE 16

CLEVELAND AVE

WESTBERRY BLVD

GRANADA DR

SCHNOOR ST

GATEWAY DR

99

SCHOOL DR

PROJECT SITE

FAIRWAY AVE

FAIRFIELD WAY

PAMELA DR

FRESNO RIVER

RIVERVIEW DR

LEGEND

- = MISSING SIDEWALK/WALKWAY
- = STOP SIGN
- = EXISTING/PLANNED TRAFFIC SIGNAL
- = MARKED CROSSWALKS
- = ANTICIPATED SCHOOL BOUNDARY
- = LIKELY PEDESTRIAN PATH

N

Not To Scale

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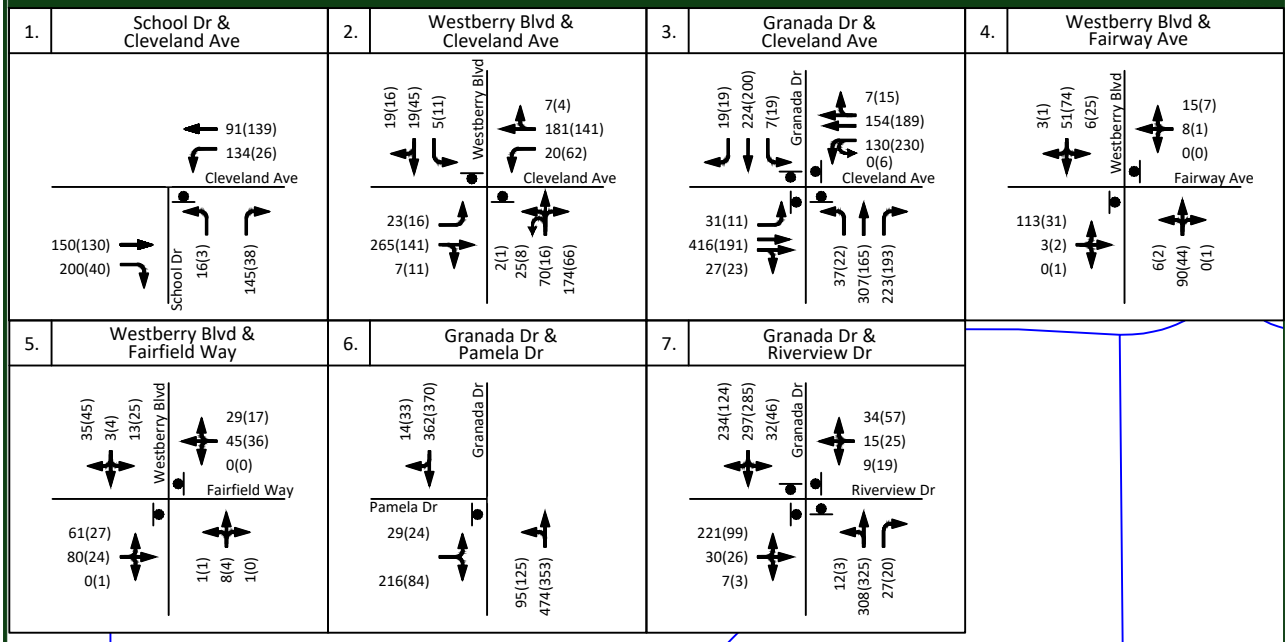
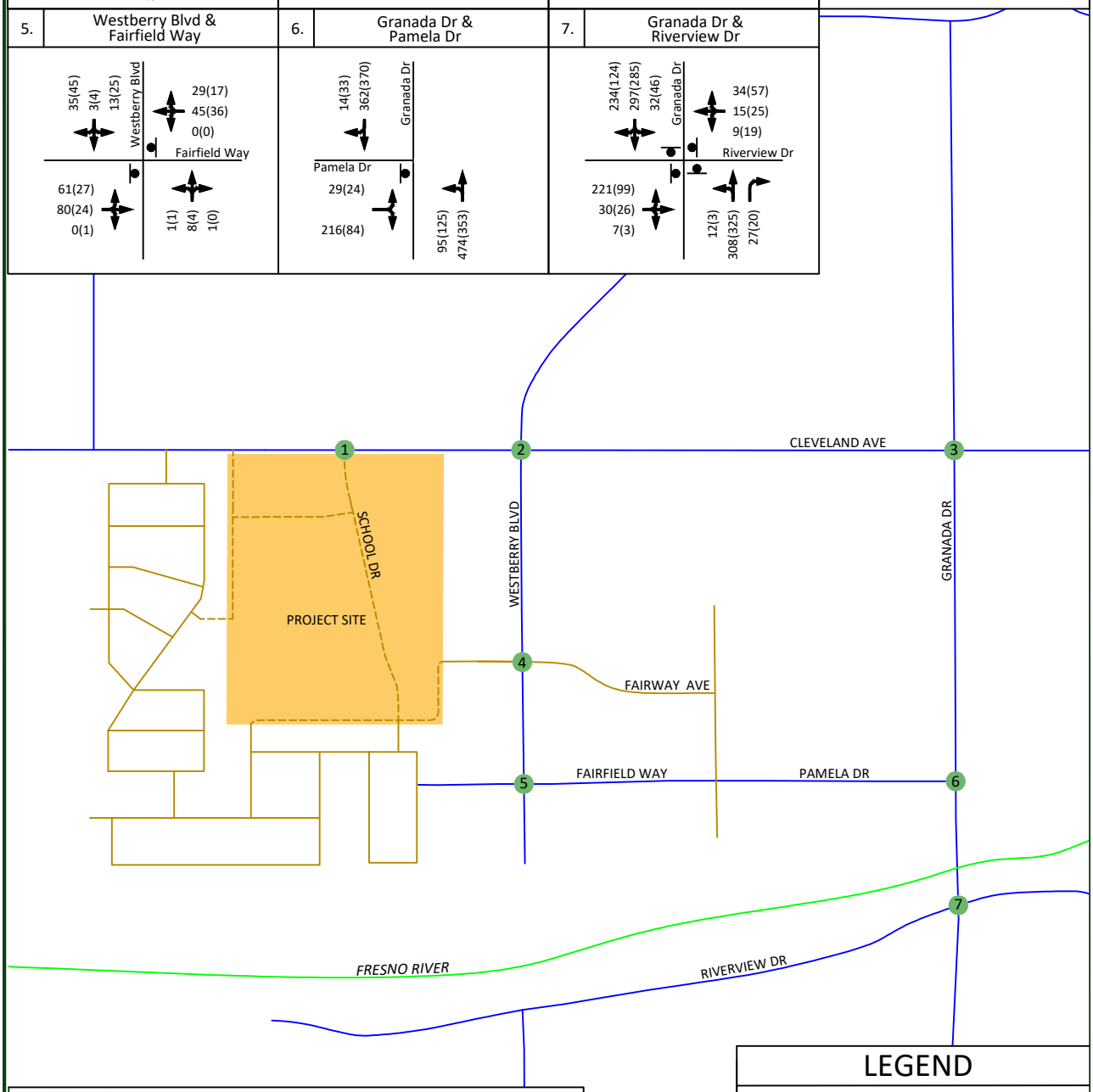
King Husein School - City of Madera
Existing plus Project - Traffic Volumes, Geometrics, and Controls

Figure 6





LEGEND

- # = STUDY INTERSECTION
- = FUTURE ROADWAY
- = STOP SIGN
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

N

Not To Scale

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Existing plus Approved & Pending plus Project Traffic Conditions

Description of Approved & Pending Projects

Approved & Pending Projects consist of developments that are either under construction, built but not fully occupied, are not built but have final site development review (SDR) approval, or for which the lead agency or responsible agencies have knowledge of. The City of Madera, County of Madera and Caltrans staff were consulted throughout the preparation of this TIA regarding Approved & Pending Projects that could potentially impact the study intersections. JLB staff conducted a reconnaissance of the surrounding area to confirm the Approved & Pending Projects. Therefore, the Approved & Pending Projects listed in Table V were within the proximity of the Project site.

Table V: Approved & Pending Projects' Trip Generation

Project ID	*Project Name*	*Daily Trips*	*AM Peak Hour*	*PM Peak Hour*
A	Home Ranch (Phase V)[1]	396	29	39
B	Linden Apartments (portion of)[1]	195	12	15
C	Village D (Phase I)[1]	6,892	417	624
Total Approved & Pending Project Trips		**7,483**	**458**	**678**

Note: 1 = Trip Generation prepared by JLB Traffic Engineering, Inc. based on readily available information

The trip generation listed in Table V is that which is anticipated to be added to the streets and highways by Approved & Pending Projects between the time of the preparation of this Report and five (5) years after buildout of the proposed Project. As shown in Table V, the total trip generation for the Approved & Pending Projects is 7,483 weekday daily trips, 458 weekday AM peak hour trips and 678 weekday PM peak hour trips. Figure 7 illustrates the location of the Approved & Pending Projects and their combined trip assignment to the study intersections under the Approved & Pending plus Project Traffic Conditions scenario.

Roadway Network

The Existing plus Approved & Pending plus Project Traffic Conditions scenario assumes that the Existing plus Project Traffic Conditions roadway geometrics and traffic controls will remain in place except that it is assumed that the intersection of Granada Drive at Cleveland Avenue will be controlled by a traffic signal. Figure 8 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Existing plus Approved & Pending plus Project Traffic Conditions scenario. These warrants are contained in Appendix K. Under this scenario, Warrant 3 is projected to be met for the intersections of School Drive at Cleveland Avenue, Westberry Boulevard at Cleveland Avenue, Granada Drive at Pamela Drive and Granada Drive at Riverview Drive during one or both peak periods. Based on the traffic signal warrants, operational analysis and engineering judgment, signalization is not recommended for any study intersection.

Results of Existing plus Approved & Pending plus Project Level of Service Analysis

Figure 8 illustrates the Existing plus Approved & Pending plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing plus Approved & Pending plus Project Traffic Conditions scenario are provided in Appendix H. Table VI presents a summary of the Existing plus Approved & Pending plus Project peak hour LOS at the study intersections.

Under this scenario, the intersections of Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during the AM peak period. It is recommended that the following improvements be considered for implementation to improve the LOS at these intersections.

- Westberry Boulevard / Cleveland Avenue
  - Stripe a northbound left-turn lane within the available paving width; and
  - Modify the northbound left-through-right lane to a through-right lane.
- Granada Drive / Riverview Drive
  - Stripe a southbound right-turn lane within the available paving width; and
  - Modify the southbound left-through-right lane to a left-through lane.

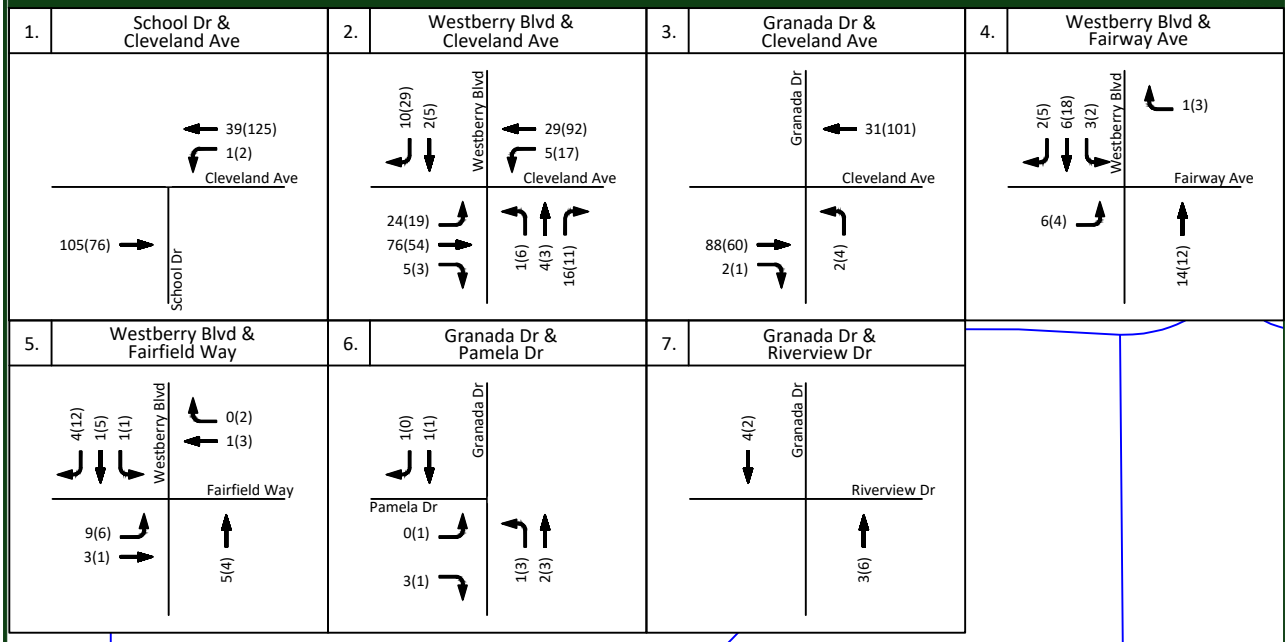
Table VI: Existing plus Approved & Pending plus Project Intersection LOS Results

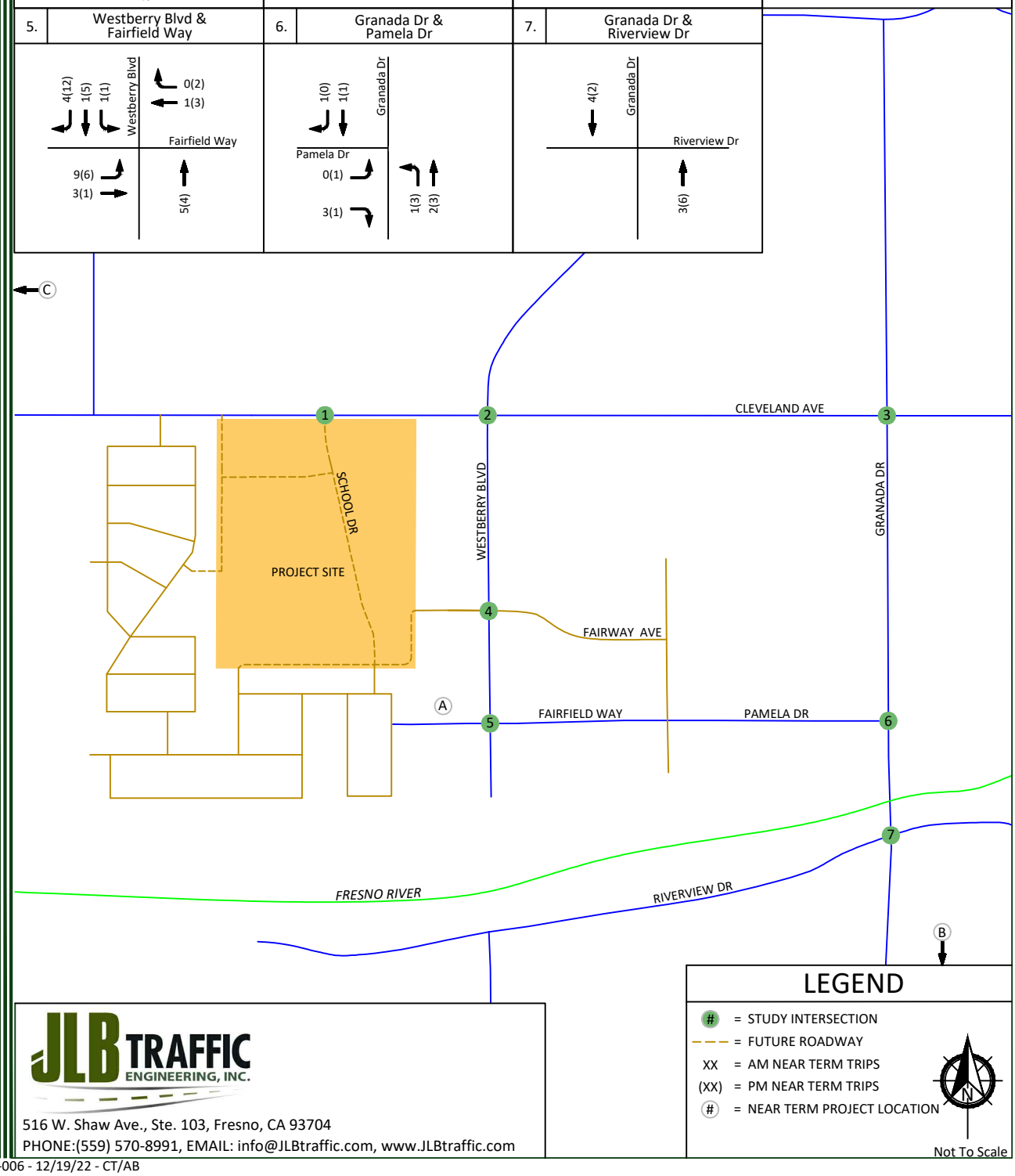
ID	*Intersection*	*Intersection Control*	*AM (7 - 9) Peak Hour*		*PM (4 - 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	School Drive / Cleveland Avenue	One-Way Stop	12.8	B	10.5	B
2	Westberry Boulevard / Cleveland Avenue	Two-Way Stop	**41.4**	**E**	17.1	C
		Two-Way Stop (Improved)	27.2	D	17.1	C
3	Granada Drive / Cleveland Avenue	Traffic Signal	23.1	C	28.9	C
4	Westberry Boulevard / Fairway Avenue	Two-Way Stop	11.9	B	10.5	B
5	Westberry Boulevard / Fairfield Way	Two-Way Stop	11.2	B	10.1	B
6	Granada Drive / Pamela Drive	Two-Way Stop	21.2	C	15.8	C
7	Granada Drive / Riverview Drive	All-Way Stop	**39.1**	**E**	16.3	C
		All-Way Stop (Improved)	17.9	C	14.0	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

King Husein School - City of Madera
Approved & Pending Projects' Trip Assignment

Figure 7





LEGEND

- # = STUDY INTERSECTION
- = FUTURE ROADWAY
- XX = AM NEAR TERM TRIPS
- (XX) = PM NEAR TERM TRIPS
- # = NEAR TERM PROJECT LOCATION

N

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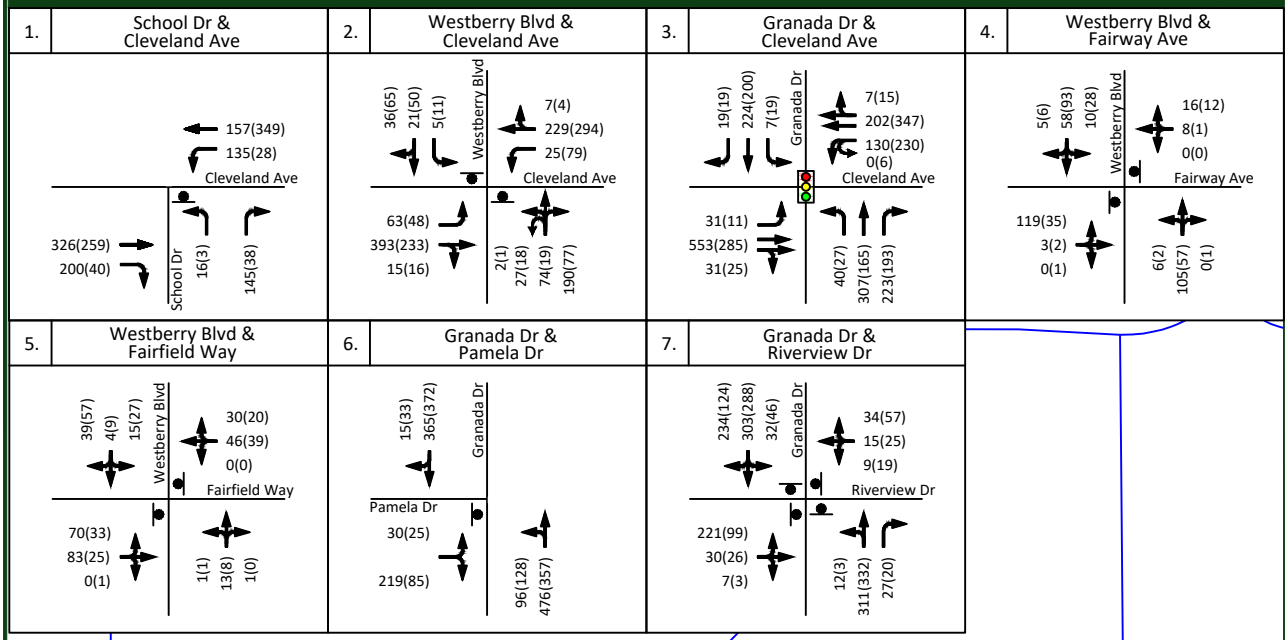
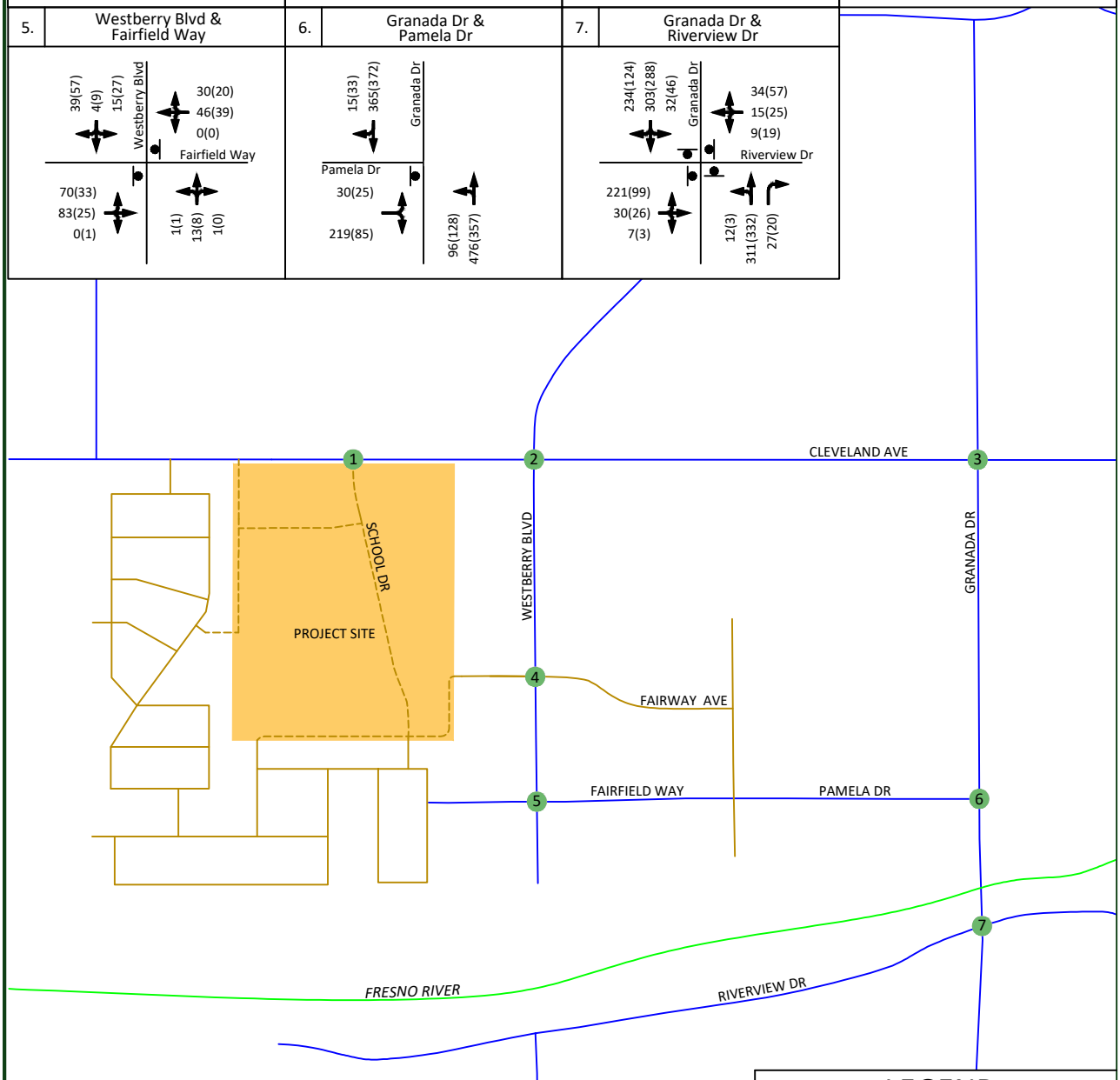
Figure 8

Existing plus Approved & Pending plus Project - Traffic Volumes, Geometrics, and Controls





LEGEND

- # = STUDY INTERSECTION
- = FUTURE ROADWAY
- = STOP SIGN
- = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

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Cumulative Year 2042 No Project Traffic Conditions

Roadway Network

The Cumulative Year 2042 No Project Traffic Conditions scenario assumes that the Existing plus Approved & Pending plus Project roadway geometrics and traffic controls will remain in place excluding the Project and its access points. It should be noted that the Cumulative Year 2042 No Project Traffic Conditions assumes that Village D is fully built. Figure 9 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Cumulative Year 2042 No Project Traffic Conditions scenario. These warrants are contained in Appendix K. Under this scenario, Warrant 3 is projected to be met for the intersections of Westberry Boulevard at Cleveland Avenue, Granada Drive at Cleveland Avenue, Granada Drive at Pamela Drive and Granada Drive at Riverview Drive during both peak periods. Based on the traffic signal warrants, operational analysis and engineering judgment, only the signalization of the intersection of Westberry Boulevard at Cleveland Avenue is recommended.

Results of Cumulative Year 2042 No Project Level of Service Analysis

Figure 9 illustrates the Cumulative Year 2042 No Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2042 No Project Traffic Conditions scenario are provided in Appendix I. Table VII presents a summary of the Cumulative Year 2042 No Project peak hour LOS at the study intersections.

Under this scenario, the intersections of Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during one or both peak periods. It is recommended that the following improvements be considered for implementation to improve the LOS at these intersections.

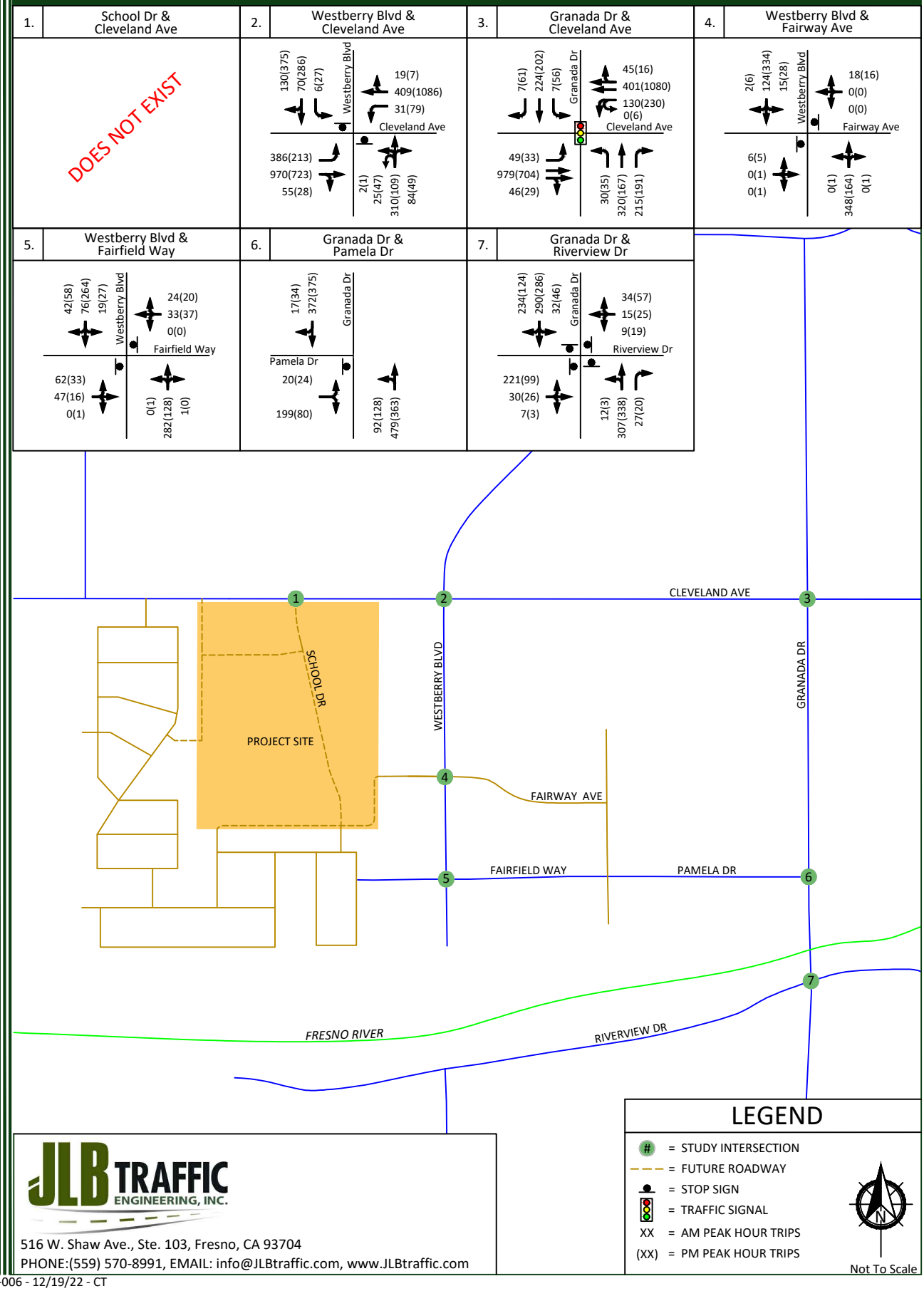
- Westberry Boulevard / Cleveland Avenue
  - Add a second eastbound through lane with a receiving lane east of Cleveland Avenue;
  - Add a second westbound through lane with a receiving lane west of Cleveland Avenue;
  - Stripe a northbound left-turn lane within the available paving width;
  - Modify the northbound left-through-right lane to a through-right lane;
  - Modify the southbound through-right lane to a through lane;
  - Stripe a southbound right-turn lane within the available paving width; and
  - Signalize the intersection with protective left-turn phasing in all directions.
- Granada Drive / Riverview Drive
  - Stripe a southbound right-turn lane within the available paving width; and
  - Modify the southbound left-through-right lane to a left-through lane.

Table VII: Cumulative Year 2042 No Project Intersection LOS Results

ID	Intersection	Intersection Control	AM (7 - 9) Peak Hour		PM (4 - 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	School Drive / Cleveland Avenue	DNE	-	-	-	-
2	Westberry Boulevard / Cleveland Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Traffic Signal (Improved)	30.6	C	34.0	C
3	Granada Drive / Cleveland Avenue	Traffic Signal	26.8	C	33.0	C
4	Westberry Boulevard / Fairway Avenue	Two-Way Stop	13.6	B	13.9	B
5	Westberry Boulevard / Fairfield Way	Two-Way Stop	15.5	C	14.9	B
6	Granada Drive / Pamela Drive	Two-Way Stop	17.2	C	15.8	C
7	Granada Drive / Riverview Drive	All-Way Stop	**35.4**	**E**	16.4	C
		All-Way Stop (Improved)	17.1	C	14.1	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

King Husein School - City of Madera
Figure 9
Cumulative Year 2042 No Project - Traffic Volumes, Geometrics, and Controls



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Cumulative Year 2042 plus Project Traffic Conditions

Roadway Network

The Cumulative Year 2042 plus Project Traffic Conditions scenario assumes that the Existing plus Approved & Pending plus Project roadway geometrics and traffic controls will remain in place with one exception. It is assumed that access to the westerly driveway to Cleveland Avenue be limited to right-in and right-out access and that the School Drive access point to Cleveland Avenue be limited to left-in, right-in and right-out. As a result, a shift in the Project's traffic patterns is anticipated. An illustrated example of a median island layout for the intersection of School Drive at Cleveland Avenue is located in Appendix J. Figure 10 illustrates the Cumulative Year 2042 Project Only Trips at the study intersections. It should be noted that the Cumulative Year 2042 plus Project Traffic Conditions assumes that Village D is fully built. Figure 11 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Traffic Signal Warrants

Warrant 3 was prepared for the unsignalized intersections under the Cumulative Year 2042 plus Project Traffic Conditions scenario. These warrants are contained in Appendix K. Under this scenario, Warrant 3 is projected to be met for the intersections of Westberry Boulevard at Cleveland Avenue, Granada Drive at Pamela Drive and Granada Drive at Riverview Drive during one or both peak periods. Based on the traffic signal warrants, operational analysis and engineering judgment, only the signalization of the intersection of Westberry Avenue at Cleveland Avenue is recommended.

Results of Cumulative Year 2042 plus Project Level of Service Analysis

Figure 11 illustrates the Cumulative Year 2042 plus Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative Year 2042 plus Project Traffic Conditions scenario are provided in Appendix J. Table VIII presents a summary of the Cumulative Year 2042 plus Project peak hour LOS at the study intersections.

Under this scenario, the intersections of School Drive at Cleveland Avenue, Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during one or both peak periods. It is recommended that the following improvements be considered for implementation to improve the LOS at these intersections.

- School Drive / Cleveland Avenue
  - Add a second eastbound through lane with a receiving lane east of Cleveland Avenue; and
  - Add a second westbound through lane with a receiving lane west of Cleveland Avenue.

- Westberry Boulevard / Cleveland Avenue
  - Add a second eastbound through lane with a receiving lane east of Cleveland Avenue;
  - Add a second westbound through lane with a receiving lane west of Cleveland Avenue;
  - Stripe a northbound left-turn lane within the available paving width;
  - Modify the northbound left-through-right lane to a through lane;
  - Stripe a northbound right-run lane within the available paving width;
  - Modify the southbound through-right lane to a through lane;
  - Add a southbound right-turn lane; and
  - Signalize the intersection with protective left-turn phasing in all directions.
- Granada Drive / Riverview Drive
  - Stripe a southbound right-turn lane within the available paving width; and
  - Modify the southbound left-through-right lane to a left-through lane.

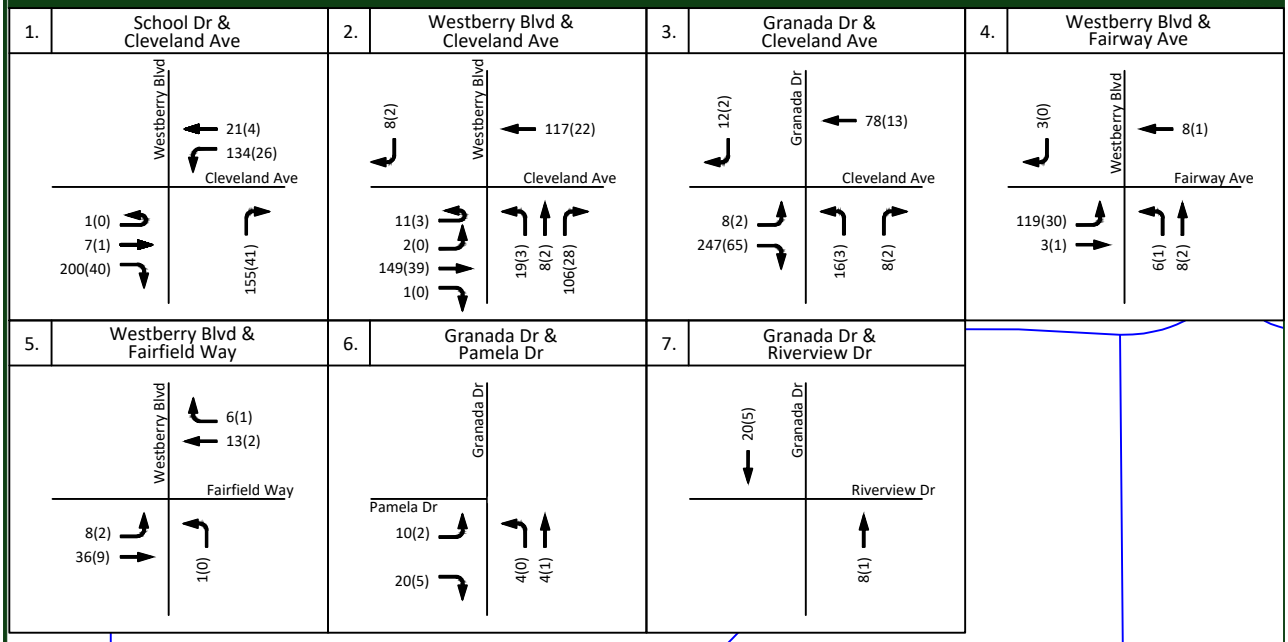
Table VIII: Cumulative Year 2042 plus Project Intersection LOS Results

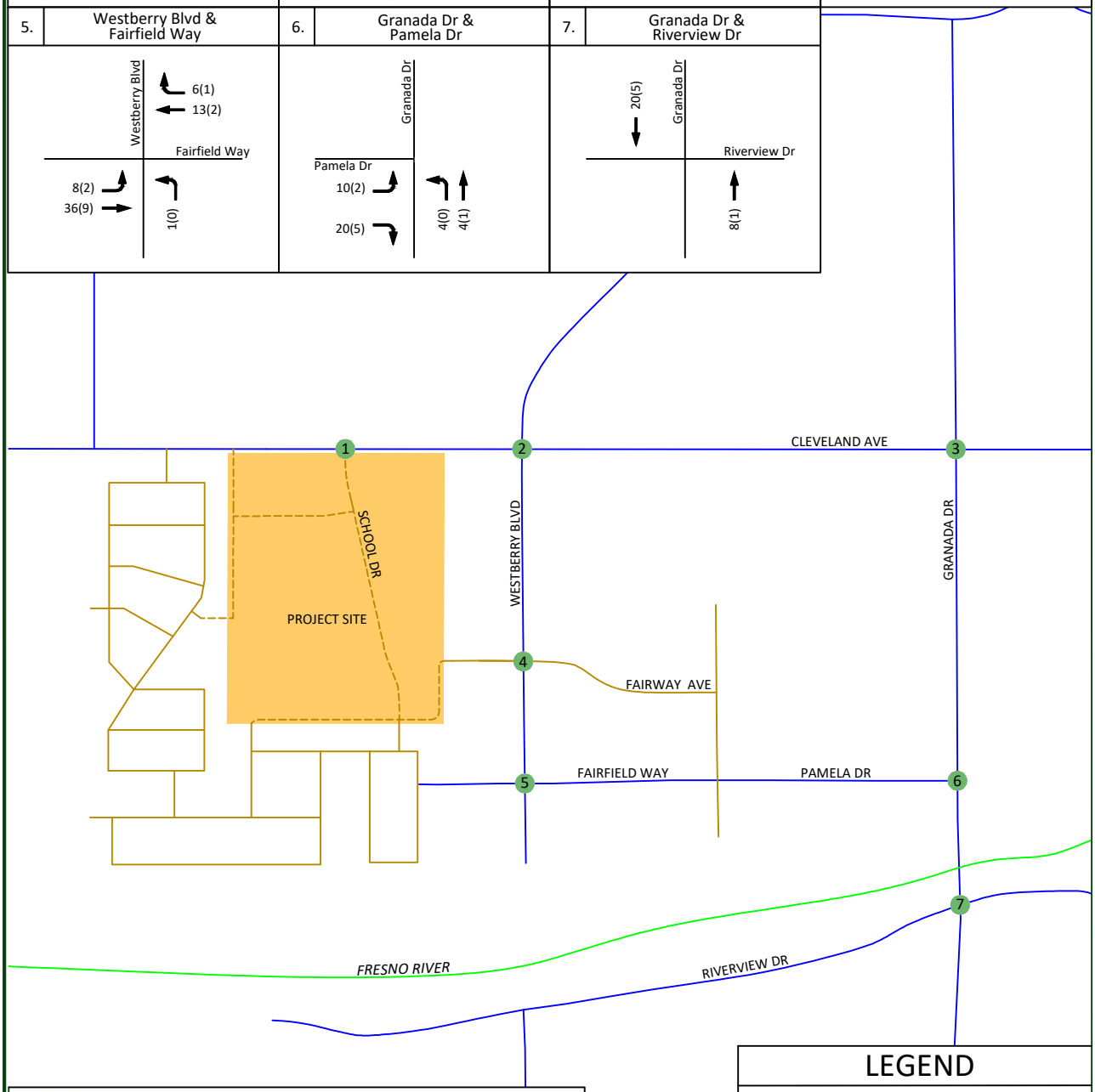
ID	*Intersection*	*Intersection Control*	*AM (7 - 9) Peak Hour*		*PM (4 - 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	School Drive / Cleveland Avenue	One-Way Stop	**>120.0**	**F**	21.0	C
		Two-Way Stop (Improved)	27.6	D	13.2	B
2	Westberry Boulevard / Cleveland Avenue	Two-Way Stop	**>120.0**	**F**	**>120.0**	**F**
		Traffic Signal (Improved)	28.8	C	34.3	C
3	Granada Drive / Cleveland Avenue	Traffic Signal	32.4	C	34.8	C
4	Westberry Boulevard / Fairway Avenue	Two-Way Stop	20.6	C	15.4	C
5	Westberry Boulevard / Fairfield Way	Two-Way Stop	19.2	C	15.2	C
6	Granada Drive / Pamela Drive	Two-Way Stop	21.8	C	16.1	C
7	Granada Drive / Riverview Drive	All-Way Stop	**41.4**	**E**	16.6	C
		All-Way Stop (Improved)	18.3	C	14.3	B

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls.
LOS for two-way STOP controlled intersections are based on the worst approach/movement of the minor street.

King Husein School - City of Madera
Cumulative Year 2042 Project Only Trips

Figure 10





LEGEND

- # = STUDY INTERSECTION
- = FUTURE ROADWAY
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS

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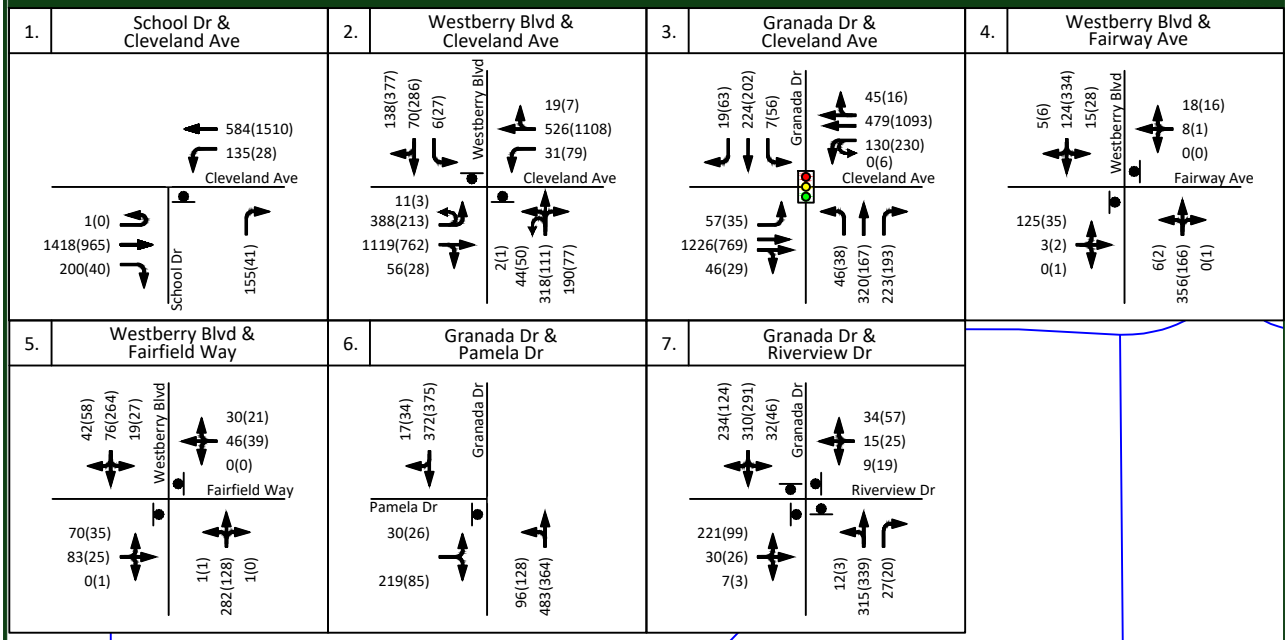
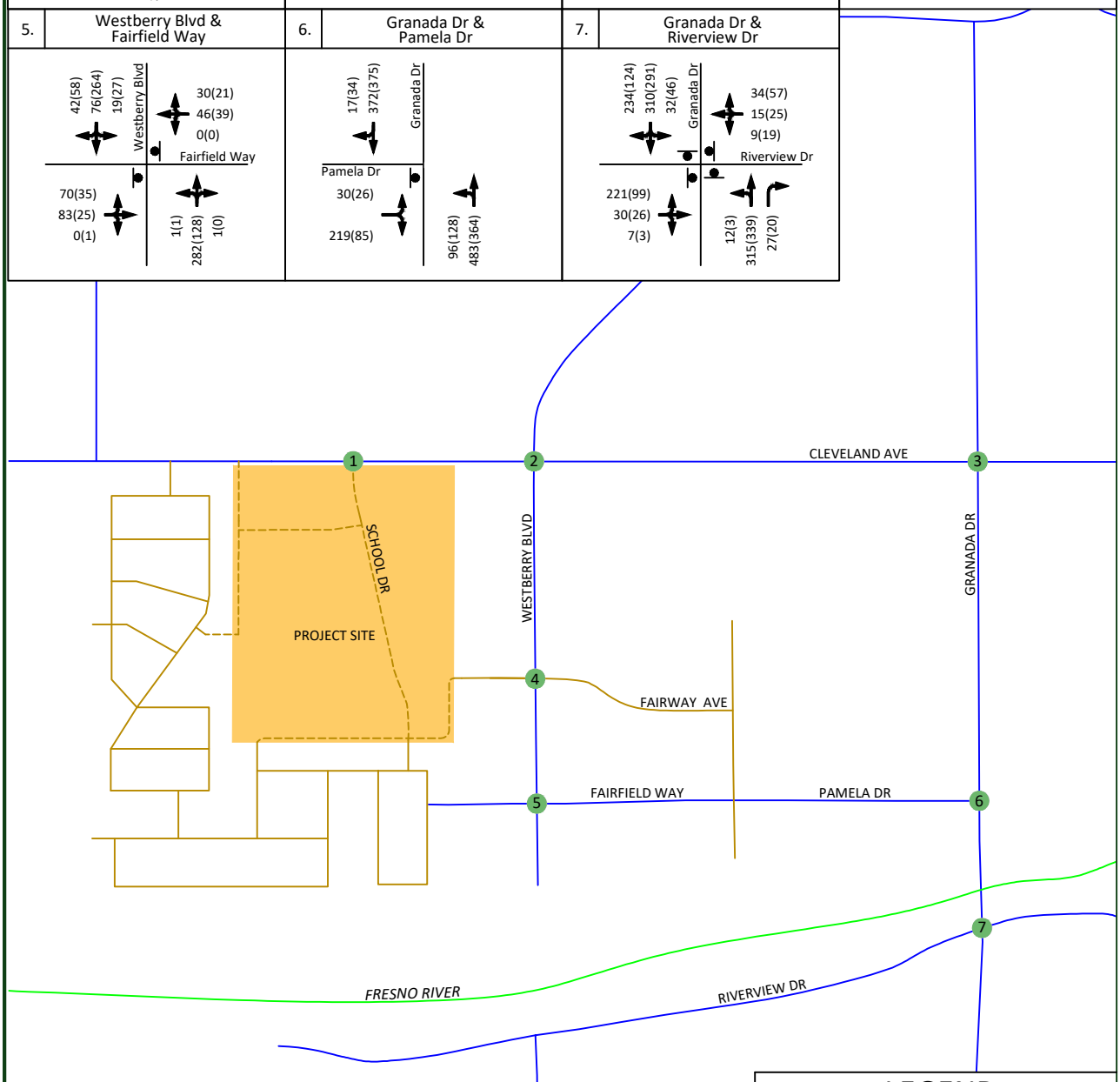
King Husein School - City of Madera
Figure 11
Cumulative Year 2042 plus Project - Traffic Volumes, Geometrics, and Controls





LEGEND

- # = STUDY INTERSECTION
- = FUTURE ROADWAY
- = STOP SIGN
- = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

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Queuing Analysis

Table IX provides a queue length summary for left-turn and right-turn lanes at the study intersections under all study scenarios. The queuing analyses for the study intersections are contained in the LOS worksheets for the respective scenarios. Appendix D contains the methodologies used to evaluate these intersections. Queuing analyses were completed using SimTraffic output information. Synchro provides both 50th and 95th percentile maximum queue lengths (in feet). According to the *Synchro Studio 11 User Guide*, "the 50th percentile maximum queue is the maximum back of queue on a typical cycle and the 95th percentile queue is the maximum back of queue with 95th percentile volumes" (Cubic ITS, Inc., 2019). The queues shown in Table IX are the 95th percentile queue lengths for the respective lane movements.

The *California Highway Design Manual* (CA HDM) provides guidance for determining deceleration lengths for the left-turn and right-turn lanes based on design speeds. According to the CA HDM, tapers for right-turn lanes are "usually unnecessary since main line traffic need not be shifted laterally to provide space for the right-turn lane. If, in some rare instances, a lateral shift were needed, the approach taper would use the same formula as for a left-turn lane" (Caltrans, 2019). Therefore, a bay taper length pursuant to the CA HDM would need to be added, as necessary, to the recommended storage lengths presented in Table IX.

The storage capacity for the Cumulative Year 2042 plus Project Traffic Conditions shall be based on the SimTraffic output files and engineering judgment. The values in bold presented in Table IX are the projected queue lengths that will likely need to be accommodated by the Cumulative Year 2042 plus Project Traffic Conditions scenario. At the remaining approaches of the study intersections, the existing storage capacity will be sufficient to accommodate the maximum queue.

Table IX: Queuing Analysis

ID	Int.	Existing Queue Storage Length (ft.)		Existing		Existing plus Project		Near Term plus Project		Cumulative Year 2042 No Project		Cumulative Year 2042 plus Project	
				AM	PM	AM	PM	PM	PM	AM	PM	AM	PM
1	School Drive / Cleveland Avenue	EB Left	*	*	*	*	*	*	*	*	*	9	0
		EB Through	*	*	*	0	7	0	0	*	*	10	0
		EB Through	*	*	*	*	*	*	*	*	*	0	0
		EB Right	*	*	*	28	0	16	0	*	*	23	0
		WB Left	*	*	*	54	30	74	24	*	*	**118**	30
		WB Through	*	*	*	0	0	0	0	*	*	0	0
		WB Through	*	*	*	*	*	*	*	*	*	0	0
		NB Left	*	*	*	43	18	38	18	*	*	*	*
		NB Right	*	*	*	58	44	60	46	*	*	**104**	43
2	Westberry Boulevard / Cleveland Avenue	EB Left	100	14	13	17	9	31	35	**357**	187	288	213
		EB Through	*	*	*	*	*	*	*	318	210	268	262
		EB Through-Right	>500	0	0	0	10	0	6	274	237	272	262
		WB Left	170	20	18	25	22	26	44	58	**160**	48	86
		WB Through	*	*	*	*	*	*	*	134	435	174	352
		WB Through-Right	>500	0	0	7	0	0	0	153	448	184	366
		NB Left	*	*	*	*	*	35	25	100	**108**	84	78
		NB Left-Through-Right	>500	57	44	93	42	*	*	*	*	*	*
		NB Through-Right	*	*	*	*	*	102	46	284	124	*	*
		NB Through	*	*	*	*	*	*	*	*	*	214	106
		NB Right	*	*	*	*	*	*	*	*	*	**162**	61
		SB Left	110	17	28	20	26	18	27	29	65	35	74
		SB Through	*	*	*	*	*	*	*	75	226	79	367
		SB Through-Right	>500	35	49	47	45	41	51	*	*	*	*
		SB Right	*	*	*	*	*	*	*	59	177	67	**233**

Note: * = Does not exist or is not projected to exist

Table IX: Queuing Analysis (Continued)

ID	Int.	Existing Queue Storage Length (ft.)		Existing		Existing plus Project		Near Term plus Project		Cumulative Year 2042 No Project		Cumulative Year 2042 plus Project	
				AM	PM	AM	PM	PM	PM	AM	PM	AM	PM
3	Granada Drive / Cleveland Avenue	EB Left	90	27	19	32	20	45	25	**157**	98	106	67
		EB Through	>500	60	36	74	51	147	86	337	256	390	286
		EB Through-Right	>500	53	39	86	59	151	97	332	266	388	302
		WB Left	125	76	97	73	92	135	175	138	**274**	142	226
		WB Through	>500	39	57	57	51	95	117	102	388	139	274
		WB Through-Right	>500	21	26	23	28	23	44	123	300	141	248
		NB Left	150	43	36	52	41	70	52	61	78	88	58
		NB Through	>500	94	62	147	62	155	123	216	139	195	122
		NB Right	100	84	58	106	70	84	73	**168**	85	157	108
		SB Left	150	23	37	25	37	28	42	33	71	30	84
		SB Through	>500	78	72	95	77	126	117	129	153	194	146
		SB Right	100	33	40	35	39	27	31	19	61	33	58
4	Westberry Boulevard / Fairway Avenue	EB Left-Through-Right	>300	0	19	44	45	60	50	30	33	63	49
		WB Left-Through-Right	>500	33	28	43	36	44	34	42	38	44	36
		NB Left-Through-Right	>500	0	0	0	0	0	0	0	0	10	9
		SB Left-Through-Right	>500	9	10	10	0	13	9	21	16	29	13
5	Westberry Boulevard / Fairfield Way	EB Left-Through-Right	>500	46	45	62	43	66	50	70	49	66	59
		WB Left-Through-Right	>500	51	55	49	51	53	55	49	50	57	60
		NB Left-Through-Right	>300	0	0	7	0	0	9	0	0	0	0
		SB Left-Through-Right	>500	0	0	0	9	0	0	28	14	30	35
6	Granada Drive / Pamela Drive	EB Left-Right	>500	96	53	162	65	129	75	89	70	168	70
		NB Left-Through	>500	67	62	63	51	51	74	55	63	90	75
		SB Through-Right	>500	0	0	7	0	0	0	0	0	33	0
7	Granada Drive / Riverview Drive	EB Left-Through-Right	>500	83	48	94	54	90	59	100	56	88	65
		WB Left-Through-Right	>500	34	55	47	63	43	43	30	53	30	50
		NB Left-Through	>500	113	92	81	76	78	116	86	80	89	97
		NB Right	100	29	37	36	32	35	31	34	**37**	34	36
		SB Left-Through	>500	72	68	74	75	98	101	88	116	101	93
		SB Right	*	64	39	69	45	71	50	**72**	56	62	52

Note: * = Does not exist or is not projected to exist

Project's Pro-Rata Fair Share of Future Transportation Improvements

The Project's fair share percentage impact to study intersections projected to fall below their LOS threshold and which are not covered by an existing impact fee program is provided in Table X. The Project's fair share percentage impacts were calculated pursuant to the Caltrans Guide for the Preparation of Traffic Impact Studies. The Project's pro-rata fair shares were calculated utilizing the Existing volumes, Cumulative Year 2042 Project Only Trips and Cumulative Year 2042 plus Project volumes. Figure 2 illustrates the Existing traffic volumes, Figure 10 illustrates the Cumulative Year 2042 Project Only Trips, and Figure 11 illustrates the Cumulative Year 2042 plus Project traffic volumes. Since the critical peak period for the study facilities was determined to be during the AM peak, the AM peak volumes are utilized to determine the Project's pro-rata fair share.

It is recommended that the Project contribute its equitable fair share as listed in Table X for the future improvements necessary to maintain an acceptable LOS. However, fair share contributions should only be made for those facilities or portion thereof currently not funded by the responsible agencies roadway impact fee program(s) or grant funding, as appropriate. For those improvements not presently covered by local and regional roadway impact fee programs or grant funding, it is recommended that the Project contribute its equitable fair share. Payment of the Project's equitable fair share in addition to the local and regional impact fee programs would satisfy the Project's traffic improvement measures. The Project should contribute a fair share of the cost for the improvements recommended in this Report which are not fully funded by existing impact fee programs or grant funding.

This study does not provide construction costs for the recommended improvement measures; therefore, if the recommended improvement measures are implemented, it is recommended that the MUSD work with the City of Madera, as appropriate, to develop the estimated construction cost(s).

Table X: Project's Fair Share of Future Roadway Improvements

ID	*Intersection*	*Existing Traffic Volumes (AM Peak)*	*Cumulative Year 2042 plus Project Traffic Volumes (AM Peak)*	*Cumulative Year 2042 Project Only Trips (AM Peak)*	*Project's Fair Share (%)*
1	School Drive / Cleveland Avenue	230	2,493	518	22.9%
7	Granada Drive / Riverview Drive	1,198	1,246	28	58.3%

Note: Project's Fair Share (%) = ((2042 Project Only Trips) / (Cumulative Year 2042 + Project Traffic Volumes - Existing Traffic Volumes)) x 100

Conclusions and Recommendations

Conclusions and recommendations regarding the proposed Project are presented below.

Existing Traffic Conditions

- JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) to obtain collision reports for the most recent five-year period. Based on a review of the collision reports, a total of forty-three (43) collisions were reported within the influence zones of the study intersections. Most study intersections experienced a relatively low number of collisions with two exceptions. These exceptions are for the study intersections of Granada Drive at Cleveland Avenue and Granada Drive at Riverview Drive.
  - Granada Drive / Cleveland Avenue
    - This intersection experienced a total of 16 reported collisions within the five-year period. These included broadside (8), rear end (2), hit object (4) and sideswipe (2) collisions. These collisions were caused by violations of traffic signals and signs (3), right of way (5), unsafe speed (2), improper turning (5) and driving under the influence (1).
    - As this intersection is currently in the process of becoming signalized, it is projected that most broadside will be corrected by this change in traffic signal control. Therefore, no other changes are recommended for this intersection.
  - Granada Drive / Riverview Drive
    - This intersection experienced a total of 15 reported collisions within the five-year period. These included broadside (8), rear end (3), hit object (2), sideswipe (1) and other (1) collisions. These collisions were caused by violations of traffic signals and signs (2), right of way (6), unsafe speed (4), improper turning (1), driving under the influence (1) and other (1).
    - The fatality experienced at this intersection was a result of driving under the influence. The majority of broadside collisions were caused by motorists failing to come to a complete stop and access right of way. Also, field observations revealed that the stop sign on the north leg and the east leg were partially obstructed from vision by nearby foliage. It is recommended that stop ahead pavement markings be added on the north and south legs, a W3-1 sign be added on the east leg of this intersection and that foliage be trimmed or removed to ensure that stop signs are visible from the stopping sight distance. Furthermore, it is recommended that the City of Madera continue to monitor the collisions at this intersection to verify that the recommended changes are adequate in reducing collisions.
- At present, the intersection of Granada Drive at Riverview Drive exceeds its LOS threshold during the AM peak period. It is recommended that the following improvements be considered for implementation to improve the LOS at this intersection.
  - Granada Drive / Riverview Drive
    - Stripe a southbound right-turn lane within the available paving width; and
    - Modify the southbound left-through-right lane to a left-through lane.

Existing plus Project Traffic Conditions

- JLB analyzed the location of the proposed roadways and access points relative to those in the vicinity of the proposed Project. A review of the access points to be constructed indicated that they are located at points that minimize traffic operational impacts to the existing roadway network with one exception. By the Cumulative 2042 Year plus Project Scenario, it is recommended that access to the westerly driveway to Cleveland Avenue be limited to right-in and right-out access and that the School Drive access point to Cleveland Avenue be limited to left-in, right-in and right-out.
- At buildout, the proposed Project is estimated to generate approximately 2,236 daily trips, 726 AM peak hour trips and 158 PM peak hour trips.
- It is recommended that the Project implement a Class II Bikeways along its frontage to Cleveland Avenue.
- It is recommended that the Project construct ADA compliant pedestrian sidewalks along internal streets connecting to all external sidewalks and along its frontage to Cleveland Avenue.
- It is recommended that the Project construct a transit turnout for future transit extension at the intersection of School Drive at Cleveland Avenue.
- Figure 5 within this TIA identifies preliminary routes to and from the proposed school. These preliminary routes include infrastructure such as existing traffic controls, marked crosswalks and missing walkways (i.e. barriers to pedestrians). Most of the developed area within the one mile no busing zone is well developed with walkways and intersection controls with a few exceptions. The exceptions are along the Project frontage to Cleveland Avenue, the south side of Cleveland Avenue west of Stephanie Lane and on the west side of Schnoor Street north of Foxglove Way. In addition to the ADA compliant walkway along the Project frontage to Cleveland Avenue, it is recommended that the Project construct ADA complaint all weather walkways along the south side of Cleveland Avenue west of Stephanie Lane and on the west side of Schnoor Street north of Foxglove Way. Furthermore, as residential development takes place, the City should consider the proposed school site and condition all new development proposals within the no busing zone to conduct a safe route to school evaluation from the residential project to the school sites and have them construct missing gaps in walkways, as applicable.
- Under this scenario, the study intersection of Granada Drive at Riverview Drive is projected to exceed its LOS threshold during the AM peak period. It is recommended that the following improvements be considered for implementation to improve the LOS at this intersection.
    - Granada Drive / Riverview Drive
        - Stripe a southbound right-turn lane within the available paving width; and
        - Modify the southbound left-through-right lane to a left-through lane.

Existing plus Approved & Pending plus Project Traffic Conditions

- The total trip generation for the Approved & Pending Projects is 7,483 weekday daily trips, 458 weekday AM peak hour trips and 678 weekday PM peak hour trips.
- Under this scenario, the intersections of Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during the AM peak period. It is recommended that the following improvements be considered for implementation to improve the LOS at this intersection.
  - Westberry Boulevard / Cleveland Avenue
    - Stripe a northbound left-turn lane within the available paving width; and
    - Modify the northbound left-through-right lane to a through-right lane.
  - Granada Drive / Riverview Drive
    - Stripe a southbound right-turn lane within the available paving width; and
    - Modify the southbound left-through-right lane to a left-through lane.

Cumulative Year 2042 No Project Traffic Conditions

- Under this scenario, the intersections of Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during one or both peak periods. It is recommended that the following improvements be considered for implementation to improve the LOS at this intersection.
  - Westberry Boulevard / Cleveland Avenue
    - Add a second eastbound through lane with a receiving lane east of Cleveland Avenue;
    - Add a second westbound through lane with a receiving lane west of Cleveland Avenue;
    - Stripe a northbound left-turn lane within the available paving width;
    - Modify the northbound left-through-right lane to a through-right lane;
    - Modify the southbound through-right lane to a through lane;
    - Add a southbound right-turn lane; and
    - Signalize the intersection with protective left-turn phasing in all directions.
  - Granada Drive / Riverview Drive
    - Stripe a southbound right-turn lane within the available paving width; and
    - Modify the southbound left-through-right lane to a left-through lane.

Cumulative Year 2042 plus Project Traffic Conditions

- Under this scenario, the intersections of School Drive at Cleveland Avenue, Westberry Boulevard at Cleveland Avenue and Granada Drive at Riverview Drive are projected to exceed their LOS threshold during one or both peak periods. It is recommended that the following improvements be considered for implementation to improve the LOS at this intersection.
  - School Drive / Cleveland Avenue
    - Add a second eastbound through lane with a receiving lane east of Cleveland Avenue; and
    - Add a second westbound through lane with a receiving lane west of Cleveland Avenue.
  - Westberry Boulevard / Cleveland Avenue
    - Add a second eastbound through lane with a receiving lane east of Cleveland Avenue;
    - Add a second westbound through lane with a receiving lane west of Cleveland Avenue;
    - Stripe a northbound left-turn lane within the available paving width;
    - Modify the northbound left-through-right lane to a through lane;
    - Stripe a northbound right-turn lane within the available paving width;
    - Modify the southbound through-right lane to a through lane;
    - Add a southbound right-turn lane; and
    - Signalize the intersection with protective left-turn phasing in all directions.
  - Granada Drive / Riverview Drive
    - Stripe a southbound right-turn lane within the available paving width; and
    - Modify the southbound left-through-right lane to a left-through lane.

Queuing Analysis

- It is recommended that the City consider left-turn and right-turn lane storage lengths as indicated in the Queuing Analysis.

Project's Equitable Fair Share

- It is recommended that the Project contribute its equitable Fair Share as presented in Table X for those future improvements which are not currently covered by an existing impact fee program or grant funds.

Study Participants

JLB Traffic Engineering, Inc. Personnel:

Jose Luis Benavides, PE, TE	Project Manager
Matthew Arndt, EIT	Engineer I/II
Adrian Benavides	Engineering Aide
Christian Sanchez	Engineering Aide
Carlos Topete	Engineering Aide

Persons Consulted:

Travis L. Crawford	Crawford & Bowen Planning, Inc.
Rosalind Cox	Madera Unified School District
Raquel Rios	City of Madera
Keith Helmuth	City of Madera
Phu Duong	County of Madera
Nicholas Isla	Caltrans, D6
David Padilla	Caltrans, D6
Dylan Stone	Madera County Transportation Commission

References

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Appendix A: Scope of Work

June 8, 2022

Keith Helmuth, PE
City Engineer
City of Madera
205 West 4th Street
Madera, CA 93637

Via email only: khelmuth@cityofmadera.com

Subject: ***Proposed Scope of Work for the Preparation of a Traffic Impact Analysis & Vehicle Miles Traveled Analysis for the Madera Unified School District Elementary School in the City of Madera (JLB Project 008-006)***

Dear Mr. Helmuth,

JLB Traffic Engineering, Inc. (JLB) hereby submits this Draft Scope of Work for the preparation of a Traffic Impact Analysis (TIA) and Vehicle Miles Traveled (VMT) Analysis for the Madera Unified School District (MUSD) Elementary School (Project) to be located in the City of Madera. Specifically, the Project site will be located on approximately 15 acres on the southwest quadrant of Westberry Boulevard and Cleveland Avenue and proposes to serve approximately 1,000 students in transitional kindergarten through eighth grades. The proposed Project is located within the City of Madera Sphere of Influence (SOI). An aerial of the Project vicinity and Project Site Plan are shown in Exhibits A and Exhibit B, respectively.

The purpose of the TIA and VMT analysis is to evaluate the potential on-site and off-site traffic impacts, identify short-term roadway and circulation needs, conduct a vehicle miles traveled (VMT) analysis, determine potential mitigation measures and identify any critical traffic issues that should be addressed in the on-going planning process. To evaluate the on-site and off-site traffic impacts of the proposed Project, JLB proposes the following Scope of Work.

Scope of Work

- JLB will obtain recent (less than 12 months) or schedule conduct new traffic counts at the study facility(ies) when schools in the vicinity are in session. These counts will include pedestrians and vehicles. The counts will be collected during typical school operations and not during weeks with holidays, non-school days, roadway construction, inclement weather, etc.
- JLB will perform a site visit to observe existing traffic conditions, especially during the AM and PM peak hours. Existing roadway conditions including intersection geometrics and traffic controls will be verified.
- JLB will evaluate the VMT of the proposed Project land use based on the Madera County Transportation Commission (MCTC) and Project specific employment data. If the proposed Project exceeds the VMT thresholds set forth by the State of California, then JLB will prepare recommended mitigation measures to reduce the transportation VMT impact.

- JLB will prepare CA MUTCD Warrant 3 "Peak Hour" for unsignalized study intersections under all study scenarios.
- JLB will qualitatively analyze existing and planned bikeways in the vicinity of the Project.
- JLB will qualitatively analyze existing and planned walkways in the vicinity of the Project.
- JLB will qualitatively analyze existing and planned transit routes in the vicinity of the Project.
- JLB will evaluate on-site circulation and provide recommendations as necessary to improve circulation to and within the Project site.
- JLB will identify the non-busing service boundary for elementary school students. Using the non-busing boundaries, JLB will conduct a qualitative Safe Routes to School evaluation. The safe routes to school evaluation will be prepared based on information to be provided by the MUSD and field surveys to be conducted by JLB. Based on the above information, JLB will provide suggested Safe Routes to School recommendations.
- JLB will evaluate existing and forecasted levels of service (LOS) at the study intersection(s). JLB will use HCM 6th Edition or HCM 2000 methodologies (as appropriate) within Synchro to perform this analysis for the AM and PM peak hours. JLB will identify the causes of poor LOS.
- JLB will prepare a five-year collision analysis based on the Statewide Integrated Traffic Reporting System (SWITRS) database for all existing study facilities.
- JLB will prepare a table with the Project's pro-rata fair share allocation to improve deficiencies identified (if any) which are not currently funded by an existing funding source.

Study Scenarios

1. Existing Traffic Conditions with needed improvements (if any);
2. Existing plus Project Traffic Conditions with proposed improvement measures (if any);
3. Existing plus Approved and Pending Developments plus Project Traffic Conditions with proposed mitigation measures (if any);
4. Cumulative Year 2042 No Project Traffic Conditions with proposed improvement measures (if any); and
5. Cumulative Year 2042 plus Project Traffic Conditions with proposed mitigation measures (if any).

Weekday peak hours to be analyzed (Tuesday, Wednesday or Thursday only):

1. 7 - 9 AM peak hour
2. 4 - 6 PM peak hour

Study Intersections

1. Future Local Street (west of Westberry Boulevard) / Cleveland Avenue (Future Intersection)
2. Westberry Boulevard / Cleveland Avenue
3. Granada Drive / Cleveland Avenue
4. Westberry Boulevard / Fairway Avenue
5. Westberry Boulevard / Fairfield Way
6. Granada Drive / Pamela Drive
7. Granada Drive / Riverview Drive

Queuing analysis is included in the proposed Scope of Work for the study intersection(s) listed above under all study scenarios. This analysis will be utilized to recommend minimum storage lengths for left- and right-turn lanes at all study intersections.

Study Segments:

1. None

Project Only Trip Assignment to State Facilities:

1. None

Project Access

On opening day, access to and from the Project site will be from six (6) access points. Two access point are located along the south side of Cleveland Avenue approximately 1,700 and 1,000 feet west of Westberry Boulevard. The Project will have access to the existing streets Fairway Avenue on the east and west side, San Phillipe Street on the south side and San Pietro Drive on the south side. All access points are proposed to be full access. Additional details regarding the Project's proposed access points can be found in Exhibit B.

Project Trip Generation

The trip generation rates for the proposed Project land use were obtained from the 11th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table I presents the trip generation for the proposed Project with trip generation rates for an Elementary School with 800 students and a Middle School with 200 students. At buildout, the proposed Project is estimated to generate a maximum of 2,236 daily trips, 726 AM peak hour trips and 158 PM peak hour trips.

Table I: Project Trip Generation

Land Use (ITE Code)	Size	Unit	Daily		AM (7-9) Peak Hour						PM (4-6) Peak Hour					
			Rate	Total	Trip Rate	In %	Out %	In	Out	Total	Trip Rate	In %	Out %	In	Out	Total
Elementary School (520)	800	students	2.27	1,816	0.74	54	46	320	272	592	0.16	46	54	59	69	128
Middle School (522)	200	students	2.10	420	0.67	54	46	72	62	134	0.15	48	52	14	16	30
Total Project Trips				**2,236**				**392**	**334**	**726**				**73**	**85**	**158**

Project Trip Distribution

The Project Only Trips to the study facilities were developed based on existing travel patterns, the existing roadway network, student density dot maps, knowledge of the study area, engineering judgment and the City of Madera *General Plan*. Exhibit C illustrates the Project Only Trips to the study intersections and proposed Project driveways on opening day.

Near Term Projects to be Included

JLB is unaware of other projects in the vicinity of the proposed Project that have the ability to impact traffic operations in the Near Term scenario. However, JLB will include in the Near Term scenario, near term projects provided to us by responsible agencies. These would include near term projects that Madera County or Caltrans has knowledge of and for which it is anticipated that said project(s) is/are projected to be whole or partially built by the Near Term project year 2027 and for which the City of Madera, County of Madera or Caltrans provides JLB with near term project details. Near term project details include project description, location, proposed land uses with breakdowns and type of residential units and amount of square footages for non-residential uses.

The Scope of Work is based on our understanding of this Project and our experience with similar TIAs. We kindly ask that all responsible agencies submit any comments by June 30, 2022. If you have any questions or require additional information, please contact me by phone at (559) 317-6243, or via email at marndt@jlbtraffic.com.

Sincerely,

Matthew Arndt
JLB Traffic Engineering, Inc.

cc: Phu Duong, Madera County
David Padilla, Caltrans
Jose Luis Benavides, JLB Traffic Engineering, Inc.

Exhibit A – Project Vicinity

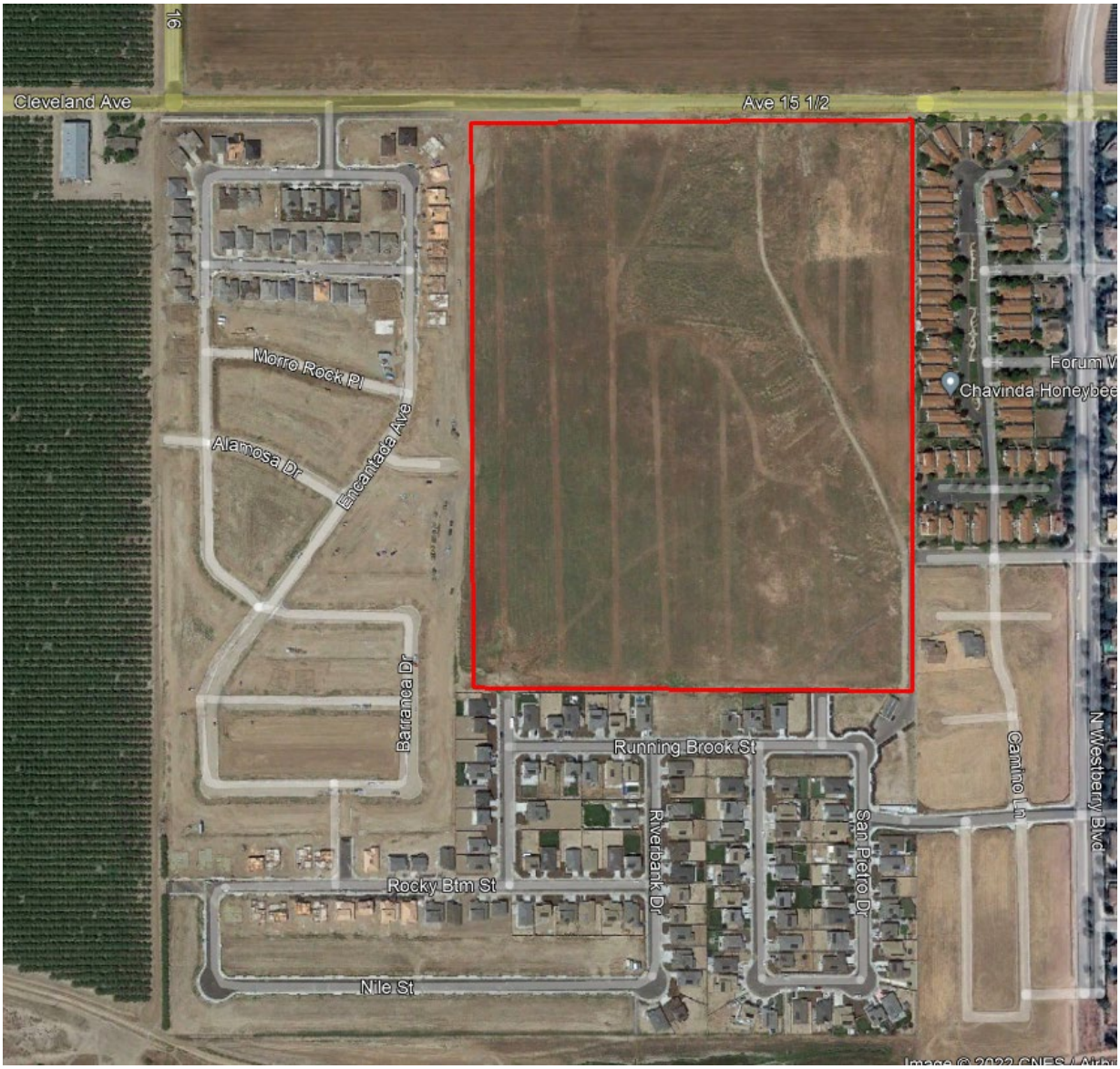


Exhibit B – Project Site Plan

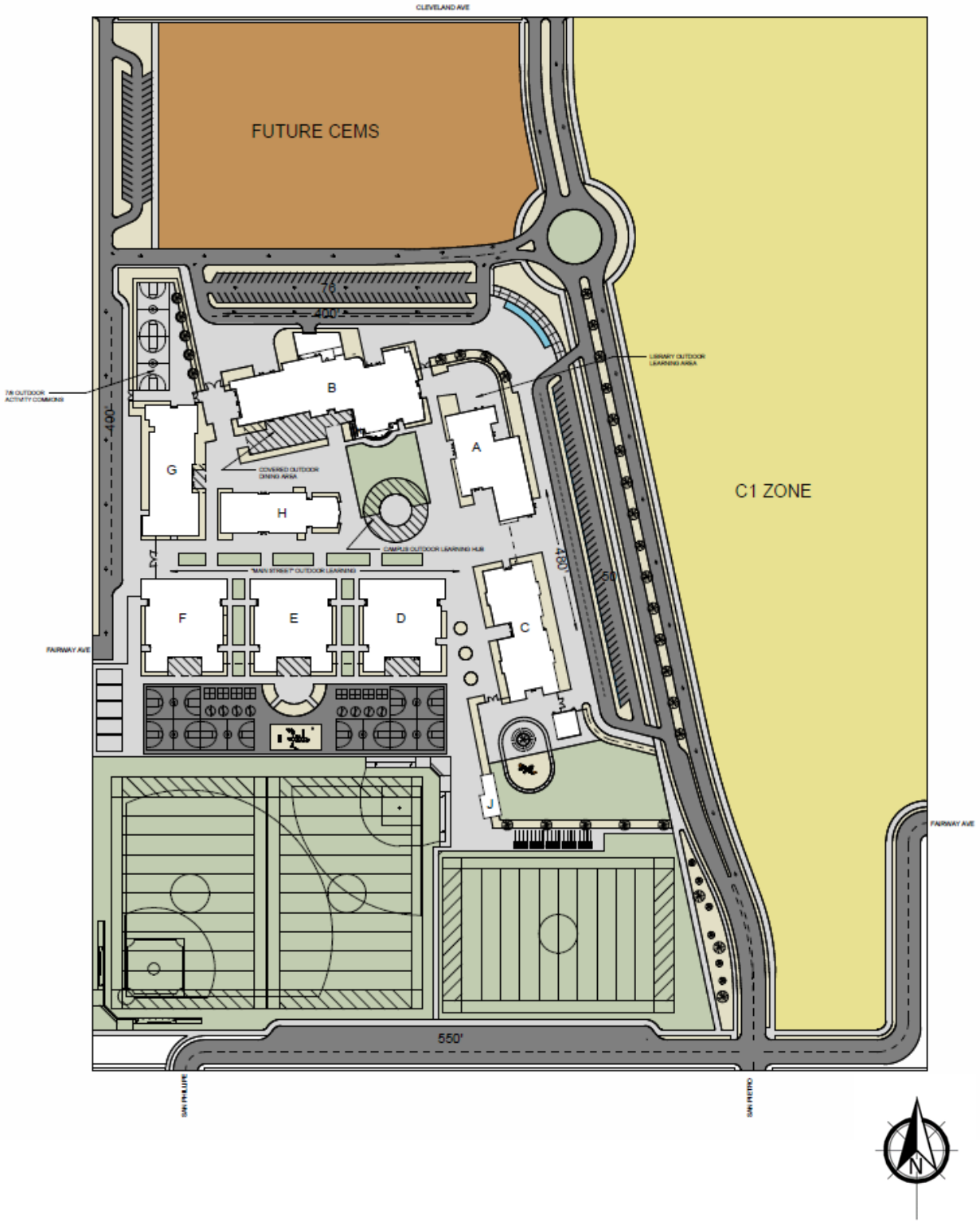
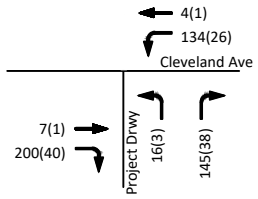
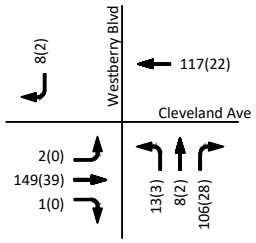
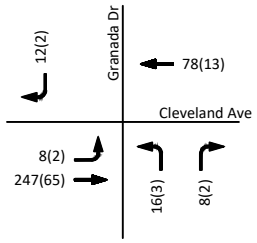
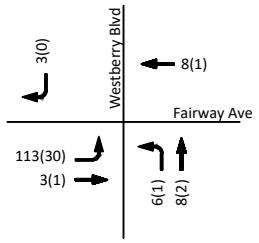
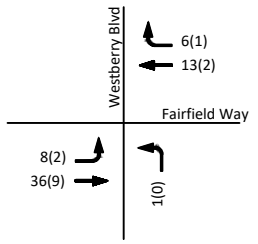
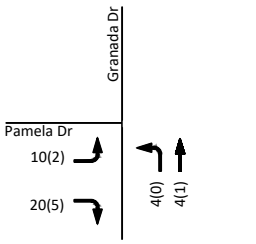
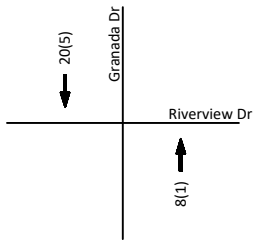


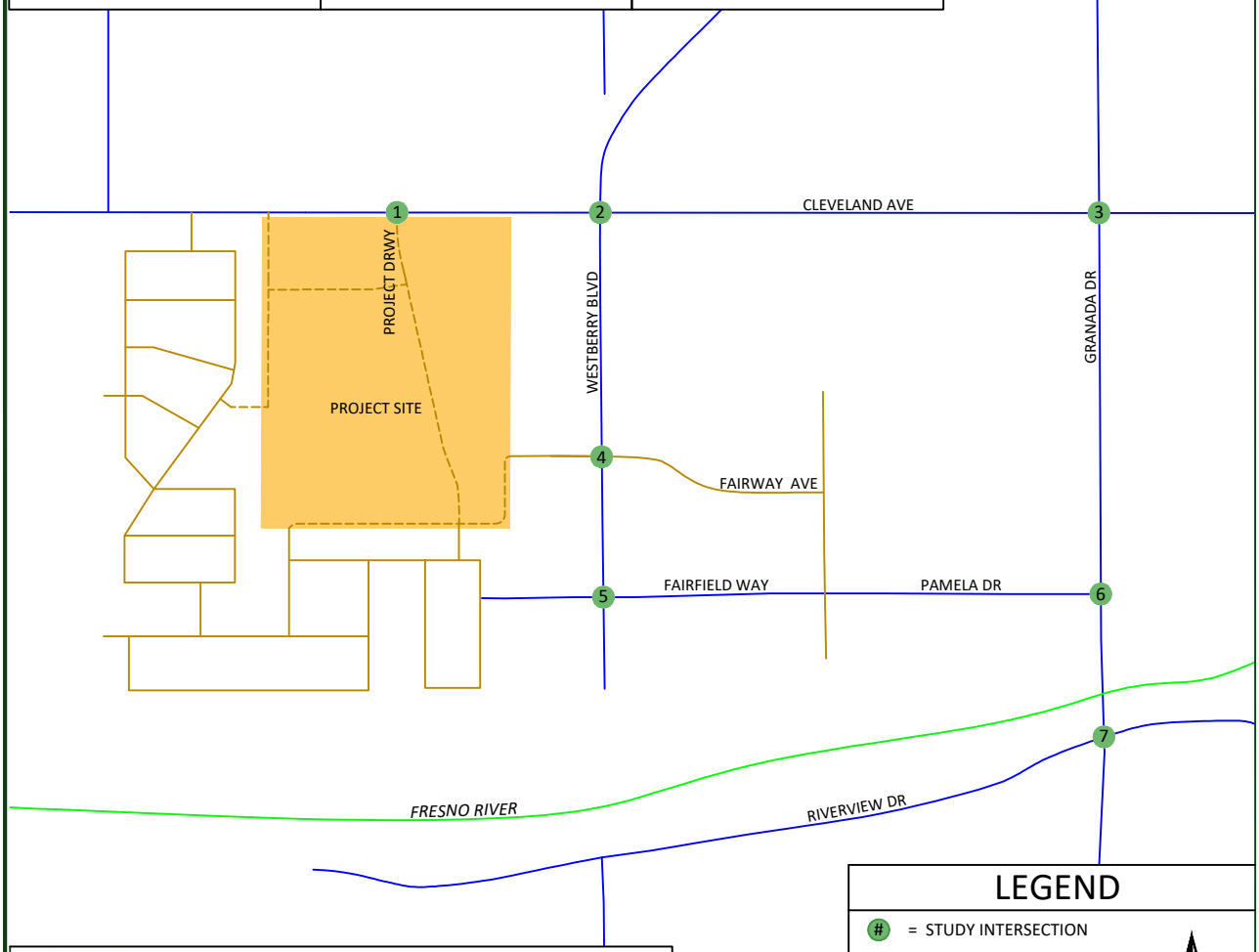
Exhibit C – Project Only Trips

MUSD Elementary School - City of Madera
Project Only Trips

Exhibit C

1. Project Drwy & Cleveland Ave	2. Westberry Blvd & Cleveland Ave	3. Granada Dr & Cleveland Ave	4. Westberry Blvd & Fairway Ave
			

5. Westberry Blvd & Fairfield Way	6. Granada Dr & Pamela Dr	7. Granada Dr & Riverview Dr
		



LEGEND

- # = STUDY INTERSECTION
- = FUTURE ROADWAY
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS

N

Not To Scale

JLB TRAFFIC ENGINEERING, INC.

516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

June 8, 2022

Keith Helmuth, PE
City Engineer
City of Madera
205 West 4th Street
Madera, CA 93637

Via email only: khelmuth@cityofmadera.com

Subject: ***Proposed Scope of Work for the Preparation of a Traffic Impact Analysis & Vehicle Miles Traveled Analysis for the Madera Unified School District Elementary School in the City of Madera (JLB Project 008-006)***

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Summary of Comments on Draft Scope of Work

Page: 2

Number: 1 Author: khelmuth Subject: Sticky Note Date: 6/15/2022 2:40:02 PM
Please provide safe routes map as well with the intent of providing to future parents and their children.

Number: 2 Author: khelmuth Subject: Sticky Note Date: 6/15/2022 2:42:17 PM
Please clarify that proposed improvements will not build on top of whatever is needed in scenarios 1 and 2

Number: 3 Author: khelmuth Subject: Sticky Note Date: 6/15/2022 2:43:59 PM
Please clarify location. Is this intended to access school?

Number: 4 Author: khelmuth Subject: Sticky Note Date: 6/15/2022 2:44:50 PM
Note - The City is currently designing a traffic signal

Study Segments:

1. None

Project Only Trip Assignment to State Facilities:

1. None

Project Access

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The Scope of Work is based on our understanding of this Project and our experience with similar TIAs. We kindly ask that all responsible agencies submit any comments by June 30, 2022. If you have any questions or require additional information, please contact me by phone at (559) 317-6243, or via email at marndt@jlbtraffic.com.

Sincerely,

Matthew Arndt
JLB Traffic Engineering, Inc.

cc: Phu Duong, Madera County
David Padilla, Caltrans
Jose Luis Benavides, JLB Traffic Engineering, Inc.

Page: 4

Number: 1 Author: khelmuth Subject: Sticky Note Date: 6/15/2022 2:55:37 PM

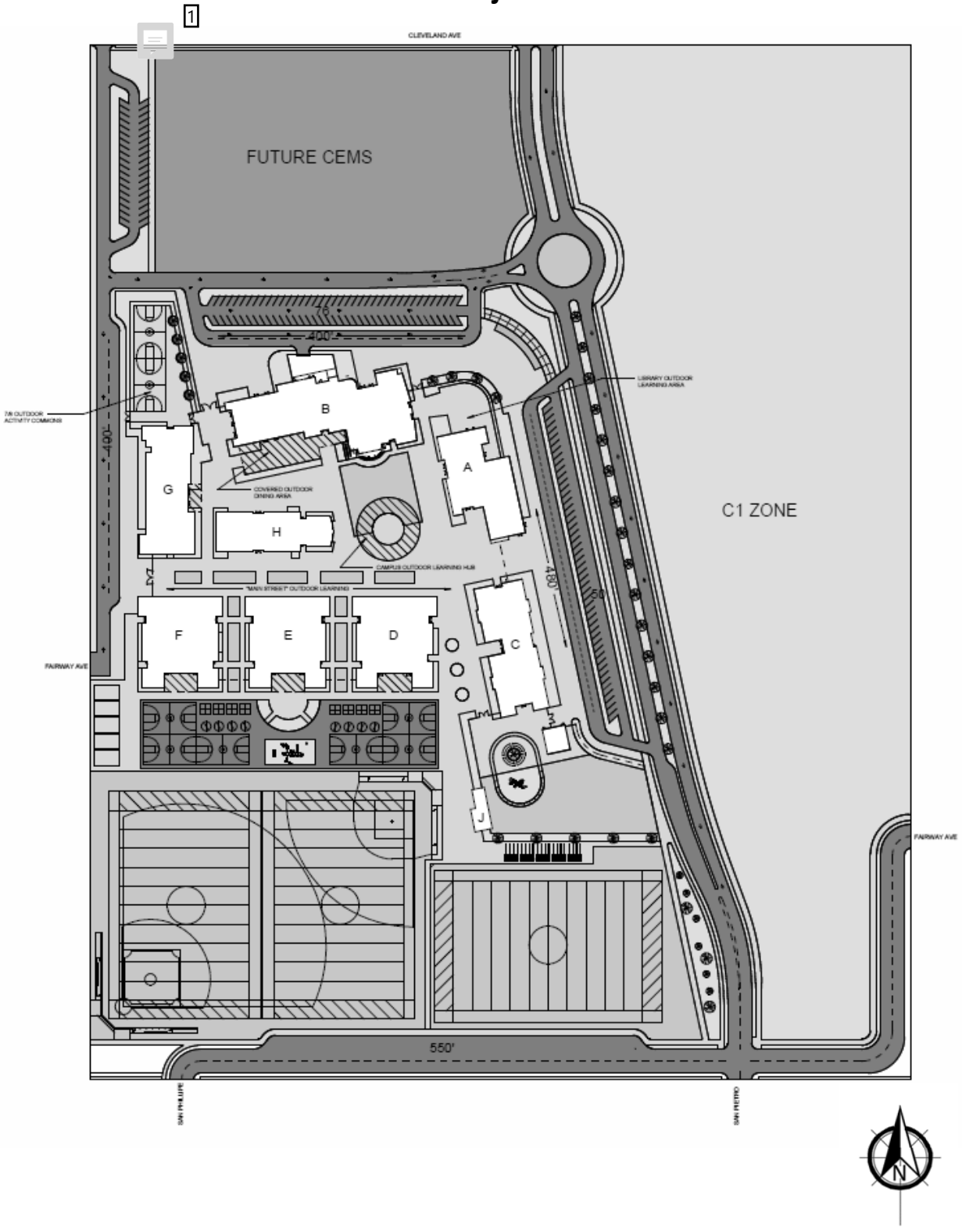
The project should include the following:

- Village D
- Possible Home ranch Phase V

Remaining units in Rancho Santa Fe to the west of the project

Exhibit A – Project Vicinity

Exhibit B – Project Site Plan



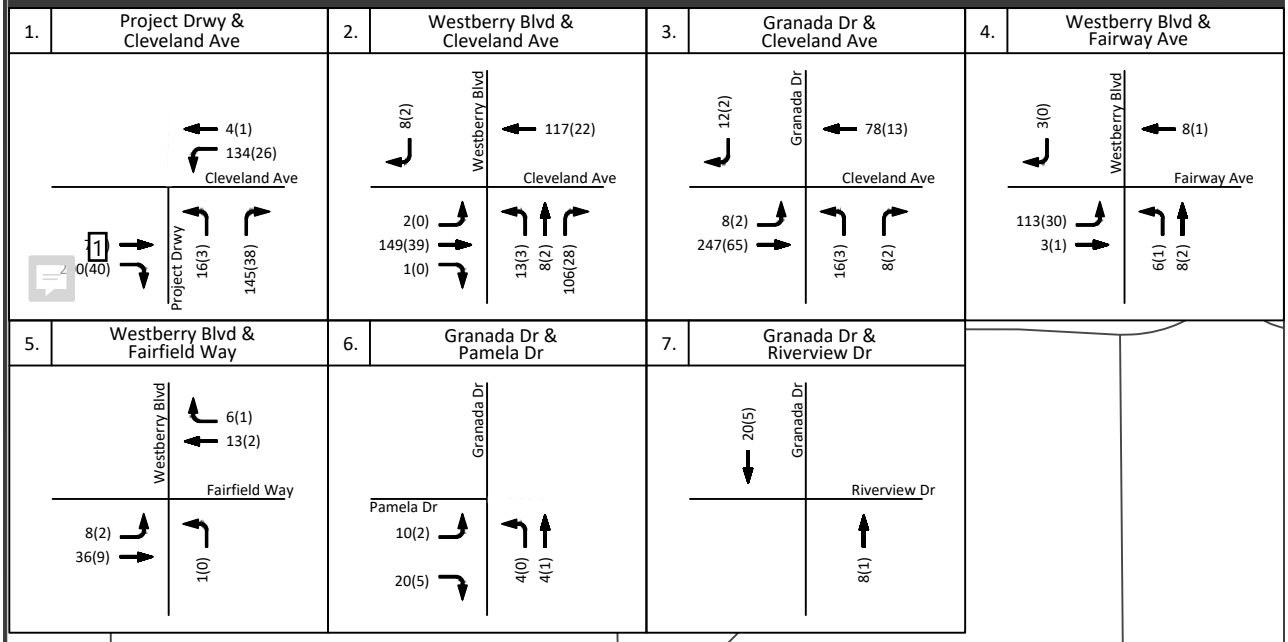
Page: 6

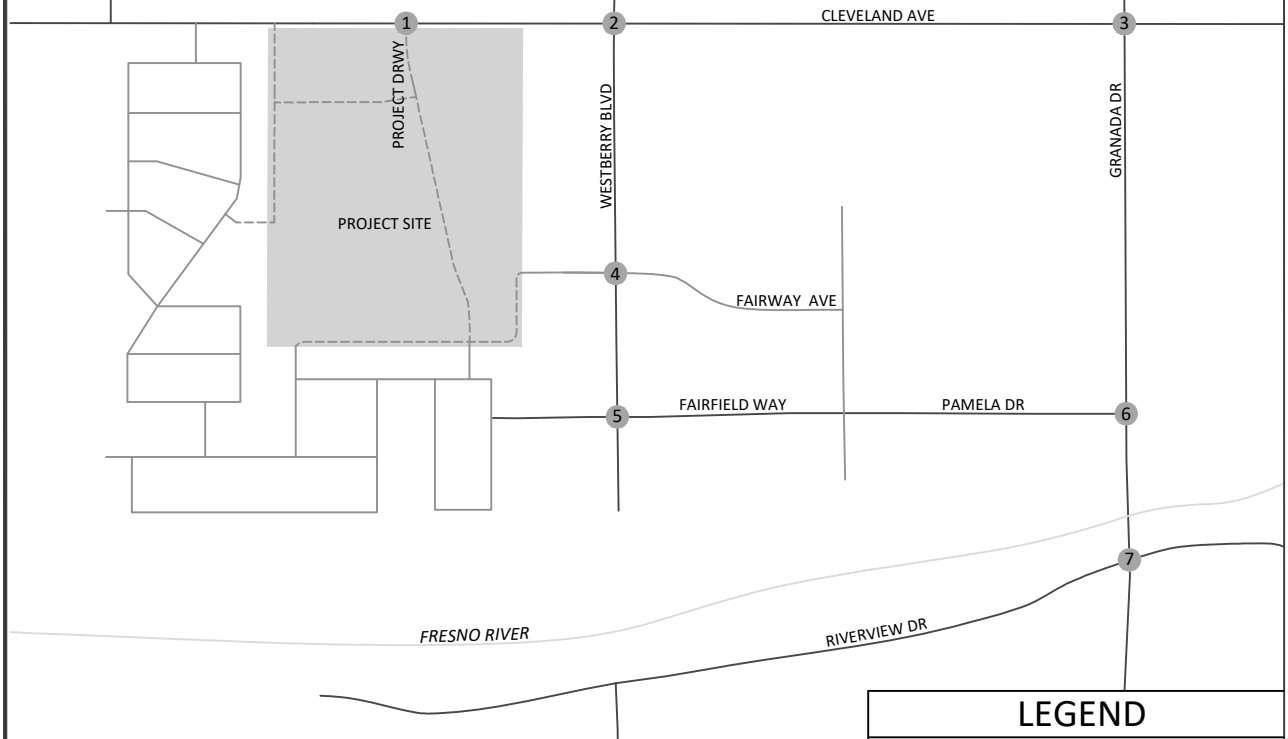
Number: 1 Author: khelmuth Subject: Sticky Note Date: 6/15/2022 2:47:14 PM
Should be 4 to 500 feet separation from driveway to the west

Exhibit C – Project Only Trips

MUSD Elementary School - City of Madera
Project Only Trips

Exhibit C





LEGEND

- (#) = STUDY INTERSECTION
- = FUTURE ROADWAY
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS

N

Not To Scale

JLB TRAFFIC ENGINEERING, INC.

516 W. Shaw Ave., Ste. 103, Fresno, CA 93704

PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

Page: 8

Number: 1 Author: khelmuth Subject: Sticky Note Date: 6/15/2022 2:51:13 PM
Recommend right turn lane on Cleveland with minimum 100 feet of storage

Matt Arndt

From: Isla, Nicholas@DOT <Nicholas.Isla@dot.ca.gov>
Sent: Thursday, June 9, 2022 10:01 AM
To: Matt Arndt
Cc: Padilla, Dave@DOT
Subject: Madera Unified School District Elementary School Draft TIA/ VMT JLB#008-009

Good morning Matt,

We've reviewed the Draft Traffic Impact Analysis for the above mentioned project and have no comment.

Thank you,

Nicholas Isla
Transportation Planner
California Department of Transportation
1352 West Olive Avenue
(559) 981-7373

From:	Phu Duong
To:	Matt Arndt
Subject:	RE: Madera Unified Elementary School - Draft Scope of Work
Date:	Tuesday, June 28, 2022 4:44:17 PM
Attachments:	image007.png image001.png image002.png image003.png image004.png image005.png image006.png

Hi Matt,

My apologies. For some reason, I thought I had replied back to you that we have no comment.

Sorry.

Phu Duong | Development Services Engineer
PUBLIC WORKS, ENGINEERING SERVICES
200 W. 4th Street, Suite 3100, Madera, CA 93637
Office: (559) 675-7811 | Cell: (559) 474-0333

From: Matt Arndt <marndt@jlbtraffic.com>
Sent: Tuesday, June 28, 2022 4:12 PM
To: Phu Duong <phu.duong@maderacounty.com>
Subject: RE: Madera Unified Elementary School - Draft Scope of Work

Hello Phu,

Does the County have any comments to this Draft Scope of Work?

Sincerely,

Matthew Arndt

Traffic Engineering, Transportation Planning and Parking Solutions
Certified Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE)

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
Office: (559) 570-8991
Direct: (559) 317-6243
www.JLBtraffic.com

From: Phu Duong <phu.duong@maderacounty.com>
Sent: Wednesday, June 15, 2022 9:24 AM
To: Matt Arndt <marndt@jlbtraffic.com>
Subject: RE: Madera Unified Elementary School - Draft Scope of Work

Hi Matt,

Let me check with the team and will get back to you shortly.

Phu Duong | Development Services Engineer
PUBLIC WORKS, ENGINEERING SERVICES
200 W. 4th Street, Suite 3100, Madera, CA 93637
Office: (559) 675-7811 | Cell: (559) 474-0333

From: Matt Arndt <marndt@jlbtraffic.com>
Sent: Wednesday, June 15, 2022 9:01 AM
To: Phu Duong <phu.duong@maderacounty.com>
Subject: RE: Madera Unified Elementary School - Draft Scope of Work

Hello Phu,

Just wanted to follow up with this draft scope of work to verify that you received it or if you have had time to review it.

Let me know if you have any questions.

Sincerely,

Matthew Arndt

Traffic Engineering, Transportation Planning and Parking Solutions
Certified Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE)

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
Office: (559) 570-8991
Direct: (559) 317-6243
www.JLBtraffic.com

From: Matt Arndt
Sent: Wednesday, June 8, 2022 2:51 PM
To: phu.duong@maderacounty.com
Cc: Jose Benavides <jbenavides@jlbtraffic.com>; ROSALIND COX <RosalindCox@maderausd.org>
Subject: Madera Unified Elementary School - Draft Scope of Work

Hello Phu,

Attached you will find a Draft Scope of Work for the Madera Elementary School Project located in the City of Madera. This is being sent as a courtesy since the County is a responsible agency. Keep in mind that we do not expect to be charged for giving the County of Madera the opportunity to review this Draft Scope of Work.

Thanks.

Sincerely,

Matthew Arndt

Appendix B: Traffic Counts

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

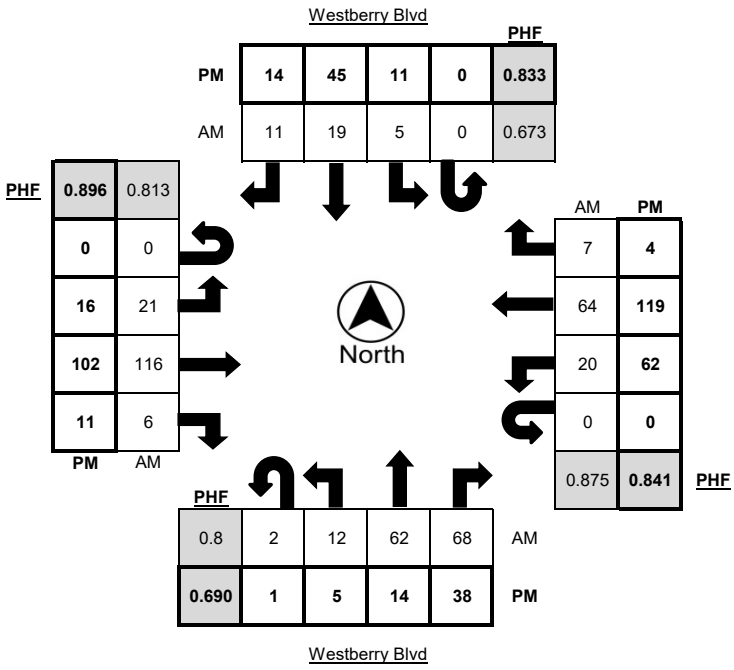
LOCATION Westberry Blvd @ Cleveland Ave
LATITUDE 36.9746
COUNTY Madera
LONGITUDE -120.1013
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	5	7	12	1	0	3	2	1	0	0	4	15	2	1	0	2	13	2	3
7:15 AM - 7:30 AM	0	1	10	16	0	0	1	2	4	1	0	8	25	0	0	0	3	22	1	1
7:30 AM - 7:45 AM	0	4	21	18	0	0	0	2	3	0	0	6	33	3	2	0	3	14	3	1
7:45 AM - 8:00 AM	2	6	19	18	0	0	4	8	1	1	0	3	38	3	3	0	6	16	1	0
8:00 AM - 8:15 AM	0	1	12	16	0	0	0	7	3	0	0	4	20	0	0	0	8	12	2	0
8:15 AM - 8:30 AM	2	0	5	12	0	0	3	8	3	2	0	1	26	0	1	0	11	16	0	1
8:30 AM - 8:45 AM	1	1	9	13	0	0	1	1	0	0	0	5	17	1	1	0	5	16	0	2
8:45 AM - 9:00 AM	0	0	5	10	0	0	2	5	1	0	0	0	11	0	0	0	3	10	2	1
TOTAL	**5**	**18**	**88**	**115**	**1**	**0**	**14**	**35**	**16**	**4**	**0**	**31**	**185**	**9**	**8**	**0**	**41**	**119**	**11**	**9**

	Northbound					Southbound					Eastbound					Westbound				
Time	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	2	5	6	0	0	2	7	7	1	0	4	41	2	1	0	12	15	2	1
4:15 PM - 4:30 PM	0	0	2	6	0	0	2	12	5	0	0	4	29	0	1	0	14	26	2	2
4:30 PM - 4:45 PM	0	2	4	8	0	0	0	9	4	1	0	5	21	3	1	0	9	23	1	0
4:45 PM - 5:00 PM	0	0	3	7	0	0	2	3	4	0	0	6	22	3	0	0	12	20	2	0
5:00 PM - 5:15 PM	0	1	1	9	0	0	5	7	6	0	0	3	30	3	0	0	14	34	1	1
5:15 PM - 5:30 PM	0	0	3	11	0	0	2	11	1	0	0	4	24	1	0	0	17	38	0	1
5:30 PM - 5:45 PM	1	2	2	7	0	0	2	15	4	1	0	5	22	4	2	0	16	28	2	0
5:45 PM - 6:00 PM	0	2	8	11	0	0	2	12	3	0	0	4	26	3	1	0	15	19	1	2
TOTAL	**1**	**9**	**28**	**65**	**0**	**0**	**17**	**76**	**34**	**3**	**0**	**35**	**215**	**19**	**6**	**0**	**109**	**203**	**11**	**7**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:15 AM - 8:15 AM	2	12	62	68	0	0	5	19	11	2	0	21	116	6	5	0	20	64	7	2
5:00 PM - 6:00 PM	1	5	14	38	0	0	11	45	14	1	0	16	102	11	3	0	62	119	4	4

	PHF	Trucks
AM	0.826	2.2%
PM	0.969	1.8%



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800-975-6938 Phone/Fax
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Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

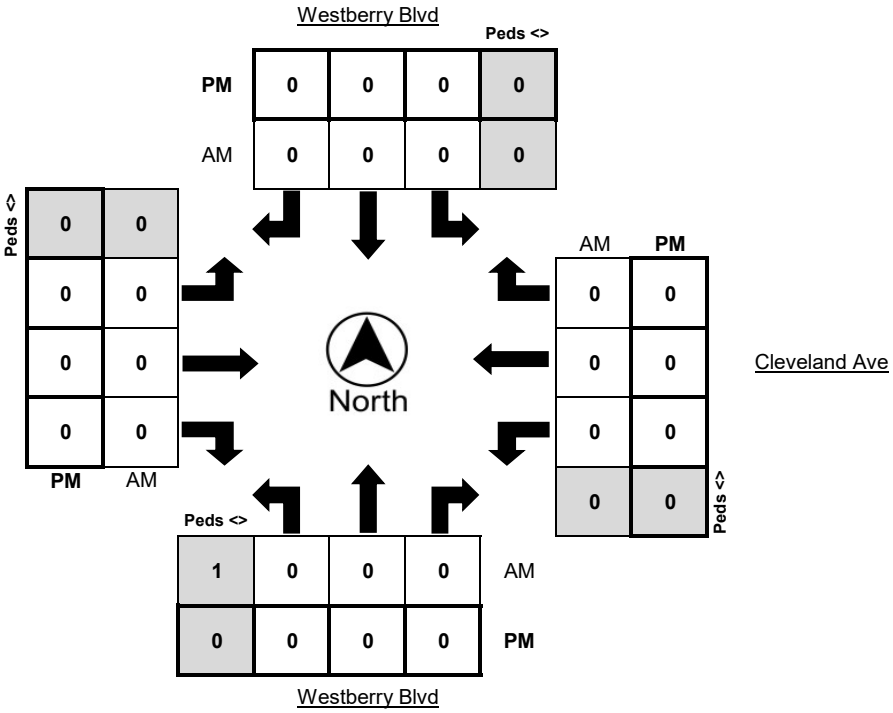
LOCATION Westberry Blvd @ Cleveland Ave
LATITUDE 36.9746
COUNTY Madera
LONGITUDE -120.1013
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	1
PM Peak Total	**0**	**0**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

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Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

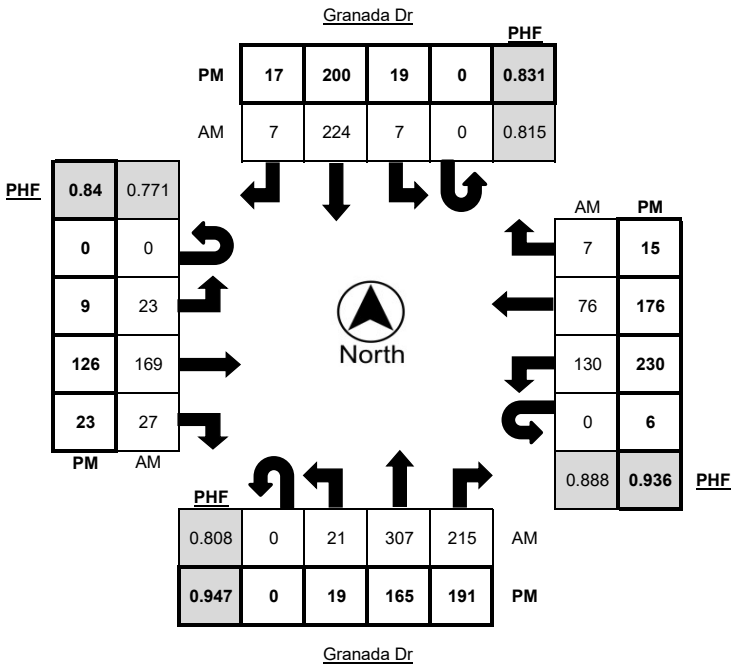
LOCATION Granada Dr @ Cleveland Ave
LATITUDE 36.9746
COUNTY Madera
LONGITUDE -120.0923
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	3	47	36	3	0	1	15	1	0	0	2	27	4	0	0	19	12	2	1
7:15 AM - 7:30 AM	0	6	63	28	1	0	0	22	4	2	0	3	42	3	1	1	39	19	1	6
7:30 AM - 7:45 AM	0	9	104	51	1	0	1	60	1	1	0	4	46	6	3	0	36	12	0	1
7:45 AM - 8:00 AM	0	8	96	64	1	0	2	68	3	0	0	9	52	10	2	0	44	15	1	0
8:00 AM - 8:15 AM	0	2	58	55	0	0	4	59	0	1	0	4	34	4	0	0	25	22	3	0
8:15 AM - 8:30 AM	0	2	49	45	3	0	0	37	3	0	0	6	37	7	2	0	25	27	3	3
8:30 AM - 8:45 AM	0	4	30	27	1	0	3	32	0	0	0	5	21	3	0	0	28	14	1	0
8:45 AM - 9:00 AM	0	3	38	42	1	0	1	23	1	0	0	7	23	2	0	1	18	14	5	1
TOTAL	**0**	**37**	**485**	**348**	**11**	**0**	**12**	**316**	**13**	**4**	**0**	**40**	**282**	**39**	**8**	**2**	**234**	**135**	**16**	**12**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	1	6	56	52	2	0	5	47	1	0	0	0	43	7	0	1	54	33	3	1
4:15 PM - 4:30 PM	0	6	37	37	0	0	5	47	7	1	0	2	28	7	0	2	63	35	6	1
4:30 PM - 4:45 PM	0	5	22	42	0	0	5	63	5	0	0	1	26	3	0	3	51	31	2	0
4:45 PM - 5:00 PM	0	1	36	50	1	0	7	62	2	0	0	0	26	5	0	4	61	41	8	0
5:00 PM - 5:15 PM	0	7	42	50	0	0	8	49	5	0	0	2	37	8	0	1	64	47	0	1
5:15 PM - 5:30 PM	0	7	39	51	1	0	0	53	3	0	0	2	34	7	0	1	51	47	3	1
5:30 PM - 5:45 PM	0	4	48	40	0	0	4	36	7	0	0	5	29	3	1	0	54	41	4	0
5:45 PM - 6:00 PM	0	1	43	45	2	0	2	30	4	0	0	5	35	6	0	1	69	35	3	2
TOTAL	**1**	**37**	**323**	**367**	**6**	**0**	**36**	**387**	**34**	**1**	**0**	**17**	**258**	**46**	**1**	**13**	**467**	**310**	**29**	**6**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	0	21	307	215	5	0	7	224	7	2	0	23	169	27	7	0	130	76	7	4
4:45 PM - 5:45 PM	0	19	165	191	2	0	19	200	17	0	0	9	126	23	1	6	230	176	15	2

	PHF	Trucks
AM	0.815	1.5%
PM	0.934	0.4%



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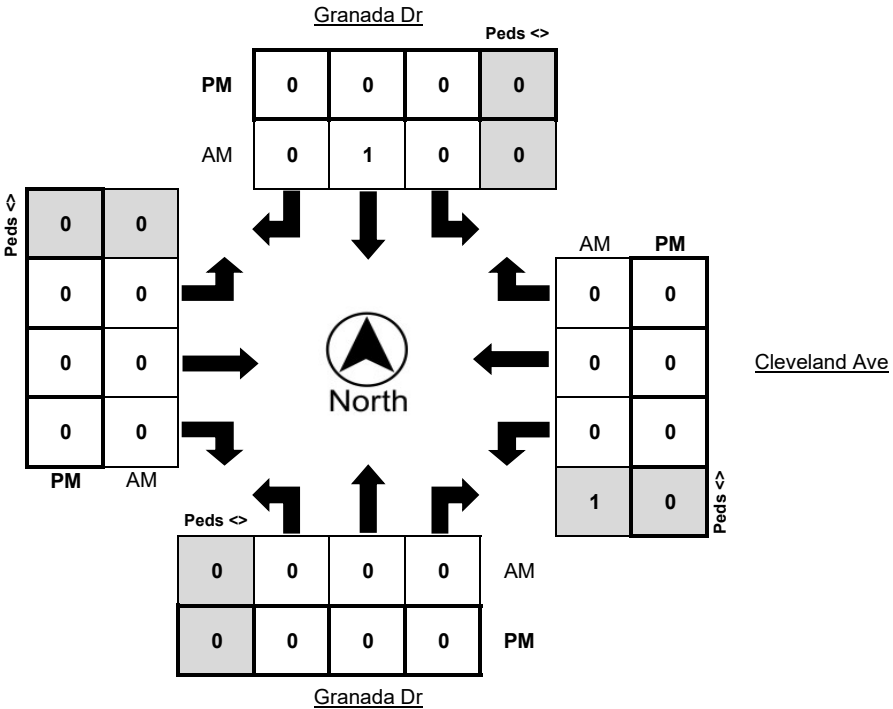
LOCATION Granada Dr @ Cleveland Ave
LATITUDE 36.9746
COUNTY Madera
LONGITUDE -120.0923
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	1	1
PM Peak Total	0	0



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Prepared For:

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516 W. Shaw Ave, Suite 103
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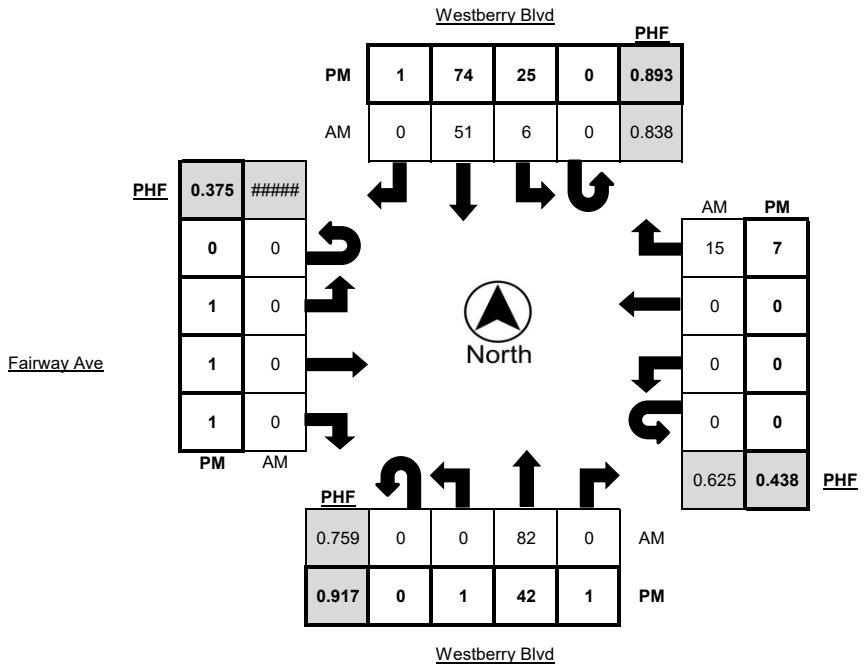
LOCATION Westberry Blvd @ Fairway Ave
LATITUDE 36.9711
COUNTY Madera
LONGITUDE -120.1013
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	17	0	0	0	2	5	0	1	0	0	0	0	0	0	0	0	2	0
7:15 AM - 7:30 AM	0	0	14	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	7	0
7:30 AM - 7:45 AM	0	0	27	0	0	0	3	8	0	0	0	0	0	0	0	0	0	0	5	0
7:45 AM - 8:00 AM	0	0	25	0	0	0	1	14	0	1	0	0	0	0	0	0	0	0	6	0
8:00 AM - 8:15 AM	0	0	21	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	9	0	0	0	2	15	0	0	0	0	0	0	0	0	0	0	4	0
8:30 AM - 8:45 AM	0	0	15	0	0	0	0	8	0	1	0	0	0	0	0	0	0	0	2	0
8:45 AM - 9:00 AM	0	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	1	0
TOTAL	**0**	**0**	**137**	**0**	**0**	**1**	**8**	**77**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**27**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	0	7	0	0	0	4	13	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM - 4:30 PM	0	0	6	0	0	0	8	12	0	2	0	0	0	0	0	0	0	0	1	0
4:30 PM - 4:45 PM	0	0	9	0	0	0	1	18	0	1	0	0	0	0	0	0	0	0	2	0
4:45 PM - 5:00 PM	0	0	8	0	0	0	4	13	0	0	0	0	0	0	0	0	0	0	1	0
5:00 PM - 5:15 PM	0	1	9	0	0	0	5	14	1	0	0	0	0	1	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	12	0	0	0	8	19	0	1	0	1	1	0	0	0	0	0	1	0
5:30 PM - 5:45 PM	0	0	10	0	0	0	4	21	0	0	0	0	0	0	0	0	0	0	2	0
5:45 PM - 6:00 PM	0	0	11	1	0	0	8	20	0	0	0	0	0	0	0	0	0	0	4	0
TOTAL	**0**	**1**	**72**	**1**	**0**	**0**	**42**	**130**	**1**	**4**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**12**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	82	0	0	0	6	51	0	1	0	0	0	0	0	0	0	0	15	0
5:00 PM - 6:00 PM	0	1	42	1	0	0	25	74	1	1	0	1	1	1	0	0	0	0	7	0

	PHF	Trucks
AM	0.837	0.6%
PM	0.875	0.6%



Metro Traffic Data Inc.
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Hanford, CA 93230

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Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

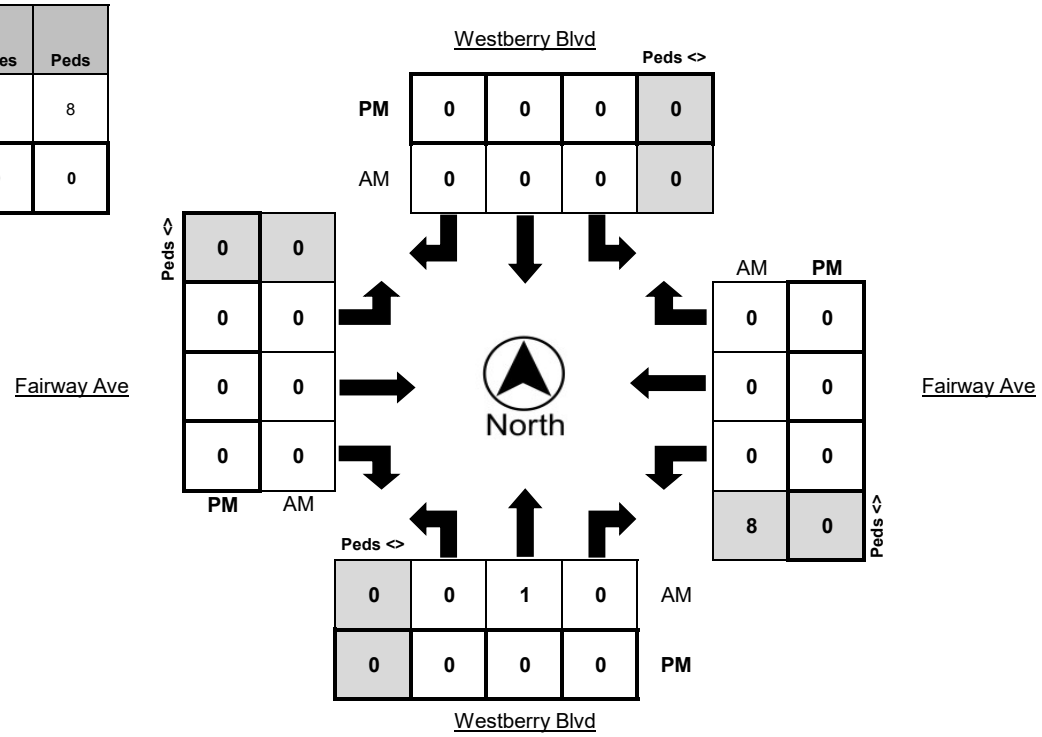
LOCATION Westberry Blvd @ Fairway Ave
LATITUDE 36.9711
COUNTY Madera
LONGITUDE -120.1013
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	4	0	0	0	0	0	0	0	4	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
8:15 AM - 8:30 AM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0
TOTAL	**0**	**1**	**0**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	1	0	0	0	0	0	0	0	0	0	8	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	1	8
PM Peak Total	0	0



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Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

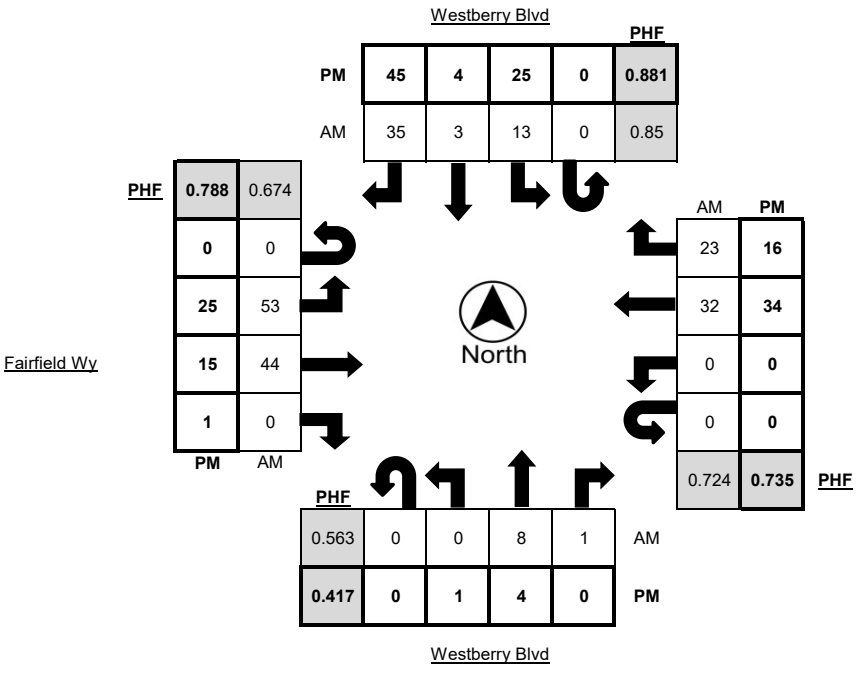
LOCATION Westberry Blvd @ Fairfield Wy
LATITUDE 36.9690
COUNTY Madera
LONGITUDE -120.1012
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	0	0	0	0	0	1	0	2	0	0	14	9	0	1	0	0	3	4	0
7:15 AM - 7:30 AM	0	0	1	0	0	0	4	0	3	1	0	7	7	0	0	0	0	3	6	0
7:30 AM - 7:45 AM	0	0	1	0	0	0	3	0	5	0	0	18	18	0	0	0	0	4	8	0
7:45 AM - 8:00 AM	0	0	4	0	0	0	6	1	7	1	0	16	18	0	0	0	0	9	6	0
8:00 AM - 8:15 AM	0	0	3	1	0	0	4	2	8	0	0	11	5	0	0	0	0	12	7	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	15	0	0	8	3	0	0	0	0	7	2	0
8:30 AM - 8:45 AM	0	1	0	0	0	0	4	0	4	1	0	11	6	1	0	0	0	4	4	0
8:45 AM - 9:00 AM	0	0	1	1	0	0	4	0	5	0	0	7	6	0	0	0	0	4	1	0
TOTAL	**0**	**1**	**10**	**2**	**0**	**0**	**26**	**3**	**49**	**3**	**0**	**92**	**72**	**1**	**1**	**0**	**0**	**46**	**38**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	1	2	1	0	0	5	2	7	0	0	2	7	0	0	0	0	7	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	4	0	8	2	0	3	2	0	1	0	0	6	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	5	1	11	0	0	8	4	0	0	0	0	8	1	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	7	0	8	1	0	7	5	0	0	0	0	7	1	0
5:00 PM - 5:15 PM	0	0	1	0	0	0	5	1	9	0	0	5	4	0	0	0	0	7	3	0
5:15 PM - 5:30 PM	0	0	1	0	0	0	8	0	9	1	0	7	5	1	0	0	0	11	6	0
5:30 PM - 5:45 PM	0	1	2	0	0	0	8	1	12	0	0	5	3	0	0	0	0	8	3	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	4	2	15	0	0	8	3	0	0	0	0	8	4	0
TOTAL	**0**	**2**	**6**	**1**	**0**	**0**	**46**	**7**	**79**	**4**	**0**	**45**	**33**	**1**	**1**	**0**	**0**	**62**	**18**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	0	0	8	1	0	0	13	3	35	1	0	53	44	0	0	0	0	32	23	0
5:00 PM - 6:00 PM	0	1	4	0	0	0	25	4	45	1	0	25	15	1	0	0	0	34	16	0

	PHF	Trucks
AM	0.791	0.5%
PM	0.885	0.6%



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Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

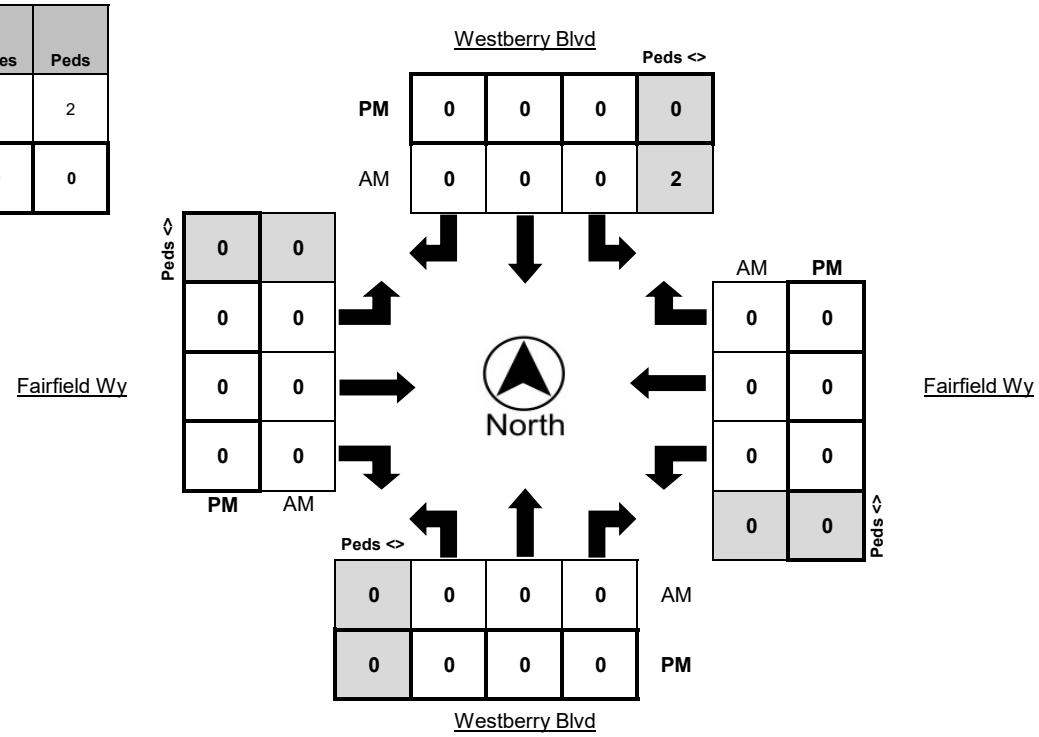
LOCATION Westberry Blvd @ Fairfield Wy
LATITUDE 36.9690
COUNTY Madera
LONGITUDE -120.1012
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
7:15 AM - 7:30 AM	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1
8:45 AM - 9:00 AM	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0
TOTAL	**0**	**1**	**0**	**5**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**1**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	2
PM Peak Total	**0**	**0**



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Turning Movement Report

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516 W. Shaw Ave, Suite 103
Fresno, CA 93704

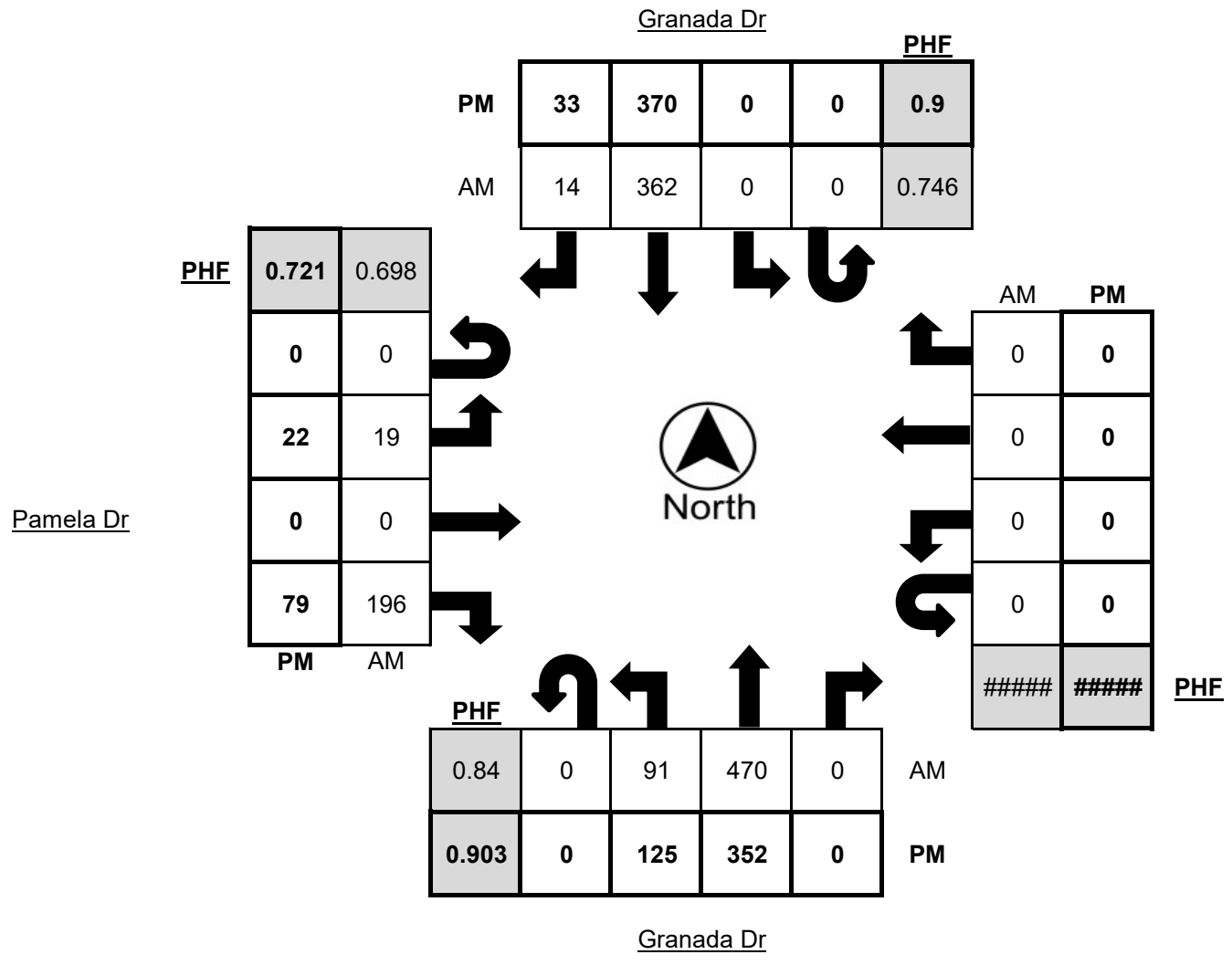
LOCATION Granada Dr @ Pamela Dr
LATITUDE 36.9691
COUNTY Madera
LONGITUDE -120.0922
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	5	70	0	1	0	0	33	4	0	0	9	0	20	2	0	0	0	0	0
7:15 AM - 7:30 AM	0	2	97	0	1	0	0	64	5	5	0	3	0	34	2	0	0	0	0	0
7:30 AM - 7:45 AM	0	15	132	0	2	0	0	105	1	2	0	4	0	56	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	29	138	0	1	0	0	122	4	1	0	3	0	74	1	0	0	0	0	0
8:00 AM - 8:15 AM	0	45	103	0	1	0	0	71	4	0	0	9	0	32	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	24	81	0	4	0	0	62	3	1	0	9	0	17	1	0	0	0	0	0
8:30 AM - 8:45 AM	0	14	56	0	1	0	0	58	4	0	0	3	0	16	2	0	0	0	0	0
8:45 AM - 9:00 AM	0	10	65	0	0	0	0	37	3	0	0	7	0	33	0	0	0	0	0	0
TOTAL	**0**	**144**	**742**	**0**	**11**	**0**	**0**	**552**	**28**	**9**	**0**	**47**	**0**	**282**	**8**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	30	111	0	3	0	0	90	6	0	0	4	0	24	2	0	0	0	0	0
4:15 PM - 4:30 PM	0	18	76	0	1	0	0	100	9	2	0	5	0	15	3	0	0	0	0	0
4:30 PM - 4:45 PM	0	27	67	0	0	0	0	89	9	0	0	4	0	20	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	21	85	0	1	0	0	103	9	0	0	5	0	16	1	0	0	0	0	0
5:00 PM - 5:15 PM	0	33	87	0	0	0	0	102	10	0	0	7	0	17	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	33	86	0	0	0	0	90	9	0	0	6	0	29	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	38	94	0	0	0	0	75	5	1	0	4	0	17	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	19	75	0	1	0	0	86	8	0	0	4	0	16	0	0	0	0	0	0
TOTAL	**0**	**219**	**681**	**0**	**6**	**0**	**0**	**735**	**65**	**3**	**0**	**39**	**0**	**154**	**6**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	0	91	470	0	5	0	0	362	14	8	0	19	0	196	3	0	0	0	0	0
4:45 PM - 5:45 PM	0	125	352	0	1	0	0	370	33	1	0	22	0	79	1	0	0	0	0	0

	PHF	Trucks
AM	0.778	1.4%
PM	0.958	0.3%



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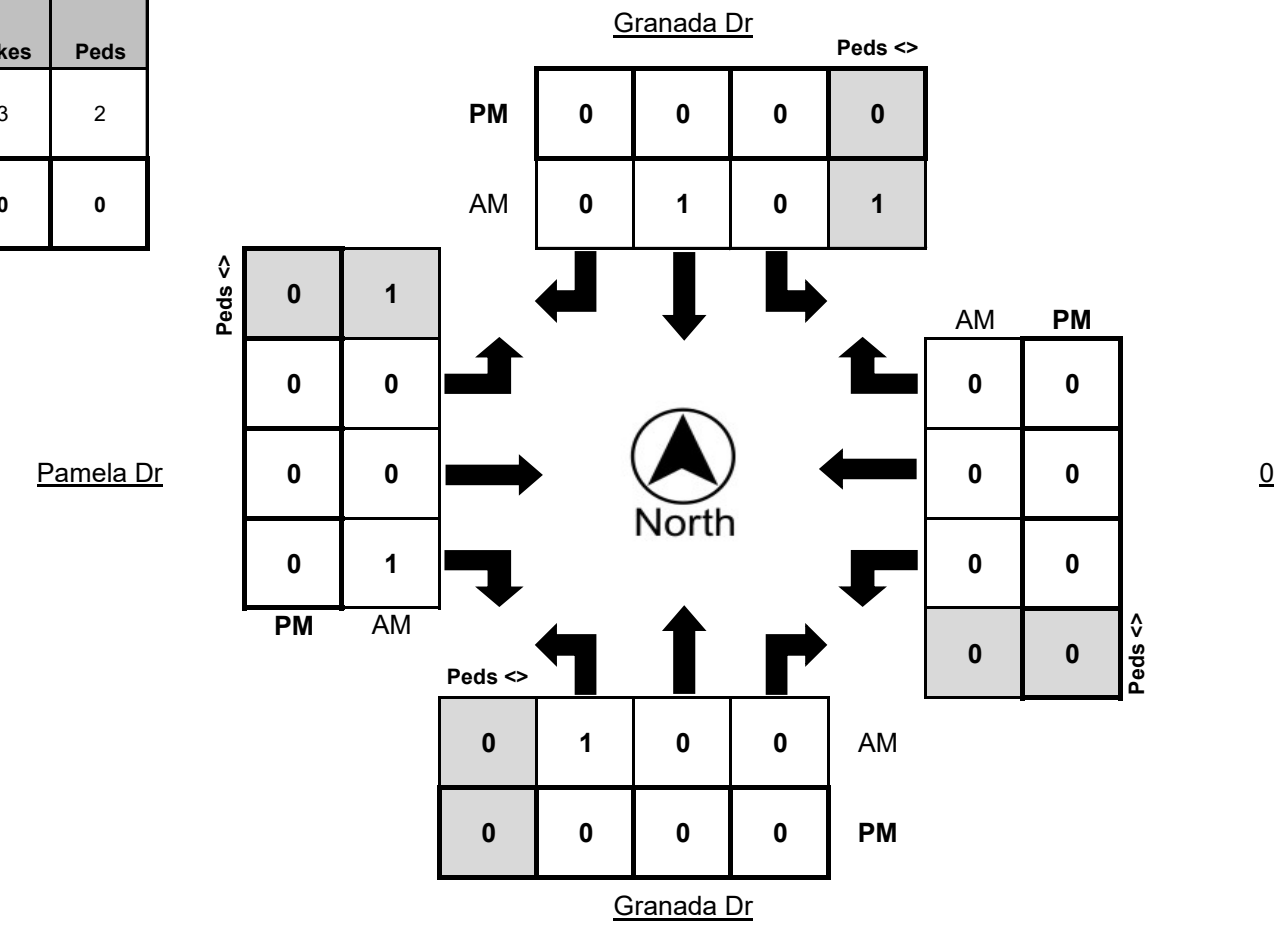
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:30 AM - 7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1
TOTAL	**3**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 8:15 AM	1	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	3	2
PM Peak Total	0	0



Metro Traffic Data Inc.
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Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

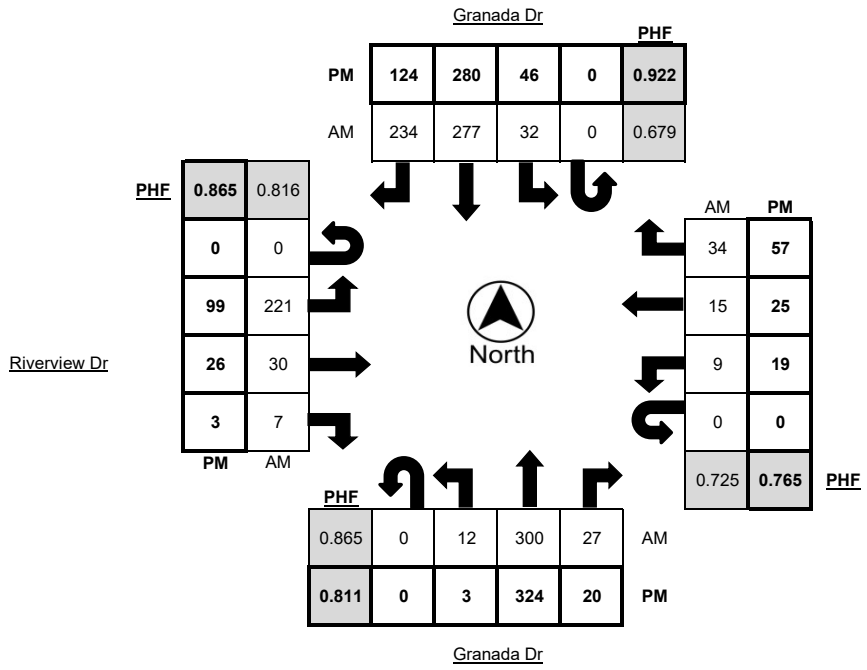
LOCATION Granada Dr @ Riverview Dr
LATITUDE 36.9670
COUNTY Madera
LONGITUDE -120.0921
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	1	47	1	2	0	5	30	13	1	0	17	1	1	0	0	2	2	7	0
7:15 AM - 7:30 AM	0	2	59	6	1	0	5	41	36	6	0	31	5	4	0	0	1	6	10	0
7:30 AM - 7:45 AM	0	3	80	9	2	0	9	66	81	2	0	57	6	1	0	0	2	4	5	0
7:45 AM - 8:00 AM	0	6	84	8	0	0	11	96	93	2	0	73	6	0	0	0	1	2	7	1
8:00 AM - 8:15 AM	0	1	77	4	1	0	7	74	24	0	0	60	13	2	1	0	5	3	12	1
8:15 AM - 8:30 AM	0	1	64	3	5	0	6	50	21	1	0	32	6	1	0	0	2	5	8	1
8:30 AM - 8:45 AM	0	0	50	2	1	0	8	45	20	1	0	15	1	2	0	0	3	2	7	0
8:45 AM - 9:00 AM	0	2	51	3	1	0	11	49	13	1	0	19	5	1	1	0	0	0	6	0
TOTAL	**0**	**16**	**512**	**36**	**13**	**0**	**62**	**451**	**301**	**14**	**0**	**304**	**43**	**12**	**2**	**0**	**16**	**24**	**62**	**3**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	0	83	6	3	0	8	71	30	2	0	36	5	0	1	0	2	6	15	2
4:15 PM - 4:30 PM	0	0	57	5	0	0	8	68	37	5	0	29	3	2	0	0	7	9	5	0
4:30 PM - 4:45 PM	0	0	57	2	0	0	7	64	25	0	0	28	8	2	0	0	4	8	9	0
4:45 PM - 5:00 PM	0	0	68	6	1	0	16	74	32	1	0	25	7	1	0	0	4	6	7	0
5:00 PM - 5:15 PM	0	0	79	4	0	0	9	74	35	0	0	25	7	1	0	0	5	5	23	0
5:15 PM - 5:30 PM	0	2	76	5	1	0	9	77	31	0	0	20	5	0	0	0	5	8	15	0
5:30 PM - 5:45 PM	0	1	101	5	0	0	12	55	26	1	0	29	7	1	0	0	5	6	12	0
5:45 PM - 6:00 PM	0	1	72	6	1	0	9	61	30	0	0	28	11	2	1	0	6	3	6	0
TOTAL	**0**	**4**	**593**	**39**	**6**	**0**	**78**	**544**	**246**	**9**	**0**	**220**	**53**	**9**	**2**	**0**	**38**	**51**	**92**	**2**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	0	12	300	27	4	0	32	277	234	10	0	221	30	7	1	0	9	15	34	2
4:45 PM - 5:45 PM	0	3	324	20	2	0	46	280	124	2	0	99	26	3	0	0	19	25	57	0

	PHF	Trucks
AM	0.774	1.4%
PM	0.961	0.4%



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LOCATION Granada Dr @ Riverview Dr
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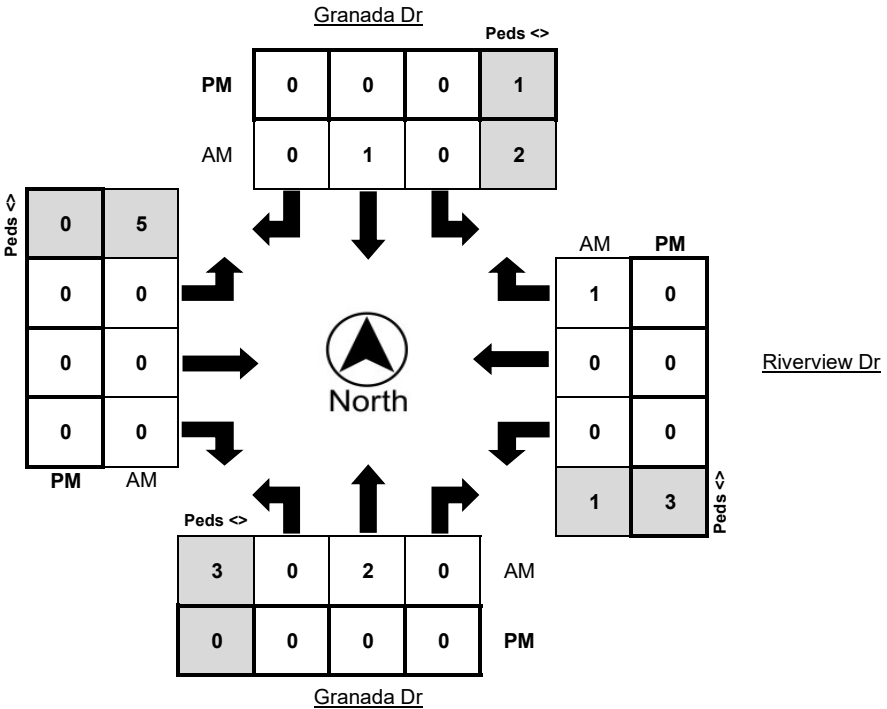
COLLECTION DATE Tuesday, August 23, 2022
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:30 AM - 7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00 AM - 8:15 AM	0	0	0	2	0	1	0	1	0	0	0	1	0	0	1	1
8:15 AM - 8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0
8:30 AM - 8:45 AM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	2
8:45 AM - 9:00 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**3**	**1**	**4**	**1**	**2**	**0**	**5**	**0**	**1**	**0**	**2**	**0**	**0**	**3**	**7**

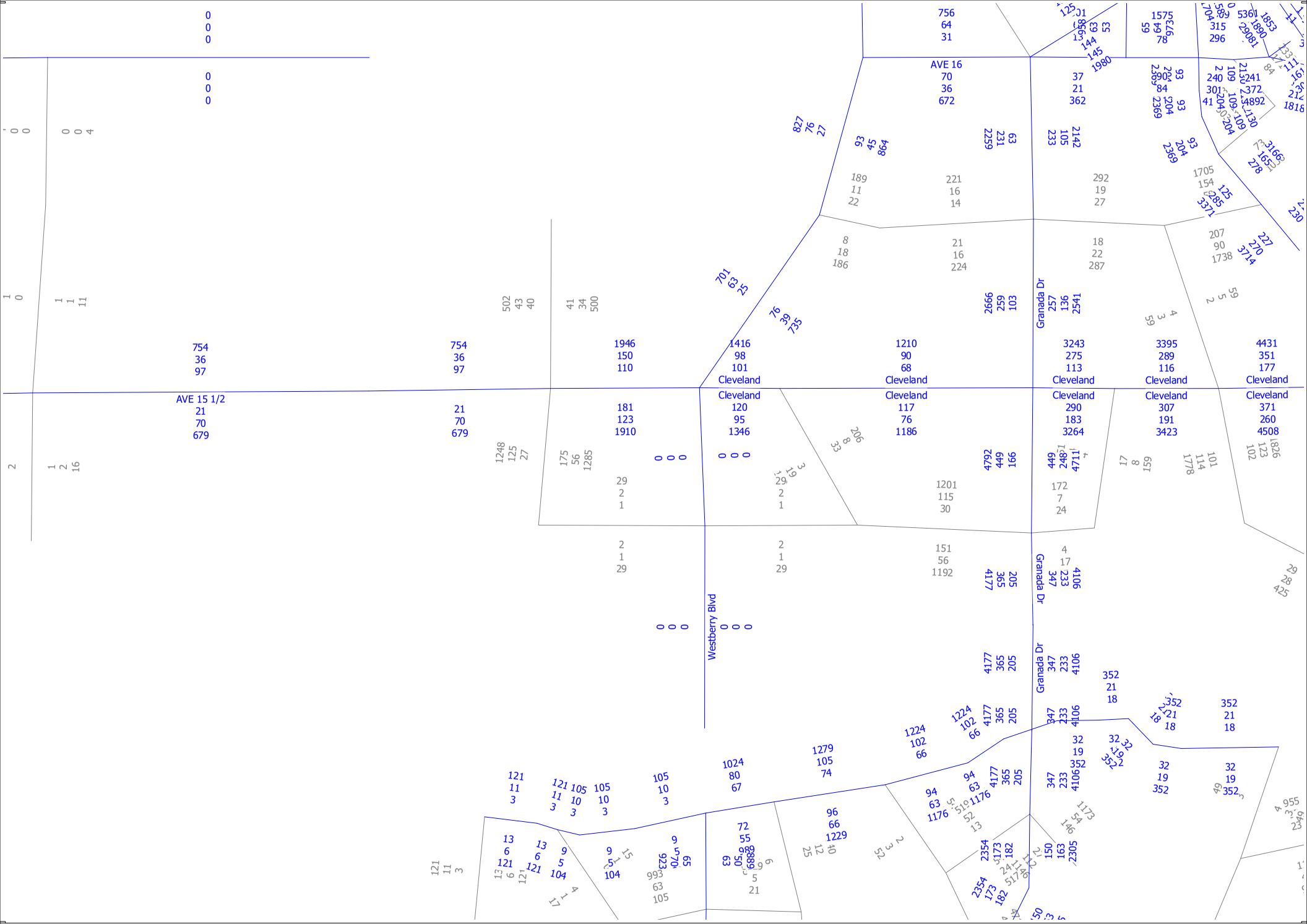
	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 8:15 AM	0	2	0	2	0	1	0	3	0	0	0	1	0	0	1	5
4:45 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0

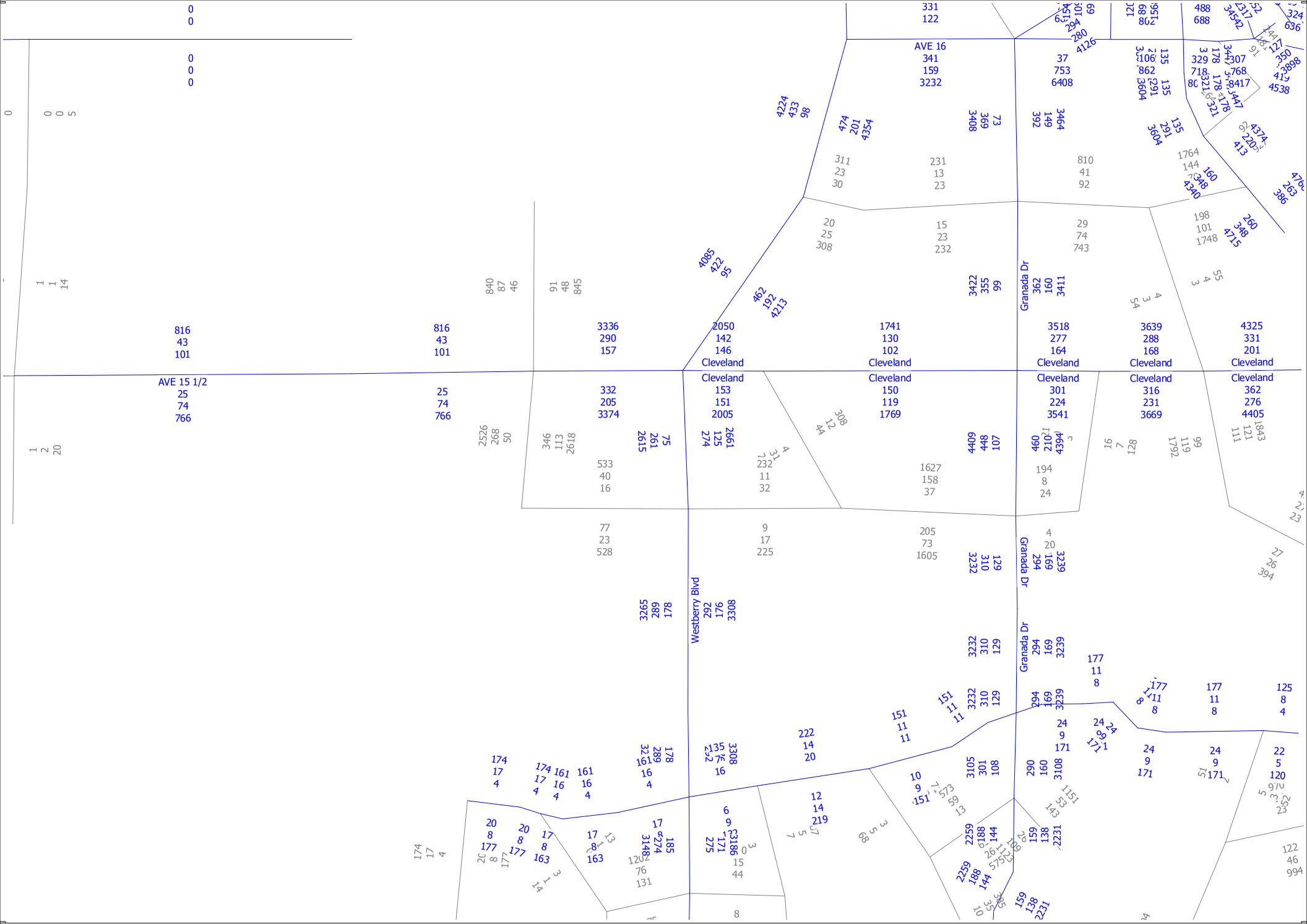
	Bikes	Peds
AM Peak Total	4	11
PM Peak Total	0	4



Appendix C: Traffic Modeling



Madera Elementary School
Base Year 2022
AM, PM and Daily Volumes



Madera Elementary School
Cumulative Year 2046
AM, PM and Daily Volumes

Appendix D: Methodology

Levels of Service Methodology

The description and procedures for calculating capacity and level of service (LOS) are found in the Transportation Research Board, Highway Capacity Manual (HCM). The HCM 6th Edition represents the research on capacity and quality of service for transportation facilities.

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience.

Six levels of service are defined for each type of facility that has analysis procedures available. Letters designate each level of service (LOS), from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each LOS represents a range of operating conditions and the driver's perception of these conditions. Safety is not included in the measures that establish an LOS.

Intersection Levels of Service

One of the more important elements limiting and often interrupting the flow of traffic on a highway is the intersection. Flow on an interrupted facility is usually dominated by points of fixed operation such as traffic signals, stop signs and yield signs.

Signalized Intersections – Performance Measures

For signalized intersections, the performance measures include automobile volume-to-capacity ratio, automobile delay, queue storage length, ratio of pedestrian delay, pedestrian circulation area, pedestrian perception score, bicycle delay and bicycle perception score. LOS is also considered a performance measure. For the automobile mode, the average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection. An LOS designation is given to the weighted average control delay to better describe the level of operation. A description of LOS for signalized intersections is found in Table A-1.

Table A-1: Signalized Intersection Levels of Service Description (Automobile Mode)

Level of Service	*Description*	*Average Control Delay (Seconds per Vehicle)*
A	Operations with a control delay of 10 seconds/vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is really low and either progression is exceptionally favorable or the cycle length is very short. If it's due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Operations with control delay between 10.1 to 20.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.	>10.0 to 20.0
C	Operations with average control delays between 20.1 to 35.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio no greater than 1.0, the progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 to 35
D	Operations with control delay between 35.1 to 55.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35 to 55
E	Operations with control delay between 55.1 to 80.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable and the cycle length is long. Individual cycle failures are frequent.	>55 to 80
F	Operations with unacceptable control delay exceeding 80.0 seconds/vehicle and a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor and the cycle length is long. Most cycles fail to clear the queue.	>80

Note: Source: Highway Capacity Manual 6th Edition

Unsignalized Intersections

The HCM 6th Edition procedures use control delay as a measure of effectiveness to determine level of service. Delay is a measure of driver discomfort, frustration, fuel consumption and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, i.e., in the absence of traffic control, geometric delay, any incidents and any other vehicles. Control delay is the increased time of travel for a vehicle approaching and passing through an unsignalized intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection.

All-Way Stop Controlled Intersections

All-way stop controlled intersections are a form of traffic controls in which all approaches to an intersection are required to stop. Similar to signalized intersections, at all-way stop controlled intersections the average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection as a whole. In other words, the delay measured for all-way stop controlled intersections is a measure of the average delay for all vehicles passing through the intersection during the peak hour. An LOS designation is given to the weighted average control delay to better describe the level of operation.

Two-Way Stop Controlled Intersections

Two-way stop controlled (TWSC) intersections in which stop signs are used to assign the right-of-way, are the most prevalent type of intersection in the United States. At TWSC intersections the stop-controlled approaches are referred to as the minor street approaches and can be either public streets or private driveways. The approaches that are not controlled by stop signs are referred to as the major street approaches.

The capacity of movements subject to delay are determined using the "critical gap" method of capacity analysis. Expected average control delay based on movement volume and movement capacity is calculated. An LOS for a TWSC intersection is determined by the computed or measured control delay for each minor movement. LOS is not defined for the intersection as a whole for three main reasons: (a) major-street through vehicles are assumed to experience zero delay; (b) the disproportionate number of major-street through vehicles at the typical TWSC intersection skews the weighted average of all movements, resulting in a very low overall average delay from all vehicles; and (c) the resulting low delay can mask important LOS deficiencies for minor movements. Table A-2 provides a description of LOS at unsignalized intersections.

Table A-2: Unsignalized Intersection Levels of Service Description (Automobile Mode)

Control Delay (Seconds per Vehicle)	***LOS by Volume-to-Capacity Ratio***	
	v/c ≤ 1.0	***v/c > 1.0***
≤10	A	F
>10 to 15	B	F
>15 to 25	C	F
>25 to 35	D	F
>35 to 50	E	F
>50	F	F

Note: Source: HCM 6th Edition, Exhibit 20-2.

Roundabout Controlled Intersections

Roundabouts are intersections with a generally circular shape, characterized by yield on entry and circulation around a central island. Roundabouts have been used successfully throughout the world and are being used increasingly in the United States, especially since 1990. The procedure used to calculate LOS incorporates a combination of lane-based regression models and gap acceptance models for both single-lane and multi-lane roundabouts. As a result, the capacity models focus on one entry of a roundabout at a time. Table A-3 provides a description of LOS at roundabout intersections.

Table A-3: Roundabout Intersection Level of Service Description (Automobile Mode)

Control Delay (Seconds per Vehicle)	***LOS by Volume-to-Capacity Ratio***	
	v/c ≤ 1.0	***v/c > 1.0***
≤10	A	F
>10 to 15	B	F
>15 to 25	C	F
>25 to 35	D	F
>35 to 50	E	F
>50	F	F

Note: Source: HCM 6th Edition, Exhibit 22-8.

Segment Levels of Service

Segments are portions of roads without any interruption of flow. These are typically studied as urban streets, basic freeways, multilane highways or two-lane highways. Each of these categories has further classification and the level of service analysis can differ between them.

Basic Freeway and Multilane Highway Segments

For segments of multilane highways and basic freeways outside the influence of merging, diverging and weaving maneuvers, LOS is defined by density. Density describes a motorist's proximity to other vehicles and is related to a motorist's freedom to maneuver within the traffic stream. Chapter 12 of the Highway Capacity Manual categorizes each LOS as follows:

LOS A describes free-flow operations. FFS prevails on the freeway or multilane highway, and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.

LOS B represents reasonably free-flow operations, and FFS on the freeway or multilane highway is maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents are still easily absorbed.

LOS C provides for flow with speeds near the FFS of the freeway or multilane highway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant. Queues may be expected to form behind any significant blockages.

LOS D is the level at which speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited, and drivers experience reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.

LOS E describes operation at or near capacity. Operations on the freeway or multilane highway at this level are highly volatile because there are virtually no usable gaps within the traffic stream, leaving little room to maneuver within the traffic stream. Any disruption to the traffic stream, such as vehicles entering from a ramp or an access point or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic stream. Toward the upper boundary of LOS E, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown and substantial queuing. The physical and psychological comfort afforded to drivers is poor.

LOS F describes unstable flow. Such conditions exist within queues forming behind bottlenecks. Breakdowns occur for a number of reasons:

- Traffic incidents can temporarily reduce the capacity of a short segment so that the number of vehicles arriving at a point is greater than the number of vehicles that can move through it.
- Points of recurring congestion, such as merge or weaving segments and lane drops, experience very high demand in which the number of vehicles arriving is greater than the number of vehicles that can be discharged.
- In analyses using forecast volumes, the projected flow rate can exceed the estimated capacity of a given location.

Basic Freeway

Basic Freeway segments generally have four to eight lanes and posted speed limits between 50 and 75 mi/hr. The performance measures include capacity, free flow speed, demand and volume-to-capacity ratio, space mean speed, average density and LOS. The LOS is dependent on the number of lanes, base free-flow speed, lane width, right side lateral clearance, total ramp density, hourly demand volume, peak hour factor and total truck percentage. Table A-4 provides a description of LOS for Basic Freeway Segments.

Multilane Highway

Multilane Highway segments generally have four to six lanes and posted speed limits between 40 and 55 mi/hr. The performance measures include capacity, free flow speed, demand and volume-to-capacity ratio, space mean speed, average density and LOS. The LOS is dependent on the number of lanes, base free-flow speed, lane width, right side lateral clearance, left side lateral clearance, access point density, terrain type, median type, hourly demand volume, peak hour factor and total truck percentage. Table A-4 provides a description of LOS for Multilane Highway Segments.

Table A-4: Basic Freeway and Multilane Highway Segment Level of Service Description

Level of Service	*Density (Passenger Cars per Mile per Lane)*
A	≤11
B	>11 to 18
C	>18 to 26
D	>26 to 35
E	>35 to 45
F	>45 or Demand Exceeds Capacity

Note: Source: HCM 6th Edition, Exhibit 12-15.

Two-Lane Highway Segments

Two-Lane Highways generally have one lane per direction and only allow passing maneuvers to take place in the opposing lane of traffic. If allowed, passing maneuvers are limited by the availability of gaps in the opposing traffic stream and by the availability of sufficient sight distance for a driver to discern the approach of an opposing vehicle safely. A principal measure of LOS is percent time spent following and follower density. This is the average percent of time that vehicles must travel in platoons behind slower vehicles due to the inability to pass. Chapter 15 of the Highway Capacity Manual categorizes each LOS as follows:

At **LOS A**, motorists experience high operating speeds on Class I highways and little difficulty in passing. Platoons of three or more vehicles are rare. On Class II highways, speed is controlled primarily by roadway conditions, but a small amount of platooning would be expected. On Class III highways, motorists can maintain operating speeds at or near the facility's FFS.

At **LOS B**, passing demand and passing capacity are balanced. On both Class I and Class II highways, the degree of platooning becomes noticeable. Some speed reductions are present on Class I highways. On Class III highways, maintenance of FFS operation becomes difficult, but the speed reduction is still relatively small.

At **LOS C**, most vehicles travel in platoons. Speeds are noticeably curtailed on all three classes of highways.

At **LOS D**, platooning increases significantly. Passing demand is high on both Class I and Class II facilities, but passing capacity approaches zero. A high percentage of vehicles travels in platoons, and PTSF is noticeable. On Class III highways, the fall-off from FFS is significant.

At **LOS E**, demand is approaching capacity. Passing on Class I and II highways is virtually impossible, and PTSF is more than 80%. Speeds are seriously curtailed. On Class III highways, speed is less than two-thirds of the FFS. The lower limit of LOSE represents capacity.

LOS F exists whenever demand flow in one or both directions exceeds the segment's capacity. Operating conditions are unstable and heavy congestion exists on all classes of two-lane highways.

Two-Lane Highway

The performance measures include average travel speed, segment travel time, percent followers, volume to capacity ratio, follower density and LOS. The LOS is dependent on Highway Class (I, II, or III), lane width, shoulder width, access point density, terrain type, free flow speed, passing lane length, demand flow rate, opposing demand flow rate peak hour factor and total truck percentage. Tables A-5 and A-6 provide a description of LOS for Two-Lane Highway Segments.

Table A-5: Two-Lane Highway Segment Level of Service Description

LOS	*Class I Highways*		*Class II Highways*	*Class III Highways*
	ATS (Mile per Hour)	*PTSF (%)*	*PTSF (%)*	*PFFS (%)*
A	>55	≤35	≤40	>91.7
B	>50 to 55	>35 to 50	>40 to 55	>83.3 to 91.7
C	>45 to 50	>50 to 65	>55 to 70	>75.0 to 83.3
D	>40 to 45	>65 to 80	>70 to 85	>66.7 to 75.0
E	≤40	>80	>85	≤66.7
F	Demand exceeds capacity			

Note: ATS = Average Travel Speed
PTSF = Percent Time Spent Following
PFFS = Percent of Free Flow Speed
Source: HCM 6th Edition, Exhibit 15-3.

Table A-6: Two-Lane Highway Segment Level of Service Description

LOS	*Follower Density (Followers per Mile per Lane)*	
	High Speed Highways Posted Speed Limit ≥ 50 miles per hour	*High Speed Highways Posted Speed Limit < 50 miles per hour*
A	≤2.0	≤2.0
B	>2.0 to 4.0	>2.5 to 5.0
C	>4.0 to 8.0	>5.0 to 10.0
D	>8.0 to 12.0	>10.0 to 15.0
E	>12.0	>15.0

Note: Source: NCHRP 'Improved Analysis of Two-Lane Highway Capacity and Operational Performance, Table 3-23.

Urban Streets (Automobile Mode)

The term “urban streets” refers to urban arterials and collectors, including those in downtown areas. Arterial streets are roads that primarily serve longer through trips. However, providing access to abutting commercial and residential land uses is also an important function of arterials. Collector streets provide both land access and traffic circulation within residential, commercial and industrial areas. Their access function is more important than that of arterials and unlike arterials their operation is not always dominated by traffic signals. Downtown streets are signalized facilities that often resemble arterials.

They not only move through traffic but also provide access to local businesses for passenger cars, transit buses and trucks. Pedestrian conflicts and lane obstructions created by stopping or standing taxicabs, buses, trucks and parking vehicles that cause turbulence in the traffic flow are typical of downtown streets.

Flow Characteristics

The speed of vehicles on urban streets is influenced by three main factors, street environment, interaction among vehicles and traffic control.

The street environment includes the geometric characteristics of the facility, the character of roadside activity and adjacent land uses. Thus, the environment reflects the number and width of lanes, type of median, driveway/access point density, spacing between signalized intersections, existence of parking, level of pedestrian and bicyclist activity and speed limit.

The interaction among vehicles is determined by traffic density, the proportion of trucks and buses and turning movements. This interaction affects the operation of vehicles at intersections and, to a lesser extent, between signals.

Traffic controls (including signals and signs) force a portion of all vehicles to slow or stop. The delays and speed changes caused by traffic control devices reduce vehicle speeds; however, such controls are needed to establish right-of-way.

Urban Street Segments LOS

The average travel speed for through vehicles along an urban street is the determinant of the operating level of service (LOS). The travel speed along a segment, section or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections. Table A-7 provides a description of LOS for Urban Street Segments.

LOS A describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal. Travel speeds exceed 80 percent of the base free flow speed (FFS).

LOS B describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67 and 80 percent of the base FFS.

LOS C describes stable operations. The ability to maneuver and change lanes in midblock location may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50 and 67 percent of the base FFS.

LOS D indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volumes or inappropriate signal timing at the boundary intersections. The travel speed is between 40 and 50 percent of the base FFS.

LOS E is characterized as an unstable operation and has significant delay. Such operations may be due to some combination of adverse progression, high volume and inappropriate signal timing at the boundary intersections. The travel speed is between 30 and 40 percent of the base FFS.

LOS F is characterized by street flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30 percent or less of the base FFS.

Table A-7: Urban Street Levels of Service (Automobile Mode)

LOS	***Travel Speed Threshold by Base Free-Flow Speed (miles/hour)***							***Volume-to-Capacity Ratio***
	55	**50**	**45**	**40**	**35**	**30**	**25**	
A	>44	>40	>36	>32	>28	>24	>20	≤ 1.0
B	>37	>34	>30	>27	>23	>20	>17	
C	>28	>25	>23	>20	>18	>15	>13	
D	>22	>20	>18	>16	>14	>12	>10	
E	>17	>15	>14	>12	>11	>9	>8	
F	≤17	≤15	≤14	≤12	≤11	≤9	≤8	
F	Any							> 1.0

Note: a = The Critical volume-to-capacity ratio is based on consideration of the through movement-to-capacity ratio at each boundary intersection in the subject direction of travel. The critical volume-to-capacity ratio is the largest ratio of those considered.
Source: Highway Capacity Manual 6th Edition, Exhibit 16-3.

Appendix E: Collision Analysis

Intersection Collision Data Year 2017 to 2021

ID	Intersection	Number of Collisions	Type of Collision						Severity					Type of Violation								Involved With…		
			Broadside	Rear End	Head-On	Hit Object	Sideswipe	Other	Fatal	Severe Injury	Other Visible Injury	Complaint of Pain Injury	Property Damage Only	Traffic Signals & Signs	Right of Way	Unsafe Speed	Improper Turning	Driving Under Influence	Too Close	Pedestrian Violation	Other	Pedestrian / Bicyclist	Other Motor Vehicle	Fixed Object / Other
1	School Drive / Cleveland Avenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Westberry Boulevard / Cleveland Avenue	5	2	1	-	1	1	-	-	-	1	-	4	-	2	1	1	1	-	-	-	-	3	2
3	Granada Drive / Cleveland Avenue	16	8	2	-	4	2	-	-	-	1	3	12	3	5	2	5	1	-	-	-	-	12	4
4	Westberry Boulevard / Fairway Avenue	1	1	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1	-
5	Westberry Boulevard / Fairfield Way	1	-	1	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	1	-
6	Granada Drive / Pamela Drive	5	3	2	-	-	-	-	-	-	-	-	5	-	3	2	-	-	-	-	-	-	5	-
7	Granada Drive / Riverview Drive	15	8	3	-	2	1	1	1	-	-	2	12	2	6	4	1	1	-	-	1	-	12	3

Primary Rd CLEVELAND AV | Distance (ft) 108 | Direction W | Secondary Rd WESTBERRY BL | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4125 | Collision Date 20170709 | Time 1612 | Day SUN
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170908
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With FIXED OBJ | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	18	M	H	HBD-UI		PROC ST	E	A	0100	HONDA	1994	-	3	A	22107	- L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd CLEVELAND AV E | Distance (ft) 208 | Direction W | Secondary Rd D ST N | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist MSC | Beat 002 | Type 0 | CalTrans | Badge 4398 | Collision Date 20170324 | Time 2003 | Day FRI
Primary Collision Factor PED VIOL | Violation 21954A | Collision Type AUTO/PED | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20170417
Weather1 RAINING | Weather2 | Rdwy Surface WET | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PED | Lighting DARK - ST | Ped Action NOT IN X- | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1	DRVR	79	F	H	HNBD		PROC ST	W	A	0100	NISSA	2005	-	3	N	-	G M
2F	PED	43	M	H	HBD-UI		ENT TRAF	S	N	6000	-	-	3	N	-	-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	SEVERE	42	M	9	0	-	-

Primary Rd CLEVELAND AV E | Distance (ft) 167 | Direction E | Secondary Rd OWENS ST | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 002 | Type 0 | CalTrans | Badge 4407 | Collision Date 20170405 | Time 1834 | Day WED
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20170501
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With BICYCLE | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	BICY	9	F	H	HNBD		PROC ST	E	L	0400	-		-	3	N	-	- -
2	DRVR	21	M	H	HNBD		PROC ST	E	A	0100	HONDA		-	3	N	-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	OTH VIS	9	F	9	3	-	-

Primary Rd CLEVELAND AV E | Distance (ft) 235 | Direction W | Secondary Rd RAYMOND RD | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 002 | Type 0 | CalTrans | Badge 4398 | Collision Date 20170707 | Time 0740 | Day FRI
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170814
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With OTHER OBJ | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	19	M	H	HNBD		PROC ST	W	A	0100	HONDA	1997	-	3	N	-	G L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		16	M	3	0	G	-

Primary Rd CLEVELAND AV | Distance (ft) 92 | Direction E | Secondary Rd SHARON AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City MaderaEAST | County Madera | Population 4 | Rpt Dist | Beat 002 | Type 0 | CalTrans | Badge 4407 | Collision Date 20170123 | Time 2006 | Day MON
Primary Collision Factor UNKNOWN | Violation 21755A | Collision Type SIDESWIPE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20170210
Weather1 CLEAR | Weather2 | Rdwy Surface WET | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With OTHER MV | Lighting DARK - ST | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	24	M	H	HNBD		PASSING	N	A	0100	BMW	2000	-	3	N	-	- M
2	DRVR	25	M	H	HNBD		PROC ST	N	A	0100	HONDA	2011	-	3	N	-	- G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	24	F	3	0	G	M
PASS		1	F	6	0	Q	M

Primary Rd **CLEVELAND AV W** *Distance (ft)* **1588** *Direction* **W** *Secondary Rd* **COUNTRY CLUB** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4274** *Collision Date* **20170423** *Time* **1549** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20170501**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	31	M	H	HBD-UI		PROC ST	E	D	2200	CHEVR	2015	-	3	A	22107	- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV W** *Distance (ft)* **80** *Direction* **W** *Secondary Rd* **FAIRGROUNDS** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **003** *Type* **0** *CalTrans* *Badge* **3386** *Collision Date* **20170324** *Time* **1658** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170405**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	22	M	H	HNBD		PROC ST	W	A	0100	CHEVR	1972	-	3	N	-	- G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV W** *Distance (ft)* **0** *Direction* **W** *Secondary Rd* **GATEWAY DR N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **2628** *Collision Date* **20170501** *Time* **2013** *Day* **MON**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20170628**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DUSK/DAWN** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	18	F	H	HNBD		LFT TURN	E	A	0100	HONDA	2001	-	3	N	-	M G
2	DRVR	26	F	H	HNBD		PROC ST	E	A	0100	NISSA	2013	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV W** *Distance (ft)* **144** *Direction* **E** *Secondary Rd* **GRANADA DR N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MSC** *Beat* **003** *Type* **0** *CalTrans* *Badge* **3651** *Collision Date* **20170418** *Time* **0030** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20170501**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **OTHER** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	18	M	W	IMP UNK	IMP UNK	UNS TURN	E	A	0100	HONDA	2004	-	3	N	-	L -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV W** *Distance (ft)* **45** *Direction* **W** *Secondary Rd* **OWENS ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4262** *Collision Date* **20170424** *Time* **1507** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20170601**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	33	M	H	HBD-UI		PROC ST	E	A	0100	CHEVR	1996	-	3	A	23152	N M G
2	DRVR	41	M	W	HNBD		STOPPED	E	D	2200	DODGE	2005	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 70 | Direction S | Secondary Rd PAMELA DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4363 | Collision Date 20170702 | Time 1933 | Day SUN
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170814
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	31	F	H	HNBD		PROC ST	N	-	0000	CHEVR	2011	-	3	N	-	M G
2	DRVR	55	M	W	HNBD		SLOWING	N	-	0000	BUICK	2015	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 0 | Direction | Secondary Rd RIVER VIEW DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4224 | Collision Date 20170207 | Time 0713 | Day TUE
Primary Collision Factor R-O-W AUTO | Violation 21801A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170328
Weather1 CLOUDY | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	40	F	H	HNBD		PROC ST	W	A	0100	CHEVR	2015	-	3	N	-	M G
2	DRVR	73	F	H	HNBD		PROC ST	N	A	0100	VOLKS	2006	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 0 | Direction | Secondary Rd RIVERVIEW DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist CITY | Beat 003 | Type 0 | CalTrans | Badge 3386 | Collision Date 20170227 | Time 1708 | Day MON
Primary Collision Factor R-O-W AUTO | Violation 21802A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170426
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1	DRVR	18	M	H	HNBD		PROC ST	S	A	0100	HONDA	2004	-	3	-	-	M G
2	DRVR	40	M	H	HNBD		PROC ST	W	D	2200	GMC	2000	-	3	-	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 30 | Direction N | Secondary Rd RIVERVIEW DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 3660 | Collision Date 20170430 | Time 1332 | Day SUN
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170710
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	32	M	W	HNBD		SLOWING	S	A	0100	CHRYS	2002	-	3	F	-	M G
2	DRVR	28	M	H	HNBD		STOPPED	S	A	0100	HYUND	2016	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR N | Distance (ft) 36 | Direction S | Secondary Rd KENNEDY ST W | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 3386 | Collision Date 20170715 | Time 2245 | Day SAT
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170811
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With FIXED OBJ | Lighting DARK - ST | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	26	M	H	HNBD		LFT TURN	S	A	0100	DODGE	2015	-	3	N	-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR N | Distance (ft) 100 | Direction N | Secondary Rd RIVERVIEW DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4224 | Collision Date 20170427 | Time 0808 | Day THU
Primary Collision Factor UNKNOWN | Violation 22017 | Collision Type HIT OBJECT | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20170601
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With FIXED OBJ | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	17	M	H	HNBD		UNS TURN	N	A	0100	MAZDA	2011	-	3	N	-	- G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	19	F	3	0	G	-

Primary Rd GRANADA DR N | Distance (ft) 0 | Direction | Secondary Rd SUNSET AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4274 | Collision Date 20170304 | Time 0928 | Day SAT
Primary Collision Factor STOP SGN|SIG | Violation 22450A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170329
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	60	F	B	HNBD		PROC ST	W	A	0100	CHRYS	2012	-	3	N	-	G L
2	DRVR	82	F	W	HNBD		PROC ST	N	A	0800	FORD	2004	-	3	N	-	G M
3	DRVR	43	M	H	HNBD		STOPPED	E	A	0100	TOYOT	2007	-	3	N	-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		42	F	3	0	G	M

Primary Rd GRANADA DR S | Distance (ft) 15 | Direction S | Secondary Rd INDUSTRIAL AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 004 | Type 0 | CalTrans | Badge 4364 | Collision Date 20170225 | Time 2500 | Day SAT
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170309
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With OTHER OBJ | Lighting DARK - ST | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	W	A	0100	HONDA	1994	-	-	-	-	- L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANT AV | Distance (ft) 148 | Direction W | Secondary Rd MERCED ST | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist MADER | Beat 002 | Type 0 | CalTrans | Badge 4398 | Collision Date 20170214 | Time 0011 | Day TUE
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HEAD-ON | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170322
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With PKD MV | Lighting DARK - ST | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	-	-	0000	-		-	-	N	-	- -
2	PRKD	998	-				PARKED	-	D	2200	CHEVR	1998	-	-	-	-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd H ST S | Distance (ft) 6 | Direction S | Secondary Rd YOSEMITE AV W | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 004 | Type 0 | CalTrans | Badge 4262 | Collision Date 20170108 | Time 1012 | Day SUN
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170130
Weather1 CLOUDY | Weather2 | Rdwy Surface SLIPPERY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With FIXED OBJ | Lighting | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	RGT TURN	N	-	9900	-		-	3	N	-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **TULARE ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MSC** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4499** *Collision Date* **20180715** *Time* **1709** *Day* **SUN**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20180817**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	27	F	H	HNBD		PROC ST	W	A	0700	CHEVR	2007	-	3	N	-	L	G
2	DRVR	27	F	H	HNBD		PROC ST	W	A	0700	CHEVR	2007	-	3	N	-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **WESTBERRY BL** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4224** *Collision Date* **20180809** *Time* **1325** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180921**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	59	M	W	HNBD		LFT TURN	S	D	2200	TOYOT	2017	-	3	N	-	M	G
2	DRVR	21	F	H	HNBD		PROC ST	E	A	0100	HYUND	2007	-	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV E** *Distance (ft)* **215.** *Direction* **E** *Secondary Rd* **LAKE ST N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4462** *Collision Date* **20180318** *Time* **0244** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180507**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **PKD MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	998	-		HBD-UNK		PROC ST	E	A	0100	HYUND	2003	-	3	N	-	G	L
2	PRKD	998	-				PARKED	E	D	2200	CHEVR	2001	-	3	N	-	-	-
3	PRKD	998	-				PARKED	E	A	0100	PONTI	2000	-	3	N	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV E** *Distance (ft)* **751.** *Direction* **W** *Secondary Rd* **OWENS ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4467** *Collision Date* **20180416** *Time* **2103** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20180503**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **FELONY** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	U-TURN	W	A	0100	CHEVR		-	3	N	-	-	B
2	DRVR	21	M	H	HNBD		PROC ST	W	A	0100	DODGE	2016	-	3	N	-	G	M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	21	M	1	0	G	M
PASS	COMP PN	21	F	3	0	G	M

Primary Rd **CLEVELAND AV E** *Distance (ft)* **74.0** *Direction* **E** *Secondary Rd* **TULARE ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4460** *Collision Date* **20180129** *Time* **1017** *Day* **MON**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180227**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	39	F	H	HNBD		PROC ST	E	A	0100	CHEVR	2010	-	3	N	-	G	M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		17	F	3	0	G	M

Primary Rd **GEORGIA CIR** *Distance (ft)* **127.** *Direction* **N** *Secondary Rd* **GEORGIA AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **4465** *Collision Date* **20180102** *Time* **1235** *Day* **TUE**
Primary Collision Factor **STRTNG|BCKNG** *Violation* **22106** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180215**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **PKD MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	BACKING	-	-	9900	-	-	3	N		-	- -
2	PRKD	998	-				PARKED	N	A	0100	HYUND	2017	- 3	A	22502	-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **60.0** *Direction* **N** *Secondary Rd* **AVE 17** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **2002** *Beat* **003** *Type* **0** *CalTrans* *Badge* **4464** *Collision Date* **20180429** *Time* **1440** *Day* **SUN**
Primary Collision Factor **LANE CHANGE** *Violation* **21658A** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20180626**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	26	F	H	HNBD		RGT TURN	N	-	0000	TOYOT	2007	- 3	N		-	G M
2	DRVR	21	F	H	HNBD		PROC ST	S	-	0000	TOYOT	2004	- 3	N		-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **GOLDEN STATE** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4473** *Collision Date* **20180806** *Time* **1554** *Day* **MON**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180913**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PKD MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	64	F	W	HNBD		BACKING	N	A	0100	KIA	2018	- 3	N		-	M G
2	PRKD	998	-		HNBD		PARKED	S	A	0100	HYUND	2014	- 3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA AV** *Distance (ft)* **126.** *Direction* **S** *Secondary Rd* **RIVERVIEW DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **3624** *Collision Date* **20181129** *Time* **1600** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190107**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PKD MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	M		IMP UNK	IMP UNK	PROC ST	S	A	0700	-	-	- -	N		-	- -
2	PRKD	998	-				PARKED	S	A	0700	CHEVR	1993	- 3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **1155** *Direction* **S** *Secondary Rd* **ALMOND AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **4466** *Collision Date* **20180430** *Time* **1248** *Day* **MON**
Primary Collision Factor **UNKNOWN** *Violation* **21804S** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20180622**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	28	F	H	HNBD		ENT TRAF	N	A	0100	TOYOT	2009	- 3	N		-	M G
2	DRVR	43	F	H	HNBD		PROC ST	N	D	2200	FORD	2004	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **ALMOND AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **00048** *Collision Date* **20181026** *Time* **1500** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20181205**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	21	M	W	HNBD		PROC ST	E	A	0700	FORD	2013	-	3	N	-	M G	
2	DRVR	58	M	H	HNBD		PROC ST	N	F	2500	FREIG	2015	-	3	N	-	M G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **CLEVELAND AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4224** *Collision Date* **20180215** *Time* **0732** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20180321**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	15	M	B	HNBD		PROC ST	S	D	2200	GMC	2007	-	3	N	-	L G	
2	DRVR	69	M	H	HNBD		STOPPED	S	A	0700	TOYOT	2017	-	3	N	-	M G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	15	M	1	0	G	-
DRVR	COMP PN	69	M	1	0	G	-

Primary Rd **GRANADA DR** *Distance (ft)* **590.** *Direction* **S** *Secondary Rd* **DEBORAH LN** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **00048** *Collision Date* **20181218** *Time* **1000** *Day* **TUE**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20190112**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	31	F	W	HNBD		ENT TRAF	W	A	0700	CHEVR	2007	-	3	N	-	M G	
2	DRVR	21	F	H	HNBD		PROC ST	N	A	0100	TOYOT	2015	-	3	N	-	L G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **FOXGLOVE WY** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **2947** *Collision Date* **20180701** *Time* **1721** *Day* **SUN**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20180823**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	38	M	W	HNBD		LFT TURN	W	A	0100	MINI	2005	-	3	N	-	L G	
2	DRVR	19	M	B	HNBD		PROC ST	N	A	0100	DODGE	2015	-	3	A	22350	L G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	18	M	1	0	L	G

Primary Rd **GRANADA DR** *Distance (ft)* **20.0** *Direction* **S** *Secondary Rd* **PAMELA DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4224** *Collision Date* **20180531** *Time* **1534** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180817**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	30	M	H	HNBD		PROC ST	N	D	2200	FREIG	1987	-	3	N	-	M G	
2	DRVR	16	M	W	HNBD		SLOWING	N	D	2200	FORD	2007	-	3	N	-	M G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 40.0 | Direction N | Secondary Rd RIVERVIEW DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4125 | Collision Date 20181002 | Time 1659 | Day TUE
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20181119
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run FELONY | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	S	D	2200	TOYOT	-	3	N		-	-	B
2	DRVR	53	F	H	HNBD		STOPPED	S	A	0100	HYUND	2015	-	3	N		-	G	M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	52	F	1	0	-	-

Primary Rd GRANADA DR | Distance (ft) 20.0 | Direction N | Secondary Rd RIVERVIEW DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4224 | Collision Date 20181029 | Time 1300 | Day MON
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20181205
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	8	F	W	HNBD		PROC ST	S	A	0100	DODGE	2006	-	3	N		-	M	G
2	DRVR	29	F	W	HNBD		PROC ST	S	A	0100	CHEVR	2006	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 35.0 | Direction S | Secondary Rd SUNNYDALE ST | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist MADER | Beat 003 | Type 0 | CalTrans | Badge 4499 | Collision Date 20180513 | Time 0236 | Day SUN
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20180710
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 OTHER | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PKD MV | Lighting DARK - ST | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	25	F	H	HBD-UI		PROC ST	E	A	0100	TOYOT	2007	-	3	A	22107	-	G	M
2	PRKD	998	-				PARKED	E	A	0100	HONDA	2012	-	3	N		-	-	P

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 295. | Direction S | Secondary Rd SUNSET AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist MADER | Beat 003 | Type 0 | CalTrans | Badge 4462 | Collision Date 20181021 | Time 1645 | Day SUN
Primary Collision Factor DRVR ALC|DRG | Violation 23152 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20181228
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PKD MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	55	M	H	HBD-UI		PROC ST	N	A	0100	FORD	2002	-	3	A	22107	-	G	M
2	PRKD	998	-				PARKED	N	A	0100	TOYOT	1995	-	3	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 291. | Direction S | Secondary Rd WESTGATE DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4465 | Collision Date 20180203 | Time 2341 | Day SAT
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20180305
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PKD MV | Lighting DARK - ST | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	25	F	H	HBD-UI		PROC ST	N	A	0100	TOYOT	2015	-	3	A	22107	-	L	G
2	PRKD	998	-				PARKED	N	D	2200	TOYOT	1993	-	-	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N GRANADA DR | Distance (ft) 0.00 | Direction | Secondary Rd PAMELA DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 3971 | Collision Date 20180914 | Time 1951 | Day FRI
Primary Collision Factor R-O-W AUTO | Violation 21800A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20181022
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DARK - ST | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	64	F	H	HNBD		LFT TURN	W	-	0000	HONDA	2017	-	3	N	-	L G
2	DRVR	31	M	H	HNBD		PROC ST	S	-	0000	TOYOT	2014	-	3	N	-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N H ST | Distance (ft) 34.0 | Direction S | Secondary Rd ROBERTS AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist MADER | Beat 003 | Type 0 | CalTrans | Badge 4461 | Collision Date 20180701 | Time 0308 | Day SUN
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20181018
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PKD MV | Lighting DARK - ST | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	31	M	W	HNBD		PROC ST	N	A	0100	FORD	2002	-	3	N	-	M G
2	PRKD	998	-				PARKED	N	A	0100	NISSA	2007	-	3	N	-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N I ST | Distance (ft) 6.00 | Direction N | Secondary Rd W YOSEMITE AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4499 | Collision Date 20180406 | Time 1547 | Day FRI
Primary Collision Factor IMPROP TURN | Violation 22107A | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20180604
Weather1 CLOUDY | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With FIXED OBJ | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	29	F	H	IMP UNK	IMP UNK	RGT TURN	W	G	2731	FREIG	2014	-	3	N	-	B -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N LAKE ST | Distance (ft) 0.00 | Direction | Secondary Rd E CLEVELAND AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 002 | Type 0 | CalTrans | Badge 4498 | Collision Date 20181027 | Time 2031 | Day SAT
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20181205
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DARK - ST | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	46	F	H	HNBD		PROC ST	S	A	0100	HYUND	2003	-	3	N	-	M G
2	DRVR	24	M	H	HNBD		STOPPED	S	A	0100	FORD	2010	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd N LAKE ST | Distance (ft) 215. | Direction S | Secondary Rd ELLIS ST | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist 2002 | Beat 002 | Type 0 | CalTrans | Badge 4464 | Collision Date 20180623 | Time 1745 | Day SAT
Primary Collision Factor LANE CHANGE | Violation 21658A | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20180822
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	74	F	W	HNBD		CHANG LN	N	A	0100	ACURA	2010	-	3	N	-	M G
2	DRVR	17	M	H	HNBD		PROC ST	N	A	0100	CHEVR	2013	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST YOSMEITE** *Distance (ft)* **32.0** *Direction* **W** *Secondary Rd* **NORTH O ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **MaderaAV** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **4364** *Collision Date* **20180620** *Time* **2251** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180918**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **PKD MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	E	-	0000	-	-	3	N		-	- -
2	PRKD	998					PARKED	E	A	0100	UNCO	1999	3	N		-	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WESTBERRY BL** *Distance (ft)* **20.0** *Direction* **S** *Secondary Rd* **CLEVELAND AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **3386** *Collision Date* **20180112** *Time* **1632** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180216**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	40	M	H	HNBD		PROC ST	N	D	2200	CHEVR	2008	- 3	N		-	M G
2	DRVR	38	M	H	HNBD		STOPPED	N	A	0100	ACURA	2003	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WESTBERRY BL N** *Distance (ft)* **15.0** *Direction* **S** *Secondary Rd* **RIVERVIEW DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4466** *Collision Date* **20180124** *Time* **2202** *Day* **WED**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180227**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	39	M	H	HBD-UI		LFT TURN	S	D	2200	CHEVR	1994	- 3	A	22107	-	- B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WILLIAMS AV** *Distance (ft)* **203.** *Direction* **N** *Secondary Rd* **NATIONAL AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **003** *Type* **0** *CalTrans* *Badge* **4465** *Collision Date* **20181117** *Time* **2311** *Day* **SAT**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190115**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **PKD MV** *Lighting* **DARK - NO** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	UNS TURN	N	-	9900	-	-	3	N		-	B -
2	PRKD	998	-				PARKED	-	D	2200	TOYOT	2000	- 3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WILLIAMS AV** *Distance (ft)* **176.** *Direction* **N** *Secondary Rd* **NATIONAL AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4364** *Collision Date* **20181207** *Time* **1452** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190114**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **BICYCLE** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	28	F	H	HNBD		ENT TRAF	S	A	0100	CHEVR	2014	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV W** *Distance (ft)* **612.** *Direction* **W** *Secondary Rd* **GATEWAY DR N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4242** *Collision Date* **20190328** *Time* **1537** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190509**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		
1F	DRVR	31	M	H	IMP UNK	IMP UNK	PROC ST	W	A	0100	MITSU	2017	-	3	N	-	B	-	
2	DRVR	43	F	W	HNBD		STOPPED	W	A	0100	MERCU	2014	-	3	N	-	G	-	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV W** *Distance (ft)* **245.** *Direction* **W** *Secondary Rd* **GATEWAY DR N** *NCIC* **2002** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **12.242** *Side of Hwy* **N**
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* **6** *Badge* **4497** *Collision Date* **20190616** *Time* **1739** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20200103**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **BICYCLE** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* **R** *Ramp/Int* **4**

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		
1	DRVR	65	F	A	HNBD		RGT TURN	W	A	0100	LINCO	1999	-	3	N	-	M	G	
2F	BICY	50	M	H	HNBD		PROC ST	W	L	0400	-		-	3	N	-	-	-	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	COMP PN	50	M	1	3	P	-

Primary Rd **CLEVELAND AV W** *Distance (ft)* **23.0** *Direction* **E** *Secondary Rd* **GATEWAY DR N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4467** *Collision Date* **20191216** *Time* **0927** *Day* **MON**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200131**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		
1F	DRVR	65	M	H	HNBD		RGT TURN	N	D	2200	TOYOT	2005	-	3	N	-	M	G	
2	DRVR	21	F	H	HNBD		PROC ST	E	A	0100	NISSA	2000	-	3	N	-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV W** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **GRANADA DR N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4274** *Collision Date* **20190816** *Time* **2047** *Day* **FRI**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20190918**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		
1F	DRVR	54	M	H	HNBD		PROC ST	W	D	2200	CHEVR	2019	-	3	N	-	M	G	
2	DRVR	35	F	H	HNBD		PROC ST	N	A	0100	NISSA	2008	-	3	N	-	L	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	12	F	3	0	L	G

Primary Rd **CLEVELAND AV W** *Distance (ft)* **100.** *Direction* **E** *Secondary Rd* **RT 99** *NCIC* **2002** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **12.304** *Side of Hwy* **S**
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* **6** *Badge* **2947** *Collision Date* **20190122** *Time* **1744** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20190322**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* **R** *Ramp/Int* **4**

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		
1F	DRVR	26	M	B	HNBD		PROC ST	W	A	0100	PONTI	1995	-	3	N	-	M	G	
2	DRVR	25	F	H	HNBD		STOPPED	W	A	0100	NISSA	2005	-	3	N	-	L	G	
3	DRVR	63	M	H	HNBD		STOPPED	W	A	0700	DODGE	2000	-	3	N	-	M	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	25	F	1	0	L	G
PASS		27	M	3	0	L	G
PASS		9	M	4	0	L	G
PASS		26	M	6	0	M	G

Primary Rd FAIRFIELD WY Distance (ft) 40.0 Direction E Secondary Rd WESTBERRY BL NCIC 2002 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Madera County Madera Population 4 Rpt Dist Beat 003 Type 0 CalTrans Badge 4262 Collision Date 20190719 Time 1642 Day FRI
Primary Collision Factor IMPROP TURN Violation 22107 Collision Type REAR END Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20190911
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Vehicle Involved With PKD MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	25	F	H	HNBD		LFT TURN	E	A	0100	NISSA	2017	-	3	N		-	M G
2	PRKD	998	-				PARKED	E	A	0100	SCION	2007	-	3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd ELUMEE ST Distance (ft) 0.00 Direction Secondary Rd S 5TH ST NCIC 2002 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Madera County Madera Population 4 Rpt Dist Beat 001 Type 0 CalTrans Badge 2628 Collision Date 20190221 Time 1902 Day THU
Primary Collision Factor R-O-W AUTO Violation 21800A Collision Type BROADSIDE Severity PDO #Killed 0 #Injured 0 Tow Away? N Process Date 20190405
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DARK - ST Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	27	M	H	HNBD		PROC ST	S	-	0000	DODGE	2004	-	3	N		-	M G
2	DRVR	23	F	H	HNBD		PROC ST	W	-	0000	CHEVR	2018	-	3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd FRESNO ST Distance (ft) 0.00 Direction Secondary Rd ASHLAN WY NCIC 2002 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Madera County Madera Population 4 Rpt Dist Beat 002 Type 0 CalTrans Badge 4467 Collision Date 20191121 Time 1322 Day THU
Primary Collision Factor UNKNOWN Violation Collision Type BROADSIDE Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20200117
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1	DRVR	17	M	H	HNBD		PROC ST	S	A	0100	CHEVR	2005	-	3	N		-	M G
2	DRVR	25	F	H	HNBD		PROC ST	E	A	0100	HONDA	2015	-	3	O		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd FRESNO ST Distance (ft) 82.0 Direction N Secondary Rd EAST CLEVELAND NCIC 2002 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Madera County Madera Population 4 Rpt Dist Beat 002 Type 0 CalTrans Badge 4461 Collision Date 20191215 Time 1958 Day SUN
Primary Collision Factor DRVR ALC|DRG Violation 23152A Collision Type HEAD-ON Severity PDO #Killed 0 #Injured 0 Tow Away? Y Process Date 20200212
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Vehicle Involved With PKD MV Lighting DARK - NO Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	25	M	H	HBD-UI		PROC ST	N	A	0100	DODGE	2003	-	3	A	22107	N	G M
2	PRKD	998	-				PARKED	S	A	0100	VOLKS	2019	-	3	N		-	- -
3	PRKD	998	-				PARKED	S	A	0100	HYUND	2007	-	3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd G ST Distance (ft) 0.00 Direction Secondary Rd 2ND ST NCIC 2002 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City Madera County Madera Population 4 Rpt Dist Beat 003 Type 0 CalTrans Badge 4224 Collision Date 20190331 Time 1720 Day SUN
Primary Collision Factor STOP SGN|SIG Violation 22450A Collision Type BROADSIDE Severity INJURY #Killed 0 #Injured 1 Tow Away? N Process Date 20190416
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Vehicle Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	26	F	W	HNBD		PROC ST	W	A	0800	FORD	2016	-	3	N		-	M G
2	DRVR	50	F	H	HNBD		PROC ST	S	A	0100	TOYOT	2017	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	7	M	4	0	G	-
PASS		9	F	6	0	G	-
PASS		26	F	3	3	G	-

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **ALMOND AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MSC** *Beat* **004** *Type* **0** *CalTrans* *Badge* **4498** *Collision Date* **20190928** *Time* **1623** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20191021**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	27	M	W	HNBD		PROC ST	W	D	2200	FORD	2005	-	3	N	-	M G
2	DRVR	48	M	W	HNBD		PROC ST	N	A	0100	CHEVR	1997	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **AVENUE 16** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4467** *Collision Date* **20190715** *Time* **1550** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190823**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	44	M	H	HNBD		RGT TURN	N	A	0100	NISSA	2002	-	3	N	-	M G
2	DRVR	55	M	H	HNBD		PROC ST	E	D	2200	TOYOT	1997	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **235.** *Direction* **N** *Secondary Rd* **BALSAM CT** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4224** *Collision Date* **20190913** *Time* **0407** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20190930**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PKD MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	19	M	H		FATG	UNS TURN	S	A	0700	GMC	2004	-	3	A	22107	- L G
2	PRKD	000	-				PARKED	N	A	0100	CHRYS	2016	-	3	N		- - -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **50.0** *Direction* **S** *Secondary Rd* **CLEVELAND AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4535** *Collision Date* **20190324** *Time* **2155** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190516**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	44	F	H	HNBD		UNS TURN	N	A	0700	CHEVR	2005	-	3	N	-	G M
2	DRVR	34	M	H	HNBD		PROC ST	N	A	0100	NISSA	2018	-	3	N	-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **575.** *Direction* **S** *Secondary Rd* **DEBORAH LN** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **00048** *Collision Date* **20190124** *Time* **1714** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20190213**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	32	F	H	HNBD		PROC ST	S	A	0100	NISSA	2002	-	3	N	-	L G
2	DRVR	20	F	H	HNBD		STOPPED	S	A	0100	MITSU	2006	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **MICHELLE CT** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **4467** *Collision Date* **20191104** *Time* **1622** *Day* **MON**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200128**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	21	F	H	HNBD		LFT TURN	S	A	0100	HONDA	2003	3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		26	M	3	0	G	L

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **PAMELA DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4407** *Collision Date* **20191011** *Time* **1846** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20191113**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	17	M	H	HNBD		LFT TURN	E	A	0100	ACURA	2007	- 3	N		-	L G
2	DRVR	23	F	H	HNBD		PROC ST	S	A	0100	HONDA	2017	- 3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **RIVERVIEW DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4262** *Collision Date* **20190509** *Time* **1444** *Day* **THU**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190612**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	23	F	H	HNBD		PROC ST	S	A	0100	INFIN	2007	- 3	N		-	M G
2	DRVR	70	M	H	HNBD		PROC ST	W	A	0100	LINCO	2001	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **RIVERVIEW DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4483** *Collision Date* **20190531** *Time* **1204** *Day* **FRI**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190613**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	25	M	H	HNBD		PROC ST	N	A	0100	HONDA	2018	- 3	N		-	M G
2	DRVR	52	M	H	HNBD		LFT TURN	E	F	2600	PETER	2013	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **172.** *Direction* **N** *Secondary Rd* **SUNSET AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4262** *Collision Date* **20190628** *Time* **1345** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190726**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	22	-		HNBD		PROC ST	S	A	0100	HONDA	1998	- 3	F		N	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR N** *Distance (ft)* **141.** *Direction* **S** *Secondary Rd* **BALSAM CT** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4535** *Collision Date* **20191115** *Time* **2355** *Day* **FRI**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20200211**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PKD MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	40	M	H				N	D	2200	CHEVR	2019	-	-	-	-	G	M
2	PRKD	998	-					N	D	2200	TOYOT	2003	-	-	-	-	-	-
3	PRKD	998	-					N	A	0700	JEEP	2008	-	-	-	-	-	-
4	PRKD	998	-				PARKED	N	A	0100	TOYOT	2015	-	3	N	-	-	-
5	PRKD	998	-				PARKED	N	A	0100	CHEVR	2015	-	3	N	-	-	-
6	PRKD	998						N	A	0100	CHRYS	2006		3				

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR N** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **CLEVELAND AV W** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4262** *Collision Date* **20190612** *Time* **0921** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20190712**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	32	F	H	HNBD		PROC ST	N	-	0000	MERCE	2016	-	D	N	-	-	G
2	BICY	64	M	W	HNBD		PROC ST	E	-	0000	-		-	D	N	-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	COMP PN	64	M	9	0	-	-

Primary Rd **GRANADA DR N** *Distance (ft)* **8.00** *Direction* **S** *Secondary Rd* **RIVERVIEW DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **CITY** *Beat* **003** *Type* **0** *CalTrans* *Badge* **3567** *Collision Date* **20191014** *Time* **2233** *Day* **MON**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152B** *Collision Type* **OTHER** *Severity* **FATAL** *#Killed* **1** *#Injured* **0** *Tow Away?* **N** *Process Date* **20191211**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	62	M	H	HBD-UI		LFT TURN	W	-	0000	HONDA		-	3	A	22350	N	W

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	KILLED	61	M	1	1	W	-

Primary Rd **GRANADA DR S** *Distance (ft)* **25.0** *Direction* **S** *Secondary Rd* **ALMOND AV W** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **4535** *Collision Date* **20191216** *Time* **0054** *Day* **MON**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HEAD-ON** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20200211**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	22	M	W	HNBD		PROC ST	S	A	0100	HYUND	2017	-	-	N	-	H	L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SEVERE	21	M	1	0	H	L

Primary Rd **GRANADA DR S** *Distance (ft)* **46.0** *Direction* **S** *Secondary Rd* **MERLOT AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **004** *Type* **0** *CalTrans* *Badge* **4465** *Collision Date* **20190524** *Time* **2031** *Day* **FRI**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20190703**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DUSK/DAWN** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1	DRVR	24	M	H	HNBD		PROC ST	N	A	0100	MERCE	2007	-	3	N	-	B	L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		26	M	3	0	B	L

Primary Rd N GRANADA DR | Distance (ft) 0.00 | Direction | Secondary Rd W CLEVELAND AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4536 | Collision Date 20191221 | Time 1807 | Day SAT
Primary Collision Factor STOP SGN|SIG | Violation 22450A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20200131
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With OTHER MV | Lighting DARK - ST | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info																Victim Info						
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	LFT TURN	N	A	0100	HONDA		- 3	N		-	- -							
2	DRVR	47	F	H	HNBD		PROC ST	E	A	0100	NISSA	2006	- 3	N		-	M G							

Primary Rd N LAKE ST | Distance (ft) 260. | Direction N | Secondary Rd CLEVELAND AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist CITY | Beat 002 | Type 0 | CalTrans | Badge 3567 | Collision Date 20191127 | Time 1459 | Day WED
Primary Collision Factor R-O-W AUTO | Violation 21804A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20200115
Weather1 CLOUDY | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info																Victim Info						
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	63	F	H	HNBD		ENT TRAF	E	D	2200	TOYOT	2003	- 3	N		-	M G							
2	DRVR	70	M	H	HNBD		STOPPED	S	D	2200	FORD	2019	- 3	N		-	M G							

Primary Rd N LAKE ST | Distance (ft) 0.00 | Direction | Secondary Rd KENNEDY ST | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 002 | Type 0 | CalTrans | Badge 4499 | Collision Date 20190210 | Time 1621 | Day SUN
Primary Collision Factor R-O-W AUTO | Violation 21802 | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20190402
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info																Victim Info						
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	49	F	H	HNBD		STOPPED	W	A	0100	DODGE	2013	- 3	N		-	M G							
2	DRVR	24	F	H	HNBD		PROC ST	N	A	0100	VOLKS	2010	- 3	N		-	M G							

Primary Rd N ST N | Distance (ft) 0.00 | Direction | Secondary Rd 3RD ST W | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist CITY | Beat 003 | Type 0 | CalTrans | Badge 3567 | Collision Date 20190516 | Time 0741 | Day THU
Primary Collision Factor UNSAFE SPEED | Violation 22352A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20190819
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info																Victim Info						
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	-	-	9900	-		- 3	N		-	- -							
2	DRVR	68	M	H	HNBD		PROC ST	W	A	0100	TOYOT	2006	- 3	N		-	- -							

Primary Rd NATIONAL AV | Distance (ft) 0.00 | Direction | Secondary Rd SCHNOOR AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist CITY | Beat 003 | Type 0 | CalTrans | Badge 3567 | Collision Date 20190521 | Time 0800 | Day TUE
Primary Collision Factor R-O-W AUTO | Violation 21804A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20190612
Weather1 CLOUDY | Weather2 RAINING | Rdwy Surface WET | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info																Victim Info						
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	38	F	H	HNBD		PROC ST	N	A	0100	BUICK	2008	- 3	N		-	M G							
2	DRVR	34	F	H	HNBD		PROC ST	E	A	0100	INFIN	2013	- 3	N		-	M G							

Primary Rd **WEST 4TH ST** *Distance (ft)* **172.** *Direction* **E** *Secondary Rd* **NORTH GATEWAY** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4461** *Collision Date* **20190209** *Time* **2214** *Day* **SAT**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20190402**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	19	M	H	HNBD		PROC ST	E	D	2200	CHEVR	2015	- 3	F		-	G	M
2	DRVR	16	M	H	HNBD		STOPPED	E	A	0100	TOYOT	2013	3	N			G	M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN 16	M	3	0	G	M	

Primary Rd **WEST CLEVELAND** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **GRANADA AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **MaderaAV** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* *Type* **0** *CalTrans* *Badge* **4473** *Collision Date* **20191217** *Time* **1701** *Day* **TUE**
Primary Collision Factor **R-O-W AUTO** *Violation* **21800A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200224**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	58	M	H			PROC ST	E	A	0100	CHEVR	1999	- 3	N		-	M	G
2	DRVR	60	M	H			LFT TURN	S	D	2200	FORD	2011	- 3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST OLIVE AVE** *Distance (ft)* **87.0** *Direction* **E** *Secondary Rd* **I ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **4498** *Collision Date* **20190823** *Time* **1658** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190930**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	998	-		IMP UNK	IMP UNK	CHANG LN	E	-	0000	-		- 3	N		-	M	G
2	DRVR	31	F	H	HNBD		PROC ST	E	A	0100	HONDA	2004	- 3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST YOSEMITE** *Distance (ft)* **11.0** *Direction* **W** *Secondary Rd* **GATEWAY DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **MaderaAV** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4466** *Collision Date* **20190728** *Time* **0827** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190822**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	65	M	H	HNBD		PROC ST	W	A	0100	CHEVR	1994	- 3	N		-	M	G
2	DRVR	42	F	W	HNBD		SLOWING	W	A	0100	TOYOT	2003	- 3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WEST YOSEMITE** *Distance (ft)* **8.00** *Direction* **E** *Secondary Rd* **SOUTH H ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **MaderaAV** *County* **Madera** *Population* **4** *Rpt Dist* **2002** *Beat* **004** *Type* **0** *CalTrans* *Badge* **4461** *Collision Date* **20190526** *Time* **0128** *Day* **SUN**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20190703**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	29	M	H	HBD-UI		PROC ST	E	A	0100	DODGE	2016	- 3	A	22107	-	G	L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WESTBERRY BL** *Distance (ft)* **25.0** *Direction* **S** *Secondary Rd* **HOWARD RD** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **2791** *Collision Date* **20190713** *Time* **1530** *Day* **SAT**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20190821**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	998	-		HBD-UNK		RAN OFF RD			0900				-		-	-	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WESTBERRY BL N** *Distance (ft)* **96.0** *Direction* **S** *Secondary Rd* **CLEVELAND AV W** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MSC** *Beat* **003** *Type* **0** *CalTrans* *Badge* **4498** *Collision Date* **20191130** *Time* **1344** *Day* **SAT**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20191220**
Weather1 **CLOUDY** *Weather2* **RAINING** *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	16	M	W	HNBD		LFT TURN	S	D	2200	-	-	3	N		-	G M	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		15	M	3	3	G	M
PASS		15	M	2	3	G	M

Primary Rd **WESTBERRY BL N** *Distance (ft)* **250.** *Direction* **S** *Secondary Rd* **SUNSET AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4467** *Collision Date* **20190330** *Time* **0955** *Day* **SAT**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20190408**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1	DRVR	64	M	W	HNBD		PROC ST	N	D	2200	CHEVR	2015	- 3	O		-	- M	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WESTGATE DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **BERRY DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **55** *Collision Date* **20190804** *Time* **2347** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20190930**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PKD MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	18	M	H	HBD-NUI		PROC ST	W	A	0100	CHEVR	2008	- 3	N		-	M G	
2	PRKD	998	-				PARKED	W	A	0100	HONDA	2005	- 3	N		-	- -	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WILLIS AV** *Distance (ft)* **60.0** *Direction* **S** *Secondary Rd* **ROBERTS AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4462** *Collision Date* **20191013** *Time* **1714** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20191219**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PKD MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	23	M	H	HNBD		PROC ST	S	A	0100	CHEVR	2016	- 3	N		-	G M	
2	PRKD	998	-				PARKED	S	A	0100	CHRYS	2004	- -	N		-	- -	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV** *Distance (ft)* **40.0** *Direction* **E** *Secondary Rd* **TULARE ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4466** *Collision Date* **20200922** *Time* **1844** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20201116**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	20	M	H	HNBD		PROC ST	W	D	2200	-	1991	-	-	N	-	M G
2	DRVR	38	M	H	HNBD		STOPPED	W	D	2200	-	2020	-	-	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **TULARE ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MSC** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4262** *Collision Date* **20201202** *Time* **1934** *Day* **WED**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210308**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	19	M	H	HNBD		PROC ST	W	A	0100	-	2001	-	3	N	-	M G
2	DRVR	48	M	H	HNBD		LFT TURN	S	A	0100	-	1998	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **WESTBERRY BL** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MSC** *Beat* **003** *Type* **0** *CalTrans* *Badge* **4331** *Collision Date* **20200413** *Time* **1947** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20200605**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DUSK/DAWN** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	22	M	H	HNBD		PROC ST	N	D	2200	FORD	1999	-	3	G	N	G -
2	DRVR	24	M	W	HNBD		PROC ST	W	A	0700	TOYOT	2005	-	3	N	-	G -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	22	M	1	0	G	-
PASS		34	M	2	0	G	-
DRVR	OTH VIS	24	M	1	0	G	-

Primary Rd **CLEVELAND AV E** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **CELESTE** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4479** *Collision Date* **20200311** *Time* **0536** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20200617**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	M		IMP UNK	IMP UNK	LFT TURN	E	A	0100	-	2007	-	3	N	-	B L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV E** *Distance (ft)* **163.** *Direction* **W** *Secondary Rd* **D ST N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4274** *Collision Date* **20200426** *Time* **1051** *Day* **SUN**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804A** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20200722**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	30	M	H	HNBD		ENT TRAF	W	A	0100	-	2000	-	3	N	-	M G
2	DRVR	27	M	H	HNBD		PROC ST	W	C	0200	-	2007	-	3	N	-	W A

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	27	M	1	1	W	A

Primary Rd **GOLDEN STATE BL** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **GARY LN** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **4262** *Collision Date* **20200107** *Time* **0840** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200227**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	77	M	H	HNBD		LFT TURN	N	A	0100	FORD	2001	- 3	N		-	M G
2	DRVR	58	M	H	HNBD		PROC ST	S	A	0100	DODGE	2009	- 3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **164.** *Direction* **S** *Secondary Rd* **DESERT RANCH** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **4466** *Collision Date* **20201216** *Time* **1841** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20210308**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DUSK/DAWN** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	62	F	H	HNBD		U-TURN	E	A	0100	-	2005	- 3	N		-	M G
2	DRVR	44	M	H	HNBD		PROC ST	S	A	0100	-	2014	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **DRIFTWOOD DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4467** *Collision Date* **20200224** *Time* **1205** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200616**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	24	M	W	HNBD		PROC ST	N	A	0100	-	2008	- 3	N		-	M G
2	DRVR	59	F	W	HNBD		STOPPED	N	A	0100	-	2013	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **PAMELA DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **CITY** *Beat* **003** *Type* **0** *CalTrans* *Badge* **2791** *Collision Date* **20200527** *Time* **1506** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20200831**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **MV ON OTHER RD** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	21	M	H	HNBD		STOPPED	E	A	0100	JEEP	2020	- 3	N		-	L G
2	DRVR	43	M	H	HNBD		PROC ST	S	A	0100	-	2012	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **59.0** *Direction* **N** *Secondary Rd* **PLUMAS ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **4562** *Collision Date* **20200309** *Time* **1815** *Day* **MON**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200522**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	23	M	H	HBD-UI		LFT TURN	S	A	0100	FORD	2008	- 3	A	22106	-	C -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 0.00 | Direction | Secondary Rd RIVERVIEW DR | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 00048 | Collision Date 20200327 | Time 1630 | Day FRI
Primary Collision Factor R-O-W AUTO | Violation 21802A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20200629
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	23	M	H	HNBD		PROC ST	N	A	0100	-	2017	- 3	N		-	M G
2	DRVR	53	F	H	HNBD		LFT TURN	E	A	0100	-	2010	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 20.0 | Direction S | Secondary Rd SUNSET AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist MSC | Beat 003 | Type 0 | CalTrans | Badge 4490 | Collision Date 20200204 | Time 1508 | Day TUE
Primary Collision Factor UNSAFE SPEED | Violation 22350 | Collision Type REAR END | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20200522
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MSDMNR | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	N	A	0100	SCION	2005	- 3	N		-	- -
2	DRVR	40	F	H	HNBD		STOPPED	N	A	0100	CHRYS	2007	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 0.00 | Direction | Secondary Rd SUNSET AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4536 | Collision Date 20200209 | Time 1104 | Day SUN
Primary Collision Factor STOP SGN|SIG | Violation 22450A | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20200522
Weather1 CLOUDY | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	91	F	W	HNBD		PROC ST	S	A	0100	HYUND	2005	- 3	N		-	G M
2	DRVR	56	F	H	HNBD		PROC ST	W	A	0100	HYUND	2001	- 3	N		-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		26	F	3	0	G	M

Primary Rd GRANADA DR | Distance (ft) 0.00 | Direction | Secondary Rd W CLEVELAND AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4464 | Collision Date 20200314 | Time 2120 | Day SAT
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20200522
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DARK - ST | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	60	F	H	HNBD		LFT TURN	S	A	0100	HONDA	2015	- 3	N		-	M G
2	DRVR	50	F	A	HNBD		PROC ST	S	A	0100	TOYOT	2011	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR N | Distance (ft) 102. | Direction N | Secondary Rd FOXGLOVE WY | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 3608 | Collision Date 20200401 | Time 1305 | Day WED
Primary Collision Factor NOT DRIVER | Violation | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20200720
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With ANIMAL | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1	OTHR	998	-				ENT TRAF	-	-	0000	-		- 3	N		-	- -
2	DRVR	24	M	H	HNBD		PROC ST	S	D	2200	FORD	2019	- 3	N		-	G -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR S** *Distance (ft)* **60.0** *Direction* **S** *Secondary Rd* **PELAN AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **4561** *Collision Date* **20200824** *Time* **0630** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20201103**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	26	M	H	HNBD		PROC ST	N	A	0100	NISSA	2018	-	3	N	-	M G								
2	DRVR	54	M	H	HNBD		STOPPED	N		0033		2008		3	N		M G								

Primary Rd **GRANDOA DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **RIVERVIEW DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MSC** *Beat* **003** *Type* **0** *CalTrans* *Badge* **4467** *Collision Date* **20200509** *Time* **1809** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200902**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1	DRVR	57	F	W	HNBD		PROC ST	S	A	0100	-	2006	-	3	N	-	M G								
2	DRVR	65	M	W	HNBD		PROC ST	W	A	0100	-	1997	-	3	N	-	M G								

Primary Rd **GRANT ST** *Distance (ft)* **225.** *Direction* **W** *Secondary Rd* **LAKE ST S** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4560** *Collision Date* **20200531** *Time* **0035** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200831**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **PKD MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	WRONG WY	E	-	0000	-		-	3	N	-	B -								
2	PRKD	998	-				PARKED	E	A	0100	-	2004	-	3	N	-	- -								
3	PRKD	998	-				PARKED	E	D	2200	-	2000	-	3	N	-	- -								

Primary Rd **GREEN WY** *Distance (ft)* **370.** *Direction* **W** *Secondary Rd* **LAKE ST N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4274** *Collision Date* **20200614** *Time* **1317** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200916**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **PKD MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	W	A	0100	-	2002	-	3	N	-	- B								
2	PRKD	998	-				PARKED	W	A	0800	-	2016	-	3	N	-	- -								

Primary Rd **GROVE ST** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **OLIVE AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **004** *Type* **0** *CalTrans* *Badge* **4262** *Collision Date* **20200305** *Time* **1144** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200618**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	57	M	H	HNBD		PROC ST	N	D	2200	FORD	2006	-	3	N	-	M G								
2	DRVR	64	M	W	HNBD		PROC ST	W	D	2200	-	2000	-	3	N	-	M G								

Primary Rd **NORTH GATEWAY** *Distance (ft)* **1045** *Direction* **N** *Secondary Rd* **WEST CLEVELAND** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera DR** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4223** *Collision Date* **20200604** *Time* **1218** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200909**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	998	-				CHANG LN	N	E	2231	-		-	-	-	-	-	-
2	DRVR	44	M	H	HNBD		PROC ST	N	E	2231	-	2007	-	3	N		M	E

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **NORTH GRANADA** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **RIVERVIEW DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera DR** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **003** *Type* **0** *CalTrans* *Badge* **4498** *Collision Date* **20200514** *Time* **0859** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200827**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	85	F	W	HNBD		PROC ST	S	A	0100	-	2013	-	3	N		M	G
2	DRVR	35	F	H	HNBD		PROC ST	W	A	0100	-	2012	-	3	N		M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **NORTH LAKE ST** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **SHERWOOD WY** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4535** *Collision Date* **20200508** *Time* **1306** *Day* **FRI**
Primary Collision Factor **UNKNOWN** *Violation* **21808A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200827**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	48	F	H	HNBD		PROC ST	W	A	0100	-	2012	-	3	N		M	G
2	DRVR	22	M	H	HNBD		PROC ST	S	A	0100	-	2006	-	3	N		L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **NORTH SCHNOOR** *Distance (ft)* **54.0** *Direction* **S** *Secondary Rd* **W CLEVELAND AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera AV** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **003** *Type* **0** *CalTrans* *Badge* **3386** *Collision Date* **20201020** *Time* **1231** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20201209**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1F	DRVR	62	F	H	HNBD		CHANG LN	S	A	0100	-	2018	-	3	N		M	G
2	DRVR	38	M	H	HNBD		PROC ST	S	A	0100	-	2012	-	3	N		M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **O ST N** *Distance (ft)* **20.0** *Direction* **N** *Secondary Rd* **4TH ST W** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4262** *Collision Date* **20200805** *Time* **0124** *Day* **WED**
Primary Collision Factor **NOT STATED** *Violation* *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20201016**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	Ejected
1	DRVR	23	F	H			PROC ST	N	-	0000	-	2017	-	-	A	23103	F L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **W CLEVELAND AV** *Distance (ft)* **36.0** *Direction* **W** *Secondary Rd* **N GATEWAY DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **003** *Type* **0** *CalTrans* *Badge* **3386** *Collision Date* **20201006** *Time* **1324** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210109**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	40	F	W	HNBD		PROC ST	E	A	0100	-	2010	- 3	N		-	G M								
2	DRVR	49	M	H	HNBD		STOPPED	E	D	2200	-	2011	- 3	N		-	G M								

Primary Rd **W CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **N GRANADA DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4536** *Collision Date* **20200307** *Time* **1237** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21800A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20200521**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	47	F	H	HNBD		PROC ST	N	A	0100	TOYOT	2015	- 3	N		-	G M								
2	DRVR	51	F	B	HNBD		PROC ST	E	A	0100	FORD	2016	- 3	N		-	G M								

Primary Rd **W CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **NORTH SCHNOOR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4612** *Collision Date* **20200810** *Time* **1728** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20201020**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	66	F	B	HNBD		PROC ST	W	D	2200	FORD	2003	- 3	N		-	C -								
2	DRVR	19	F	H	HNBD		STOPPED	W	A	0100	-	2003	- 3	N		-	G -								

Primary Rd **W CLEVELAND AV** *Distance (ft)* **220.** *Direction* **W** *Secondary Rd* **RT 99** *NCIC* **2002** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **12.304** *Side of Hwy* **S**
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MSC** *Beat* **003** *Type* **0** *CalTrans* **6** *Badge* **4277** *Collision Date* **20200414** *Time* **1250** *Day* **TUE**
Primary Collision Factor **STOP SGN|SIG** *Violation* **21453A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20201109**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* **R** *Ramp/Int* **4**

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	35	M				RGT TURN	W	-	0000	VOLVO	2020	- 3	H		-	Y -								
2	DRVR	62	M	W			PROC ST	W	A	0100	CHRYS	2020	- 3	-		-	Y -								
3	DRVR	62	M	W			PROC ST	W	A	0100	FORD	2016	- 3	-		-	Y -								

Primary Rd **W CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **RT 99** *NCIC* **2002** *State Hwy?* **Y** *Route* **99** *Postmile Prefix* **-** *Postmile* **12.242** *Side of Hwy* **N**
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* **6** *Badge* **4464** *Collision Date* **20201212** *Time* **0855** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21800A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210310**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* **R** *Ramp/Int* **4**

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	61	M	H	HNBD		LFT TURN	N	A	0100	-	2008	- 3	N		-	M G								
2	DRVR	56	M	H	HNBD		PROC ST	W	A	0100	-	2001	- 3	N		-	M G								

Primary Rd **CLEVELAND AV E** *Distance (ft)* **34.0** *Direction* **E** *Secondary Rd* **TULARE ST** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4560** *Collision Date* **20211029** *Time* **1808** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20211117**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	38	F	H	IMP UNK	IMP UNK	PROC ST	E	A	0100	-	2013	-	3	N	-	- B
2	DRVR	29	F	H	HNBD		STOPPED	E	A	0100	-	2008	-	3	N	-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV E** *Distance (ft)* **100.** *Direction* **W** *Secondary Rd* **YOSEMITE AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **CITY** *Beat* **002** *Type* **0** *CalTrans* *Badge* **3567** *Collision Date* **20210916** *Time* **1026** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **3** *Tow Away?* **N** *Process Date* **20211028**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	22	F	H	HNBD		ENT TRAF	W	A	0100	-	2002	-	3	N	-	G L
2	DRVR	36	M	H	HNBD		PROC ST	E	A	0100	-	2015	-	3	N	-	G L
3	DRVR	61	F	H	HNBD		PROC ST	E	A	0100	-	2000	-	3	N	-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		22	M	3	0	G	L
DRVR	OTH VIS	36	M	1	0	G	L
DRVR	COMP PN	61	F	1	-	G	M
PASS	COMP PN	31	-	3	0	G	M

Primary Rd **CLEVELAND AV W** *Distance (ft)* **38.0** *Direction* **E** *Secondary Rd* **GATEWAY DR N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4466** *Collision Date* **20210702** *Time* **0813** *Day* **FRI**
Primary Collision Factor **STOP SGN\|SIG** *Violation* **21453A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210909**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	RGT TURN	E	A	0100	-		-	3	N	-	- B
2	DRVR	29	M	H	HNBD		LFT TURN	E	A	0100	-	2020	-	3	N	-	- M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV W** *Distance (ft)* **138.** *Direction* **W** *Secondary Rd* **GATEWAY DR N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4464** *Collision Date* **20211105** *Time* **2334** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20211217**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	41	F	W	HNBD		MERGING	N	A	0100		1996	-	3	N	-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV W** *Distance (ft)* **2.00** *Direction* **S** *Secondary Rd* **GRANADA DR N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4224** *Collision Date* **20211228** *Time* **2129** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20220112**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	UNS TURN	S	A	0100	-	2011	-	3	N	-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **13.0** *Direction* **S** *Secondary Rd* **ALMOND AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MSC** *Beat* **004** *Type* **0** *CalTrans* *Badge* **4560** *Collision Date* **20211001** *Time* **1114** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20211117**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1	DRVR	40	F	H	HNBD		STOPPED	N	A	0100	-	2002	- 3	N		-	M G
2F	DRVR	48	M	W	HNBD		PROC ST	N	D	2200	-	2005	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **15.0** *Direction* **S** *Secondary Rd* **GREENWOOD DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **CITY** *Beat* **003** *Type* **0** *CalTrans* *Badge* **4407** *Collision Date* **20210519** *Time* **1836** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210624**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		HBD-UNK		PROC ST	N	F	2400	-	-	3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR** *Distance (ft)* **10.0** *Direction* **N** *Secondary Rd* **HOWARD RD** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4224** *Collision Date* **20210506** *Time* **0925** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210609**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		HNBD		UNS TURN	S	-	0000	-	-	3	N		-	- -
2	DRVR	58	M	H	HNBD		STOPPED	S	A	0800	JEEP	2016	3	N			M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR N** *Distance (ft)* **150.** *Direction* **S** *Secondary Rd* **CLEVELAND AV W** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4467** *Collision Date* **20210826** *Time* **1023** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210922**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	25	M		HNBD		PROC ST	S	A	0100	-	2014	- 3	N		-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **GRANADA DR N** *Distance (ft)* **230.** *Direction* **N** *Secondary Rd* **RIVERVIEW DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4562** *Collision Date* **20210825** *Time* **1855** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20210929**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	45	F	H	HNBD		PROC ST	N	A	0100	-	2006	- 3	N		-	- G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N LAKE ST** *Distance (ft)* **125.** *Direction* **S** *Secondary Rd* **KENNEDY ST E** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **CITY** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4614** *Collision Date* **20210309** *Time* **1146** *Day* **TUE**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210721**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	27	M	H	HBD-UI		RGT TURN	S	D	2200	-	2011	-	3	N		- - L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N SCHNOOR ST** *Distance (ft)* **69.0** *Direction* **N** *Secondary Rd* **FOXGLOVE WY** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4515** *Collision Date* **20210129** *Time* **1335** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210320**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	20	F	W	HNBD		PROC ST	S	A	0100	-	2003	-	3	N		- M G
2	DRVR	19	F	H	HNBD		STOPPED	S	A	0100	-	2001	-	3	N		- M G
3	DRVR	43	F	H	HNBD		STOPPED	S	A	0700	FORD	2001	A	-	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N ST N** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **4TH ST W** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4467** *Collision Date* **20210706** *Time* **0743** *Day* **TUE**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20210909**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	89	M		HNBD		PROC ST	S	A	0100	FORD	2013	-	3	N		- L G
2	DRVR	29	M	W	HNBD		PROC ST	W	D	2200	-	2011	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **N WESTBERRY BL** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **FAIRWAY AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **003** *Type* **0** *CalTrans* *Badge* **4464** *Collision Date* **20210403** *Time* **1644** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21800** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210504**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	31	M	W	HNBD		PROC ST	E	A	0100	-	2013	-	3	-		- M G
2	DRVR	78	M	H	HNBD		PROC ST	S	A	0100	-	2020	-	3	-		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **NATIONAL AV** *Distance (ft)* **253.** *Direction* **W** *Secondary Rd* **ACCORNERO AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **003** *Type* **0** *CalTrans* *Badge* **3386** *Collision Date* **20210216** *Time* **1709** *Day* **TUE**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20210402**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	46	F	W	HNBD		LFT TURN	E	A	0100	-	1997	-	3	N		- G L
2	DRVR	47	F	W	HNBD		PROC ST	W	A	0100	-	2010	-	3	E		- G L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	46	F	1	0	G	L

Primary Rd **RIVERSIDE DR E** *Distance (ft)* **327.** *Direction* **W** *Secondary Rd* **LAKE ST N** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4462** *Collision Date* **20210911** *Time* **1638** *Day* **SAT**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20211101**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	19	M	H	HNBD		U-TURN	W	A	0100	-	2014	-	3	N		-	G	L
2	DRVR	47	M	H	HNBD		PROC ST	E	A	0100	-	2014	-	3	N		-	G	L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **RIVERSIDE DR E** *Distance (ft)* **90.0** *Direction* **E** *Secondary Rd* **NEBRASKA AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4560** *Collision Date* **20210527** *Time* **2230** *Day* **THU**
Primary Collision Factor **DRVR ALC|DRG** *Violation* **23152A** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20210608**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	23	M	H	HBD-UI		PROC ST	W	B	0101	-	2001	-	-	N		-	G	M
2	PRKD	998	-		HNBD		PARKED	W	A	0100	-	1999	-	-	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **RIVERSIDE DR E** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **SHARON AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4466** *Collision Date* **20210425** *Time* **0747** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210507**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	18	M	B	HNBD		STOPPED	S	A	0100	-	2021	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		20	F	3	0	M	G

Primary Rd **RIVERSIDE DR W** *Distance (ft)* **0.00** *Direction* **E** *Secondary Rd* **SHARON AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **2990** *Collision Date* **20210104** *Time* **1142** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20210316**
Weather1 **CLEAR** *Weather2* **CLOUDY** *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	19	M	H	HNBD		LEFT TURN	E	A	0100	-	2007	-	3	N		-		L

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **RIVERVIEW DR** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **GRANADA DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4562** *Collision Date* **20210803** *Time* **1847** *Day* **TUE**
Primary Collision Factor **R-O-W AUTO** *Violation* **21800D** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20211102**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	19	M	H	HNBD		PROC ST	W	-	0000	-	2020	-	3	N		-	Y	G
2	DRVR	28	M	H	HNBD		PROC ST	S	-	0000	-	2018	-	3	N		-	Y	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **W CENTRAL AV** *Distance (ft)* **45.0** *Direction* **W** *Secondary Rd* **RIVERVIEW DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **003** *Type* **0** *CalTrans* *Badge* **3386** *Collision Date* **20210521** *Time* **2143** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210624**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	46	M	W	HNBD		PROC ST	E	D	2200	-	2007	-	1	F	-	M G
2	PRKD	998	-				PARKED	E	A	0100	-	2015	-	-	N	-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **W CLARK ST** *Distance (ft)* **50.0** *Direction* **E** *Secondary Rd* **SHARON AV** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **CITY** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4407** *Collision Date* **20210520** *Time* **1840** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210604**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	LFT TURN	E	A	0100	-		-	3	A	22107	- - -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **W CLEVECAND AV** *Distance (ft)* **138.** *Direction* **W** *Secondary Rd* **GATEWAY DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADER** *Beat* **002** *Type* **0** *CalTrans* *Badge* **4462** *Collision Date* **20210606** *Time* **1959** *Day* **SUN**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210706**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	E	A	0100	-		-	3	N	-	- -
2	DRVR	35	F	H	HNBD		PROC ST	E	A	0100	-	2013	-	3	N	-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **W CLEVELAND AV** *Distance (ft)* **1000** *Direction* **E** *Secondary Rd* **FAIRGROUNDS DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* **MADOR** *Beat* **003** *Type* **0** *CalTrans* *Badge* **3386** *Collision Date* **20211205** *Time* **1536** *Day* **SUN**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20220110**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	43	F	H	HNBD		RGT TURN	E	A	0100	-	2008	-	3	N	-	M G
2	DRVR	24	M	H	HNBD		PROC ST	E	A	0100	-	2019	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **W CLEVELAND AV** *Distance (ft)* **15.0** *Direction* **E** *Secondary Rd* **GRANADA DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4274** *Collision Date* **20210428** *Time* **2039** *Day* **WED**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20210517**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	30	M	H	HNBD		PROC ST	W	A	0100	-	2007	-	3	N	-	L G
2	DRVR	62	F	B	HNBD		STOPPED	W	A	0100	-	2005	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV** *Distance (ft)* **30.0** *Direction* **W** *Secondary Rd* **GATEWAY DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4224** *Collision Date* **20171207** *Time* **1721** *Day* **THU**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180206**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DUSK/DAWN** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	23	F	H	HNBD		MERGING	E	A	0100	BMW	2017	-	3	N	-	M G
2	DRVR	19	F	H	HNBD		PROC ST	E	A	0100	VOLVO	2005	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV** *Distance (ft)* **15.0** *Direction* **E** *Secondary Rd* **GATEWAY DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **002** *Type* **0** *CalTrans* *Badge* **4224** *Collision Date* **20171212** *Time* **1631** *Day* **TUE**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180206**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	RGT TURN	W	-	0000	-		-	-	-	-	- -
2	DRVR	47	M	H	HNBD		PROC ST	W	A	0100	JEEP	1999	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **GRANADA DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4224** *Collision Date* **20171127** *Time* **1546** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21800A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20171226**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **FELONY** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	E	A	0700	CHEVR		-	3	N	-	B -
2	DRVR	86	M	H	HNBD		PROC ST	S	A	0700	JEEP	2012	-	3	N	-	G M

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	85	M	1	0	G	-

Primary Rd **CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **GRANADA DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **3386** *Collision Date* **20171215** *Time* **2140** *Day* **FRI**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180206**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	80	F	H	HNBD		PROC ST	N	A	0100	CHEVR	2014	-	3	N	-	M G
2	DRVR	23	F	H	HNBD		PROC ST	E	A	0100	FORD	1999	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **CLEVELAND AV** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **GRANADA DR** *NCIC* **2002** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Madera** *County* **Madera** *Population* **4** *Rpt Dist* *Beat* **003** *Type* **0** *CalTrans* *Badge* **4364** *Collision Date* **20171216** *Time* **1402** *Day* **SAT**
Primary Collision Factor **STOP SGN|SIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20180130**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	39	F	H	HNBD		PROC ST	W	A	0100	DODGE	1997	-	3	N	-	M G
2	DRVR	37	M	H	HNBD		PROC ST	N	A	0100	HONDA	2001	-	3	N	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 1.00 | Direction N | Secondary Rd CLEVELAND AV | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4460 | Collision Date 20171223 | Time 2325 | Day SAT
Primary Collision Factor DRVR ALC|DRG | Violation 23152A | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20180130
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With FIXED OBJ | Lighting DARK - ST | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	50	M	H	HBD-UI		RGT TURN	N	A	0100	HONDA	2000	- 3	A	22107	-	L B	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 568. | Direction S | Secondary Rd DEBORAH LN | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4363 | Collision Date 20170520 | Time 2038 | Day SAT
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type BROADSIDE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20170628
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	20	M	H	HNBD		LFT TURN	S	A	0100	HONDA	2000	- 3	N		-	M G	
2	DRVR	31	M	H	HNBD		PROC ST	S	A	0100	HYUND	2013	- 3	N		-	M G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 474. | Direction N | Secondary Rd FOXGLOVE WY | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4274 | Collision Date 20171218 | Time 1716 | Day MON
Primary Collision Factor NOT DRIVER | Violation | Collision Type HIT OBJECT | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20180112
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With FIXED OBJ | Lighting DUSK/DAWN | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1	DRVR	49	M	W	HNBD		LFT TURN	S	A	0100	TOYOT	1996	- 3	N		-	M G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	48	M	1	0	M	G

Primary Rd GRANADA DR | Distance (ft) 730. | Direction N | Secondary Rd HOWARD RD | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 4363 | Collision Date 20170129 | Time 0055 | Day SUN
Primary Collision Factor IMPROP TURN | Violation 22107 | Collision Type HIT OBJECT | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? Y | Process Date 20170317
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With PKD MV | Lighting DARK - NO | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	18	M	W	HNBD		UNS TURN	N	-	0000	MITSU	1999	- 3	N		-	H G	
2	PRKD	998	-				PARKED	N	-	0000	CHEVR	2005	- 3	N		-	- -	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd GRANADA DR | Distance (ft) 10.0 | Direction S | Secondary Rd HOWARD RD | NCIC 2002 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Madera | County Madera | Population 4 | Rpt Dist | Beat 004 | Type 0 | CalTrans | Badge 4364 | Collision Date 20170902 | Time 0924 | Day SAT
Primary Collision Factor IMPROP PASS | Violation 21755 | Collision Type SIDESWIPE | Severity PDO | #Killed 0 | #Injured 0 | Tow Away? N | Process Date 20171121
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	41	F	B	HNBD		RGT TURN	S	-	0000	HONDA	2006	- 3	N		-	- -	
2	DRVR	58	M	W	HNBD		RGT TURN	E	-	0000	KENW	2016	- 3	N		-	- -	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Appendix F: Existing Traffic Conditions

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	21	116	6	20	64	7	2	12	62	68	5	19	11
Future Vol, veh/h	21	116	6	20	64	7	2	12	62	68	5	19	11
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	140	7	24	77	8	2	14	75	82	6	23	13

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	85	0	0	148	0	0	0	342	328	145	401	327	81
Stage 1	-	-	-	-	-	-	0	195	195	-	129	129	-
Stage 2	-	-	-	-	-	-	0	147	133	-	272	198	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1512	-	-	1434	-	-	0	612	591	902	560	591	979
Stage 1	-	-	-	-	-	-	0	807	739	-	875	789	-
Stage 2	-	-	-	-	-	-	0	856	786	-	734	737	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	1512	-	-	1433	-	-	0	570	570	901	447	570	979
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	570	570	-	447	570	-
Stage 1	-	-	-	-	-	-	0	793	726	-	860	776	-
Stage 2	-	-	-	-	-	-	0	806	773	-	589	724	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	1.7	11.9	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	692	1512	-	-	1433	-	-	447	673
HCM Lane V/C Ratio	0.247	0.017	-	-	0.017	-	-	0.013	0.054
HCM Control Delay (s)	11.9	7.4	-	-	7.6	-	-	13.2	10.7
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	1	0.1	-	-	0.1	-	-	0	0.2

Intersection	
Intersection Delay, s/veh	20.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	23	169	27	0	130	76	7	21	307	215	7	224
Future Vol, veh/h	23	169	27	0	130	76	7	21	307	215	7	224
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	206	33	0	159	93	9	26	374	262	9	273
Number of Lanes	1	2	0	0	1	2	0	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	14.2	15.3	24.8	22.7
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	68%	0%	100%	78%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	32%	0%	0%	22%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	307	215	23	113	83	130	51	32	7	224
LT Vol	21	0	0	23	0	0	130	0	0	7	0
Through Vol	0	307	0	0	113	56	0	51	25	0	224
RT Vol	0	0	215	0	0	27	0	0	7	0	0
Lane Flow Rate	26	374	262	28	137	102	159	62	39	9	273
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.057	0.777	0.494	0.069	0.32	0.23	0.39	0.144	0.09	0.021	0.619
Departure Headway (Hd)	7.976	7.476	6.776	8.876	8.376	8.149	8.861	8.361	8.209	8.661	8.161
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	448	483	530	402	429	439	406	428	435	412	443
Service Time	5.739	5.239	4.539	6.651	6.151	5.924	6.637	6.137	5.985	6.434	5.934
HCM Lane V/C Ratio	0.058	0.774	0.494	0.07	0.319	0.232	0.392	0.145	0.09	0.022	0.616
HCM Control Delay	11.2	31.9	16	12.3	15.1	13.4	17.2	12.6	11.8	11.6	23.4
HCM Lane LOS	B	D	C	B	C	B	C	B	B	B	C
HCM 95th-tile Q	0.2	6.9	2.7	0.2	1.4	0.9	1.8	0.5	0.3	0.1	4.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	7
Future Vol, veh/h	7
Peak Hour Factor	0.82
Heavy Vehicles, %	2
Mvmt Flow	9
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	0	0	15	0	82	0	6	51	0
Future Vol, veh/h	0	0	0	0	0	15	0	82	0	6	51	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	8	8	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	0	0	0	0	0	18	0	98	0	7	61	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	182	181	61	181	181	106	61	0	0	106	0	0
Stage 1	75	75	-	106	106	-	-	-	-	-	-	-
Stage 2	107	106	-	75	75	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	782	715	1007	783	715	951	1549	-	-	1491	-	-
Stage 1	937	834	-	902	809	-	-	-	-	-	-	-
Stage 2	901	809	-	937	834	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	764	706	1007	774	706	944	1549	-	-	1480	-	-
Mov Cap-2 Maneuver	764	706	-	774	706	-	-	-	-	-	-	-
Stage 1	937	830	-	895	803	-	-	-	-	-	-	-
Stage 2	884	803	-	932	830	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.9	0	0.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1549	-	-	-	944	1480	-	-
HCM Lane V/C Ratio	-	-	-	-	0.019	0.005	-	-
HCM Control Delay (s)	0	-	-	0	8.9	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	44	0	0	32	23	0	8	1	13	3	35
Future Vol, veh/h	53	44	0	0	32	23	0	8	1	13	3	35
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	67	56	0	0	41	29	0	10	1	16	4	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	106	69	26	97	91	13	48	0	0	11	0	0
Stage 1	58	58	-	11	11	-	-	-	-	-	-	-
Stage 2	48	11	-	86	80	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	876	823	1053	888	801	1070	1566	-	-	1615	-	-
Stage 1	956	849	-	1012	888	-	-	-	-	-	-	-
Stage 2	968	888	-	924	830	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	811	815	1053	836	793	1068	1566	-	-	1615	-	-
Mov Cap-2 Maneuver	811	815	-	836	793	-	-	-	-	-	-	-
Stage 1	956	841	-	1012	888	-	-	-	-	-	-	-
Stage 2	897	888	-	854	822	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	9.4	0	1.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1566	-	-	813	889	1615	-	-
HCM Lane V/C Ratio	-	-	-	0.151	0.078	0.01	-	-
HCM Control Delay (s)	0	-	-	10.2	9.4	7.3	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	0	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	196	91	470	362	14
Future Vol, veh/h	19	196	91	470	362	14
Conflicting Peds, #/hr	1	0	1	0	0	1
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	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	24	251	117	603	464	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1312	474	483	0	-	0
Stage 1	474	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	176	592	1085	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	147	591	1084	-	-	-
Mov Cap-2 Maneuver	147	-	-	-	-	-
Stage 1	526	-	-	-	-	-
Stage 2	426	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.3	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1084	-	466	-	-
HCM Lane V/C Ratio	0.108	-	0.592	-	-
HCM Control Delay (s)	8.7	0	23.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	3.8	-	-

Intersection	
Intersection Delay, s/veh	83.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	300	27	32	277	234
Future Vol, veh/h	221	30	7	9	15	34	12	300	27	32	277	234
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	287	39	9	12	19	44	16	390	35	42	360	304
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	25.8	13.5	32.4	150.4
HCM LOS	D	B	D	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	86%	16%	6%
Vol Thru, %	96%	0%	12%	26%	51%
Vol Right, %	0%	100%	3%	59%	43%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	312	27	258	58	543
LT Vol	12	0	221	9	32
Through Vol	300	0	30	15	277
RT Vol	0	27	7	34	234
Lane Flow Rate	405	35	335	75	705
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.8	0.062	0.676	0.168	1.256
Departure Headway (Hd)	7.604	6.862	7.883	8.773	6.412
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	478	525	462	411	571
Service Time	5.304	4.562	5.883	6.773	4.417
HCM Lane V/C Ratio	0.847	0.067	0.725	0.182	1.235
HCM Control Delay	34.3	10	25.8	13.5	150.4
HCM Lane LOS	D	A	D	B	F
HCM 95th-tile Q	7.4	0.2	4.9	0.6	27.5

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	16	102	11	62	119	4	1	5	14	38	11	45	14
Future Vol, veh/h	16	102	11	62	119	4	1	5	14	38	11	45	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	105	11	64	123	4	1	5	14	39	11	46	14

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	127	0	0	116	0	0	0	426	398	111	422	401	125
Stage 1	-	-	-	-	-	-	0	143	143	-	253	253	-
Stage 2	-	-	-	-	-	-	0	283	255	-	169	148	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1459	-	-	1473	-	-	0	539	540	942	542	538	926
Stage 1	-	-	-	-	-	-	0	860	779	-	751	698	-
Stage 2	-	-	-	-	-	-	0	724	696	-	833	775	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	1459	-	-	1473	-	-	0	474	511	942	487	509	926
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	474	511	-	487	509	-
Stage 1	-	-	-	-	-	-	0	851	770	-	743	668	-
Stage 2	-	-	-	-	-	-	0	634	666	-	775	766	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	2.5	10.4	12.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	728	1459	-	-	1473	-	-	487	570
HCM Lane V/C Ratio	0.081	0.011	-	-	0.043	-	-	0.023	0.107
HCM Control Delay (s)	10.4	7.5	-	-	7.6	-	-	12.6	12.1
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.1	0.4

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	9	126	23	6	230	176	15	19	165	191	19	200
Future Vol, veh/h	9	126	23	6	230	176	15	19	165	191	19	200
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	10	135	25	6	247	189	16	20	177	205	20	215
Number of Lanes	1	2	0	0	1	2	0	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	12.2	16	13.7	15.8
HCM LOS	B	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	65%	0%	100%	80%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	35%	0%	0%	20%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	165	191	9	84	65	236	117	74	19	200
LT Vol	19	0	0	9	0	0	236	0	0	19	0
Through Vol	0	165	0	0	84	42	0	117	59	0	200
RT Vol	0	0	191	0	0	23	0	0	15	0	0
Lane Flow Rate	20	177	205	10	90	70	254	126	79	20	215
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.045	0.363	0.381	0.023	0.198	0.149	0.543	0.252	0.155	0.046	0.457
Departure Headway (Hd)	7.872	7.372	6.672	8.4	7.9	7.652	7.697	7.197	7.055	8.146	7.646
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	455	488	540	426	454	468	469	500	509	440	471
Service Time	5.616	5.116	4.416	6.15	5.65	5.402	5.44	4.94	4.797	5.894	5.394
HCM Lane V/C Ratio	0.044	0.363	0.38	0.023	0.198	0.15	0.542	0.252	0.155	0.045	0.456
HCM Control Delay	11	14.3	13.5	11.3	12.6	11.7	19.3	12.4	11.1	11.3	16.7
HCM Lane LOS	B	B	B	B	B	B	C	B	B	B	C
HCM 95th-tile Q	0.1	1.6	1.8	0.1	0.7	0.5	3.2	1	0.5	0.1	2.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	17
Future Vol, veh/h	17
Peak Hour Factor	0.93
Heavy Vehicles, %	1
Mvmt Flow	18
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	0	0	7	1	42	1	25	74	1
Future Vol, veh/h	1	1	1	0	0	7	1	42	1	25	74	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	1	1	1	0	0	8	1	48	1	28	84	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	196	192	85	193	192	49	85	0	0	49	0	0
Stage 1	141	141	-	51	51	-	-	-	-	-	-	-
Stage 2	55	51	-	142	141	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	765	705	977	769	705	1022	1518	-	-	1564	-	-
Stage 1	864	782	-	964	854	-	-	-	-	-	-	-
Stage 2	960	854	-	863	782	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	747	691	977	755	691	1022	1518	-	-	1564	-	-
Mov Cap-2 Maneuver	747	691	-	755	691	-	-	-	-	-	-	-
Stage 1	863	767	-	963	853	-	-	-	-	-	-	-
Stage 2	952	853	-	844	767	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	8.6	0.2	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1518	-	-	788	1022	1564	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.008	0.018	-	-
HCM Control Delay (s)	7.4	0	-	9.6	8.6	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.1	-	-

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	25	15	1	0	34	16	1	4	0	25	4	45
Future Vol, veh/h	25	15	1	0	34	16	1	4	0	25	4	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	28	17	1	0	38	18	1	4	0	28	4	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	120	92	30	101	117	4	55	0	0	4	0	0
Stage 1	86	86	-	6	6	-	-	-	-	-	-	-
Stage 2	34	6	-	95	111	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	858	800	1047	882	775	1082	1556	-	-	1624	-	-
Stage 1	924	826	-	1019	893	-	-	-	-	-	-	-
Stage 2	985	893	-	914	805	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	800	785	1047	854	760	1082	1556	-	-	1624	-	-
Mov Cap-2 Maneuver	800	785	-	854	760	-	-	-	-	-	-	-
Stage 1	923	811	-	1018	892	-	-	-	-	-	-	-
Stage 2	926	892	-	878	791	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.6	1.5	2.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1556	-	-	799	840	1624	-	-
HCM Lane V/C Ratio	0.001	-	-	0.058	0.067	0.017	-	-
HCM Control Delay (s)	7.3	0	-	9.8	9.6	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	79	125	352	370	33
Future Vol, veh/h	22	79	125	352	370	33
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	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	23	82	130	367	385	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1029	402	419	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	260	650	1145	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	223	650	1145	-	-	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	534	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	2.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1145	-	459	-	-
HCM Lane V/C Ratio	0.114	-	0.229	-	-
HCM Control Delay (s)	8.5	0	15.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	0.9	-	-

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	324	20	46	280	124
Future Vol, veh/h	99	26	3	19	25	57	3	324	20	46	280	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	338	21	48	292	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	11.6	10.5	15.2	18.6
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	77%	19%	10%
Vol Thru, %	99%	0%	20%	25%	62%
Vol Right, %	0%	100%	2%	56%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	327	20	128	101	450
LT Vol	3	0	99	19	46
Through Vol	324	0	26	25	280
RT Vol	0	20	3	57	124
Lane Flow Rate	341	21	133	105	469
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.553	0.03	0.239	0.179	0.679
Departure Headway (Hd)	5.844	5.129	6.464	6.115	5.211
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	617	695	552	583	689
Service Time	3.596	2.881	4.539	4.193	3.261
HCM Lane V/C Ratio	0.553	0.03	0.241	0.18	0.681
HCM Control Delay	15.6	8	11.6	10.5	18.6
HCM Lane LOS	C	A	B	B	C
HCM 95th-tile Q	3.4	0.1	0.9	0.6	5.3

Intersection	
Intersection Delay, s/veh	26.9
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	300	27	32	277	234
Future Vol, veh/h	221	30	7	9	15	34	12	300	27	32	277	234
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	287	39	9	12	19	44	16	390	35	42	360	304
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	24.3	12.6	34	25.2
HCM LOS	C	B	D	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	4%	0%	86%	16%	10%	0%
Vol Thru, %	96%	0%	12%	26%	90%	0%
Vol Right, %	0%	100%	3%	59%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	312	27	258	58	309	234
LT Vol	12	0	221	9	32	0
Through Vol	300	0	30	15	277	0
RT Vol	0	27	7	34	0	234
Lane Flow Rate	405	35	335	75	401	304
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.824	0.064	0.677	0.166	0.792	0.535
Departure Headway (Hd)	7.323	6.584	7.271	7.939	7.109	6.336
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	542	496	449	510	568
Service Time	5.088	4.347	5.329	6.035	4.875	4.102
HCM Lane V/C Ratio	0.82	0.065	0.675	0.167	0.786	0.535
HCM Control Delay	36.1	9.8	24.3	12.6	32	16.2
HCM Lane LOS	E	A	C	B	D	C
HCM 95th-tile Q	8	0.2	5	0.6	7.3	3.1

Intersection	
Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	324	20	46	280	124
Future Vol, veh/h	99	26	3	19	25	57	3	324	20	46	280	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	338	21	48	292	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.4	10.4	15.4	13.7
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	77%	19%	14%	0%
Vol Thru, %	99%	0%	20%	25%	86%	0%
Vol Right, %	0%	100%	2%	56%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	327	20	128	101	326	124
LT Vol	3	0	99	19	46	0
Through Vol	324	0	26	25	280	0
RT Vol	0	20	3	57	0	124
Lane Flow Rate	341	21	133	105	340	129
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.556	0.03	0.236	0.176	0.55	0.181
Departure Headway (Hd)	5.878	5.164	6.378	6.029	5.828	5.047
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	613	691	561	592	618	709
Service Time	3.624	2.909	4.44	4.093	3.571	2.789
HCM Lane V/C Ratio	0.556	0.03	0.237	0.177	0.55	0.182
HCM Control Delay	15.8	8.1	11.4	10.4	15.5	8.9
HCM Lane LOS	C	A	B	B	C	A
HCM 95th-tile Q	3.4	0.1	0.9	0.6	3.3	0.7

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	ULTR	L	TR
Maximum Queue (ft)	30	27	55	24	28
Average Queue (ft)	2	4	35	4	16
95th Queue (ft)	14	20	57	17	35
Link Distance (ft)			409		225
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	170		110	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	25	90	90	92	45	36	31	100	118	31	94	31
Average Queue (ft)	9	30	26	42	25	6	21	63	53	5	55	10
95th Queue (ft)	27	60	53	76	39	21	43	94	84	23	78	33
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)		0						0	0		0	
Queuing Penalty (veh)		0						1	1		0	

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	54	27
Average Queue (ft)	8	1
95th Queue (ft)	33	9
Link Distance (ft)	327	759
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	58	55
Average Queue (ft)	33	32
95th Queue (ft)	46	51
Link Distance (ft)	574	1134
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	121	96
Average Queue (ft)	59	27
95th Queue (ft)	96	67
Link Distance (ft)	1402	684
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	111	43	162	27	76	70
Average Queue (ft)	52	20	65	9	49	43
95th Queue (ft)	83	34	113	29	72	64
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			2			
Queuing Penalty (veh)			0			

Network Summary

Network wide Queuing Penalty: 2

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	ULTR	L	TR
Maximum Queue (ft)	31	26	52	30	75
Average Queue (ft)	2	3	23	8	23
95th Queue (ft)	13	18	44	28	49
Link Distance (ft)			409		225
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	170		110	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	24	44	63	128	65	20	31	79	64	51	75	31
Average Queue (ft)	4	23	22	54	34	12	12	40	39	12	46	17
95th Queue (ft)	19	36	39	97	57	26	36	62	58	37	72	40
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)				0								
Queuing Penalty (veh)				0								

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	31	29
Average Queue (ft)	4	7	1
95th Queue (ft)	19	28	10
Link Distance (ft)	452	327	759
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	31	55
Average Queue (ft)	25	32
95th Queue (ft)	45	55
Link Distance (ft)	574	1134
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	55	75
Average Queue (ft)	37	28
95th Queue (ft)	53	62
Link Distance (ft)	1402	684
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	51	62	137	28	76	50
Average Queue (ft)	32	31	56	16	49	31
95th Queue (ft)	48	55	92	37	68	39
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			1			
Queuing Penalty (veh)			0			

Network Summary

Network wide Queuing Penalty: 0

Appendix G: Existing plus Project Traffic Conditions

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	200	134	91	16	145
Future Vol, veh/h	150	200	134	91	16	145
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	250	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	174	233	156	106	19	169

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	417	0	602	184
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1142	-	463	858
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1131	-	395	850
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	572	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.2	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	395	850	-	-	1131	-
HCM Lane V/C Ratio	0.047	0.198	-	-	0.138	-
HCM Control Delay (s)	14.6	10.3	-	-	8.7	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.7	-	-	0.5	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	23	265	7	20	181	7	2	25	70	174	5	19	19
Future Vol, veh/h	23	265	7	20	181	7	2	25	70	174	5	19	19
Conflicting Peds, #/hr	0	0	10	10	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	308	8	23	210	8	2	29	81	202	6	22	22

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	218	0	0	326	0	0	0	658	640	322	768	640	214
Stage 1	-	-	-	-	-	-	0	376	376	-	260	260	-
Stage 2	-	-	-	-	-	-	0	282	264	-	508	380	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1352	-	-	1234	-	-	0	378	393	719	319	393	826
Stage 1	-	-	-	-	-	-	0	645	616	-	745	693	-
Stage 2	-	-	-	-	-	-	0	725	690	-	547	614	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	1352	-	-	1222	-	-	0	338	374	712	185	374	826
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	338	374	-	185	374	-
Stage 1	-	-	-	-	-	-	0	626	598	-	730	680	-
Stage 2	-	-	-	-	-	-	0	670	677	-	332	596	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.8	21	14.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	532	1352	-	-	1222	-	-	185	515
HCM Lane V/C Ratio	0.588	0.02	-	-	0.019	-	-	0.031	0.086
HCM Control Delay (s)	21	7.7	-	-	8	-	-	25.1	12.6
HCM Lane LOS	C	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	3.8	0.1	-	-	0.1	-	-	0.1	0.3

Intersection	
Intersection Delay, s/veh	32.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	31	416	27	0	130	154	7	37	307	223	7	224
Future Vol, veh/h	31	416	27	0	130	154	7	37	307	223	7	224
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	484	31	0	151	179	8	43	357	259	8	260
Number of Lanes	1	2	0	0	1	2	0	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	33.9	18.4	39.2	32.2
HCM LOS	D	C	E	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	84%	0%	100%	88%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	16%	0%	0%	12%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	307	223	31	277	166	130	103	58	7	224
LT Vol	37	0	0	31	0	0	130	0	0	7	0
Through Vol	0	307	0	0	277	139	0	103	51	0	224
RT Vol	0	0	223	0	0	27	0	0	7	0	0
Lane Flow Rate	43	357	259	36	322	193	151	119	68	8	260
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.114	0.899	0.603	0.098	0.83	0.49	0.434	0.326	0.184	0.024	0.718
Departure Headway (Hd)	9.568	9.068	8.368	9.767	9.267	9.153	10.338	9.838	9.754	10.427	9.927
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	374	400	430	367	390	393	348	365	367	343	365
Service Time	7.334	6.834	6.134	7.534	7.034	6.92	8.115	7.615	7.531	8.204	7.704
HCM Lane V/C Ratio	0.115	0.892	0.602	0.098	0.826	0.491	0.434	0.326	0.185	0.023	0.712
HCM Control Delay	13.6	54	23.1	13.6	44.1	20.5	20.9	17.3	14.7	13.5	34.4
HCM Lane LOS	B	F	C	B	E	C	C	C	B	B	D
HCM 95th-tile Q	0.4	9.3	3.9	0.3	7.6	2.6	2.1	1.4	0.7	0.1	5.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	19
Future Vol, veh/h	19
Peak Hour Factor	0.86
Heavy Vehicles, %	2
Mvmt Flow	22
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	113	3	0	0	8	15	6	90	0	6	51	3
Future Vol, veh/h	113	3	0	0	8	15	6	90	0	6	51	3
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	131	3	0	0	9	17	7	105	0	7	59	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	227	214	81	215	215	125	72	0	0	115	0	0
Stage 1	85	85	-	129	129	-	-	-	-	-	-	-
Stage 2	142	129	-	86	86	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	730	685	982	744	684	928	1534	-	-	1480	-	-
Stage 1	925	826	-	877	791	-	-	-	-	-	-	-
Stage 2	863	791	-	924	826	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	690	664	963	722	663	910	1519	-	-	1466	-	-
Mov Cap-2 Maneuver	690	664	-	722	663	-	-	-	-	-	-	-
Stage 1	912	814	-	865	779	-	-	-	-	-	-	-
Stage 2	824	779	-	907	814	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	9.6	0.5	0.7
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1519	-	-	689	806	1466	-	-
HCM Lane V/C Ratio	0.005	-	-	0.196	0.033	0.005	-	-
HCM Control Delay (s)	7.4	0	-	11.5	9.6	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.7	0.1	0	-	-

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	61	80	0	0	45	29	1	8	1	13	3	35
Future Vol, veh/h	61	80	0	0	45	29	1	8	1	13	3	35
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	71	93	0	0	52	34	1	9	1	15	3	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	129	86	44	132	106	30	54	0	0	20	0	0
Stage 1	64	64	-	22	22	-	-	-	-	-	-	-
Stage 2	65	22	-	110	84	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	846	806	1029	842	786	1047	1558	-	-	1603	-	-
Stage 1	949	844	-	999	879	-	-	-	-	-	-	-
Stage 2	948	879	-	898	827	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	755	781	1009	744	762	1027	1543	-	-	1588	-	-
Mov Cap-2 Maneuver	755	781	-	744	762	-	-	-	-	-	-	-
Stage 1	939	827	-	988	869	-	-	-	-	-	-	-
Stage 2	853	869	-	782	810	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	9.7	0.7	1.9
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1543	-	-	770	848	1588	-	-
HCM Lane V/C Ratio	0.001	-	-	0.213	0.101	0.01	-	-
HCM Control Delay (s)	7.3	0	-	10.9	9.7	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.3	0	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	216	95	474	362	14
Future Vol, veh/h	29	216	95	474	362	14
Conflicting Peds, #/hr	0	10	10	0	0	10
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	86	86	86	86	86	86
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	34	251	110	551	421	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1210	449	447	0	-	0
Stage 1	439	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	203	612	1119	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	458	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	171	600	1108	-	-	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	453	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.4	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1108	-	463	-	-
HCM Lane V/C Ratio	0.1	-	0.615	-	-
HCM Control Delay (s)	8.6	0	24.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	4.1	-	-

Intersection	
Intersection Delay, s/veh	53.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	308	27	32	297	234
Future Vol, veh/h	221	30	7	9	15	34	12	308	27	32	297	234
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	257	35	8	10	17	40	14	358	31	37	345	272
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	20.6	12.3	23.8	90.4
HCM LOS	C	B	C	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	86%	16%	6%
Vol Thru, %	96%	0%	12%	26%	53%
Vol Right, %	0%	100%	3%	59%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	320	27	258	58	563
LT Vol	12	0	221	9	32
Through Vol	308	0	30	15	297
RT Vol	0	27	7	34	234
Lane Flow Rate	372	31	300	67	655
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.704	0.053	0.59	0.143	1.099
Departure Headway (Hd)	7.125	6.386	7.431	8.011	6.045
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	510	564	489	451	602
Service Time	4.825	4.086	5.431	6.011	4.05
HCM Lane V/C Ratio	0.729	0.055	0.613	0.149	1.088
HCM Control Delay	25	9.4	20.6	12.3	90.4
HCM Lane LOS	C	A	C	B	F
HCM 95th-tile Q	5.5	0.2	3.8	0.5	19.8

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	40	26	139	3	38
Future Vol, veh/h	130	40	26	139	3	38
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	250	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	144	44	29	154	3	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	198	0	366	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	212	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1375	-	634	892
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	823	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1362	-	614	884
Mov Cap-2 Maneuver	-	-	-	-	614	-
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	806	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	614	884	-	-	1362	-
HCM Lane V/C Ratio	0.005	0.048	-	-	0.021	-
HCM Control Delay (s)	10.9	9.3	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	16	141	11	62	141	4	1	8	16	66	11	45	16
Future Vol, veh/h	16	141	11	62	141	4	1	8	16	66	11	45	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	145	11	64	145	4	1	8	16	68	11	46	16

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	149	0	0	156	0	0	0	489	460	151	500	463	147
Stage 1	-	-	-	-	-	-	0	183	183	-	275	275	-
Stage 2	-	-	-	-	-	-	0	306	277	-	225	188	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1432	-	-	1424	-	-	0	489	498	895	481	496	900
Stage 1	-	-	-	-	-	-	0	819	748	-	731	683	-
Stage 2	-	-	-	-	-	-	0	704	681	-	778	745	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	1432	-	-	1424	-	-	0	425	470	895	414	468	900
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	425	470	-	414	468	-
Stage 1	-	-	-	-	-	-	0	810	740	-	723	652	-
Stage 2	-	-	-	-	-	-	0	613	650	-	695	737	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	2.3	10.8	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	711	1432	-	-	1424	-	-	414	535
HCM Lane V/C Ratio	0.13	0.012	-	-	0.045	-	-	0.027	0.118
HCM Control Delay (s)	10.8	7.5	-	-	7.6	-	-	13.9	12.6
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.1	0.4

Intersection	
Intersection Delay, s/veh	15.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Vol, veh/h	11	191	23	6	230	189	15	22	165	193	19	200
Future Vol, veh/h	11	191	23	6	230	189	15	22	165	193	19	200
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	12	205	25	6	247	203	16	24	177	208	20	215
Number of Lanes	1	2	0	0	1	2	0	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay	13.6	17	14.6	16.9
HCM LOS	B	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	100%	73%	0%	100%	81%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%	27%	0%	0%	19%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	165	193	11	127	87	236	126	78	19	200
LT Vol	22	0	0	11	0	0	236	0	0	19	0
Through Vol	0	165	0	0	127	64	0	126	63	0	200
RT Vol	0	0	193	0	0	23	0	0	15	0	0
Lane Flow Rate	24	177	208	12	137	93	254	135	84	20	215
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.054	0.381	0.405	0.028	0.307	0.204	0.565	0.283	0.172	0.048	0.479
Departure Headway (Hd)	8.225	7.725	7.025	8.575	8.075	7.889	8.015	7.515	7.381	8.523	8.023
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	435	465	511	417	444	454	449	477	486	420	449
Service Time	5.983	5.483	4.783	6.341	5.841	5.655	5.771	5.271	5.136	6.286	5.786
HCM Lane V/C Ratio	0.055	0.381	0.407	0.029	0.309	0.205	0.566	0.283	0.173	0.048	0.479
HCM Control Delay	11.5	15.2	14.5	11.6	14.4	12.7	20.7	13.2	11.7	11.7	18
HCM Lane LOS	B	C	B	B	B	B	C	B	B	B	C
HCM 95th-tile Q	0.2	1.8	1.9	0.1	1.3	0.8	3.4	1.2	0.6	0.2	2.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBR
Lane Configurations	
Traffic Vol, veh/h	19
Future Vol, veh/h	19
Peak Hour Factor	0.93
Heavy Vehicles, %	1
Mvmt Flow	20
Number of Lanes	1

Approach	
Opposing Approach	
Opposing Lanes	
Conflicting Approach Left	
Conflicting Lanes Left	
Conflicting Approach Right	
Conflicting Lanes Right	
HCM Control Delay	
HCM LOS	

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	31	2	1	0	1	7	2	44	1	25	74	1
Future Vol, veh/h	31	2	1	0	1	7	2	44	1	25	74	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	34	2	1	0	1	8	2	49	1	28	82	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	197	193	83	194	193	50	83	0	0	50	0	0
Stage 1	139	139	-	54	54	-	-	-	-	-	-	-
Stage 2	58	54	-	140	139	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	764	704	979	768	704	1021	1520	-	-	1563	-	-
Stage 1	866	784	-	961	852	-	-	-	-	-	-	-
Stage 2	956	852	-	865	784	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	746	690	979	753	690	1021	1520	-	-	1563	-	-
Mov Cap-2 Maneuver	746	690	-	753	690	-	-	-	-	-	-	-
Stage 1	865	769	-	960	851	-	-	-	-	-	-	-
Stage 2	947	851	-	845	769	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	8.8	0.3	1.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1520	-	-	748	963	1563	-	-
HCM Lane V/C Ratio	0.001	-	-	0.051	0.009	0.018	-	-
HCM Control Delay (s)	7.4	0	-	10.1	8.8	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.1	-	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	27	24	1	0	36	17	1	4	0	25	4	45
Future Vol, veh/h	27	24	1	0	36	17	1	4	0	25	4	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	30	27	1	0	40	19	1	4	0	28	4	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	121	91	29	105	116	4	54	0	0	4	0	0
Stage 1	85	85	-	6	6	-	-	-	-	-	-	-
Stage 2	36	6	-	99	110	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	856	801	1049	877	776	1082	1558	-	-	1624	-	-
Stage 1	925	826	-	1019	893	-	-	-	-	-	-	-
Stage 2	982	893	-	910	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	796	786	1049	841	761	1082	1558	-	-	1624	-	-
Mov Cap-2 Maneuver	796	786	-	841	761	-	-	-	-	-	-	-
Stage 1	924	811	-	1018	892	-	-	-	-	-	-	-
Stage 2	921	892	-	863	791	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.6	1.5	2.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1558	-	-	795	841	1624	-	-
HCM Lane V/C Ratio	0.001	-	-	0.073	0.07	0.017	-	-
HCM Control Delay (s)	7.3	0	-	9.9	9.6	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	84	125	353	370	33
Future Vol, veh/h	24	84	125	353	370	33
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	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	25	88	130	368	385	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1030	402	419	0	-	0
Stage 1	402	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	260	650	1145	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	223	650	1145	-	-	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	534	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.5	2.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1145	-	456	-	-
HCM Lane V/C Ratio	0.114	-	0.247	-	-
HCM Control Delay (s)	8.5	0	15.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1	-	-

Intersection	
Intersection Delay, s/veh	16
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	325	20	46	285	124
Future Vol, veh/h	99	26	3	19	25	57	3	325	20	46	285	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	339	21	48	297	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	11.6	10.6	15.3	19
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	77%	19%	10%
Vol Thru, %	99%	0%	20%	25%	63%
Vol Right, %	0%	100%	2%	56%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	328	20	128	101	455
LT Vol	3	0	99	19	46
Through Vol	325	0	26	25	285
RT Vol	0	20	3	57	124
Lane Flow Rate	342	21	133	105	474
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.555	0.03	0.24	0.179	0.687
Departure Headway (Hd)	5.853	5.138	6.482	6.135	5.217
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	615	694	551	581	692
Service Time	3.605	2.89	4.556	4.212	3.267
HCM Lane V/C Ratio	0.556	0.03	0.241	0.181	0.685
HCM Control Delay	15.7	8.1	11.6	10.6	19
HCM Lane LOS	C	A	B	B	C
HCM 95th-tile Q	3.4	0.1	0.9	0.6	5.5

Intersection	
Intersection Delay, s/veh	20.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	308	27	32	297	234
Future Vol, veh/h	221	30	7	9	15	34	12	308	27	32	297	234
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	257	35	8	10	17	40	14	358	31	37	345	272
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	19.2	11.7	24.2	19.9
HCM LOS	C	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	4%	0%	86%	16%	10%	0%
Vol Thru, %	96%	0%	12%	26%	90%	0%
Vol Right, %	0%	100%	3%	59%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	320	27	258	58	329	234
LT Vol	12	0	221	9	32	0
Through Vol	308	0	30	15	297	0
RT Vol	0	27	7	34	0	234
Lane Flow Rate	372	31	300	67	383	272
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.718	0.054	0.58	0.139	0.713	0.449
Departure Headway (Hd)	6.946	6.21	6.963	7.395	6.707	5.941
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	521	576	519	484	539	607
Service Time	4.693	3.956	5.008	5.462	4.452	3.686
HCM Lane V/C Ratio	0.714	0.054	0.578	0.138	0.711	0.448
HCM Control Delay	25.5	9.3	19.2	11.7	24.5	13.5
HCM Lane LOS	D	A	C	B	C	B
HCM 95th-tile Q	5.8	0.2	3.6	0.5	5.7	2.3

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	325	20	46	285	124
Future Vol, veh/h	99	26	3	19	25	57	3	325	20	46	285	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	339	21	48	297	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.5	10.4	15.5	13.9
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	77%	19%	14%	0%
Vol Thru, %	99%	0%	20%	25%	86%	0%
Vol Right, %	0%	100%	2%	56%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	328	20	128	101	331	124
LT Vol	3	0	99	19	46	0
Through Vol	325	0	26	25	285	0
RT Vol	0	20	3	57	0	124
Lane Flow Rate	342	21	133	105	345	129
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.559	0.03	0.237	0.177	0.559	0.181
Departure Headway (Hd)	5.89	5.175	6.396	6.047	5.833	5.053
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	612	690	560	590	617	708
Service Time	3.636	2.921	4.459	4.114	3.577	2.796
HCM Lane V/C Ratio	0.559	0.03	0.237	0.178	0.559	0.182
HCM Control Delay	15.9	8.1	11.5	10.4	15.8	8.9
HCM Lane LOS	C	A	B	B	C	A
HCM 95th-tile Q	3.4	0.1	0.9	0.6	3.5	0.7

Intersection: 1: School Dr & Cleveland Ave

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	72	74	51	70
Average Queue (ft)	5	25	17	37
95th Queue (ft)	28	54	43	58
Link Distance (ft)				412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	75	250	200	
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	ULTR	L	TR
Maximum Queue (ft)	30	27	22	126	29	51
Average Queue (ft)	3	7	1	55	4	21
95th Queue (ft)	17	25	7	93	20	47
Link Distance (ft)			1252	409		225
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	170			110	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	25	83	129	90	68	20	71	160	187	31	116	31
Average Queue (ft)	13	50	48	41	35	10	25	85	55	6	60	12
95th Queue (ft)	32	74	86	73	57	23	52	147	106	25	95	35
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)		0						8	0		0	
Queuing Penalty (veh)		0						21	1		0	

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	52	31	30
Average Queue (ft)	31	19	1
95th Queue (ft)	44	43	10
Link Distance (ft)	424	327	759
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	68	55	22
Average Queue (ft)	38	28	1
95th Queue (ft)	62	49	7
Link Distance (ft)	574	1134	506
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	287	74	20
Average Queue (ft)	72	31	1
95th Queue (ft)	162	63	7
Link Distance (ft)	1402	684	1434
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	121	89	98	28	96	89
Average Queue (ft)	59	23	50	14	51	44
95th Queue (ft)	94	47	81	36	74	69
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Zone Summary

Zone wide Queuing Penalty: 23

Intersection: 1: School Dr & Cleveland Ave

Movement	EB	WB	NB	NB
Directions Served	T	L	L	R
Maximum Queue (ft)	22	79	31	30
Average Queue (ft)	1	5	3	22
95th Queue (ft)	7	30	18	44
Link Distance (ft)	635			412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		250	200	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	L	ULTR	L	TR
Maximum Queue (ft)	27	22	28	53	29	50
Average Queue (ft)	1	1	5	27	7	25
95th Queue (ft)	9	10	22	42	26	45
Link Distance (ft)		1031		409		225
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100		170		110	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	25	67	100	95	69	38	31	74	77	31	100	32
Average Queue (ft)	5	30	30	58	30	13	17	42	43	13	49	15
95th Queue (ft)	20	51	59	92	51	28	41	62	70	37	77	39
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)											0	
Queuing Penalty (veh)											0	

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	32	55
Average Queue (ft)	23	10
95th Queue (ft)	45	36
Link Distance (ft)	424	327
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	54	26
Average Queue (ft)	28	29	1
95th Queue (ft)	43	51	9
Link Distance (ft)	574	1134	701
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	78	53
Average Queue (ft)	39	21
95th Queue (ft)	65	51
Link Distance (ft)	1402	684
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	52	86	100	27	96	54
Average Queue (ft)	33	33	47	11	50	33
95th Queue (ft)	54	63	76	32	75	45
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Zone Summary

Zone wide Queuing Penalty: 0

Appendix H: Existing plus Approved & Pending plus Project Traffic Conditions

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	326	200	135	157	16	145
Future Vol, veh/h	326	200	135	157	16	145
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	250	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	86	86	92	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	354	233	157	171	19	169

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	597	0	849	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	485	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	980	-	331	681
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	619	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	971	-	275	675
Mov Cap-2 Maneuver	-	-	-	-	275	-
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	519	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	275	675	-	-	971	-
HCM Lane V/C Ratio	0.068	0.25	-	-	0.162	-
HCM Control Delay (s)	19	12.1	-	-	9.4	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	1	-	-	0.6	-

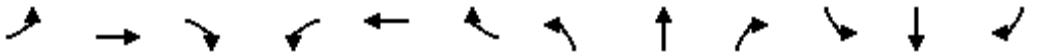
Intersection	
Int Delay, s/veh	12.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	63	393	15	25	229	7	2	27	74	190	5	21	36
Future Vol, veh/h	63	393	15	25	229	7	2	27	74	190	5	21	36
Conflicting Peds, #/hr	0	0	10	10	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	427	16	27	249	8	2	29	80	207	5	23	39

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	257	0	0	453	0	0	0	919	892	445	1022	896	253
Stage 1	-	-	-	-	-	-	0	581	581	-	307	307	-
Stage 2	-	-	-	-	-	-	0	338	311	-	715	589	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1308	-	-	1108	-	-	0	252	281	613	214	280	786
Stage 1	-	-	-	-	-	-	0	499	500	-	703	661	-
Stage 2	-	-	-	-	-	-	0	676	658	-	422	495	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	1308	-	-	1097	-	-	0	208	257	607	101	256	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	208	257	-	101	256	-
Stage 1	-	-	-	-	-	-	0	469	470	-	666	644	-
Stage 2	-	-	-	-	-	-	0	604	642	-	219	465	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.8	41.1	16.7
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	398	1308	-	-	1097	-	-	101	446
HCM Lane V/C Ratio	0.795	0.052	-	-	0.025	-	-	0.054	0.139
HCM Control Delay (s)	41.1	7.9	-	-	8.4	-	-	42.7	14.4
HCM Lane LOS	E	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	6.9	0.2	-	-	0.1	-	-	0.2	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	553	31	130	202	7	40	307	223	7	224	19
Future Volume (vph)	31	553	31	130	202	7	40	307	223	7	224	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3		4.2	4.9		4.2	5.3	5.3	4.2	5.3	5.3
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3505		1770	3521		1770	1863	1553	1762	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3505		1770	3521		1770	1863	1553	1762	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	601	34	141	220	8	43	334	242	8	243	21
RTOR Reduction (vph)	0	5	0	0	2	0	0	0	152	0	0	16
Lane Group Flow (vph)	34	630	0	141	226	0	43	334	90	8	243	5
Confl. Peds. (#/hr)			10	10					10	10		
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	2.0	20.9		9.1	28.4		3.5	20.2	20.2	0.7	17.4	17.4
Effective Green, g (s)	2.0	20.9		9.1	28.4		3.5	20.2	20.2	0.7	17.4	17.4
Actuated g/C Ratio	0.03	0.30		0.13	0.41		0.05	0.29	0.29	0.01	0.25	0.25
Clearance Time (s)	4.2	5.3		4.2	4.9		4.2	5.3	5.3	4.2	5.3	5.3
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	50	1047		230	1430		88	538	448	17	463	394
v/s Ratio Prot	0.02	c0.18		c0.08	0.06		c0.02	c0.18		0.00	0.13	
v/s Ratio Perm									0.06			0.00
v/c Ratio	0.68	0.60		0.61	0.16		0.49	0.62	0.20	0.47	0.52	0.01
Uniform Delay, d1	33.6	20.9		28.7	13.2		32.3	21.5	18.8	34.4	22.7	19.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.8	1.0		4.8	0.1		4.2	2.2	0.2	19.2	1.1	0.0
Delay (s)	65.5	21.9		33.5	13.2		36.6	23.8	19.0	53.6	23.8	19.8
Level of Service	E	C		C	B		D	C	B	D	C	B
Approach Delay (s)		24.1			21.0			22.8			24.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	69.9	Sum of lost time (s)	19.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	119	3	0	0	8	16	6	105	0	10	58	5
Future Vol, veh/h	119	3	0	0	8	16	6	105	0	10	58	5
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	92	86	92	86	92	92	92	92	86
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	138	3	0	0	9	17	7	114	0	11	63	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	249	236	86	238	239	134	79	0	0	124	0	0
Stage 1	98	98	-	138	138	-	-	-	-	-	-	-
Stage 2	151	138	-	100	101	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	707	666	976	718	664	918	1526	-	-	1469	-	-
Stage 1	911	816	-	868	784	-	-	-	-	-	-	-
Stage 2	854	784	-	909	813	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	666	644	957	694	642	901	1511	-	-	1455	-	-
Mov Cap-2 Maneuver	666	644	-	694	642	-	-	-	-	-	-	-
Stage 1	898	801	-	856	772	-	-	-	-	-	-	-
Stage 2	815	772	-	889	798	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	9.7	0.4	1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1511	-	-	665	790	1455	-	-
HCM Lane V/C Ratio	0.005	-	-	0.213	0.034	0.007	-	-
HCM Control Delay (s)	7.4	0	-	11.9	9.7	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.1	0	-	-

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	70	83	0	0	46	30	1	13	1	15	4	39
Future Vol, veh/h	70	83	0	0	46	30	1	13	1	15	4	39
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	92	86	92	86	92	92	92	92	86
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	81	97	0	0	53	33	1	14	1	16	4	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	139	96	47	144	118	35	59	0	0	25	0	0
Stage 1	69	69	-	27	27	-	-	-	-	-	-	-
Stage 2	70	27	-	117	91	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	834	796	1025	827	774	1041	1551	-	-	1596	-	-
Stage 1	944	839	-	993	875	-	-	-	-	-	-	-
Stage 2	942	875	-	890	821	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	742	771	1006	728	750	1021	1536	-	-	1581	-	-
Mov Cap-2 Maneuver	742	771	-	728	750	-	-	-	-	-	-	-
Stage 1	934	822	-	982	865	-	-	-	-	-	-	-
Stage 2	847	865	-	770	805	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	9.8	0.5	1.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1536	-	-	757	834	1581	-	-
HCM Lane V/C Ratio	0.001	-	-	0.235	0.103	0.01	-	-
HCM Control Delay (s)	7.3	0	-	11.2	9.8	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.3	0	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	219	96	476	365	15
Future Vol, veh/h	30	219	96	476	365	15
Conflicting Peds, #/hr	0	10	10	0	0	10
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	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	33	238	104	517	397	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1140	425	423	0	-	0
Stage 1	415	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	223	631	1142	-	-	-
Stage 1	669	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	619	1131	-	-	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.2	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1131	-	487	-	-
HCM Lane V/C Ratio	0.092	-	0.556	-	-
HCM Control Delay (s)	8.5	0	21.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	3.3	-	-

Intersection	
Intersection Delay, s/veh	39.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	311	27	32	303	234
Future Vol, veh/h	221	30	7	9	15	34	12	311	27	32	303	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	240	33	8	10	16	37	13	338	29	35	329	254
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	18.8	11.8	21.4	62
HCM LOS	C	B	C	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	86%	16%	6%
Vol Thru, %	96%	0%	12%	26%	53%
Vol Right, %	0%	100%	3%	59%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	323	27	258	58	569
LT Vol	12	0	221	9	32
Through Vol	311	0	30	15	303
RT Vol	0	27	7	34	234
Lane Flow Rate	351	29	280	63	618
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.667	0.05	0.556	0.132	1.006
Departure Headway (Hd)	6.842	6.106	7.135	7.661	5.854
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	527	584	505	471	618
Service Time	4.606	3.87	5.201	5.661	3.906
HCM Lane V/C Ratio	0.666	0.05	0.554	0.134	1
HCM Control Delay	22.4	9.2	18.8	11.8	62
HCM Lane LOS	C	A	C	B	F
HCM 95th-tile Q	4.9	0.2	3.4	0.5	15.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	259	40	28	349	3	38
Future Vol, veh/h	259	40	28	349	3	38
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	250	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	90	90	92	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	282	44	31	379	3	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	336	0	733	292
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	441	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1223	-	388	747
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	648	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1211	-	374	740
Mov Cap-2 Maneuver	-	-	-	-	374	-
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	631	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	374	740	-	-	1211	-
HCM Lane V/C Ratio	0.009	0.057	-	-	0.026	-
HCM Control Delay (s)	14.7	10.2	-	-	8.1	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	48	233	16	79	294	4	1	18	19	77	11	50	65
Future Vol, veh/h	48	233	16	79	294	4	1	18	19	77	11	50	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	240	16	81	303	4	1	19	20	79	11	52	67

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	307	0	0	256	0	0	0	873	815	248	863	821	305
Stage 1	-	-	-	-	-	-	0	346	346	-	467	467	-
Stage 2	-	-	-	-	-	-	0	527	469	-	396	354	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1254	-	-	1309	-	-	0	271	312	791	275	309	735
Stage 1	-	-	-	-	-	-	0	670	635	-	576	562	-
Stage 2	-	-	-	-	-	-	0	535	561	-	629	630	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	1254	-	-	1309	-	-	0	196	281	791	217	278	735
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	196	281	-	217	278	-
Stage 1	-	-	-	-	-	-	0	644	610	-	554	527	-
Stage 2	-	-	-	-	-	-	0	412	526	-	526	605	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	1.7	16	17.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	444	1254	-	-	1309	-	-	217	429
HCM Lane V/C Ratio	0.265	0.039	-	-	0.062	-	-	0.052	0.276
HCM Control Delay (s)	16	8	-	-	7.9	-	-	22.5	16.6
HCM Lane LOS	C	A	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.2	-	-	0.2	1.1

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	11	285	25	6	230	347	15	27	165	193	19	200
Future Volume (vph)	11	285	25	6	230	347	15	27	165	193	19	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	4.9		4.2	5.3	5.3	4.2	5.3
Lane Util. Factor	1.00	0.95			1.00	0.95		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99			1.00	0.99		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3531			1787	3552		1787	1881	1599	1787	1881
Flt Permitted	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1787	3531			1787	3552		1787	1881	1599	1787	1881
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	12	306	27	6	247	373	16	29	177	208	20	215
RTOR Reduction (vph)	0	8	0	0	0	3	0	0	0	157	0	0
Lane Group Flow (vph)	12	325	0	0	253	386	0	29	177	51	20	215
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA		Prot	Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases										8		
Actuated Green, G (s)	0.5	16.4			9.7	26.0		1.5	14.8	14.8	0.5	13.8
Effective Green, g (s)	0.5	16.4			9.7	26.0		1.5	14.8	14.8	0.5	13.8
Actuated g/C Ratio	0.01	0.27			0.16	0.43		0.02	0.25	0.25	0.01	0.23
Clearance Time (s)	4.2	5.3			4.2	4.9		4.2	5.3	5.3	4.2	5.3
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	14	958			286	1529		44	460	391	14	429
v/s Ratio Prot	0.01	c0.09			c0.14	0.11		c0.02	0.09		0.01	c0.11
v/s Ratio Perm										0.03		
v/c Ratio	0.86	0.34			0.88	0.25		0.66	0.38	0.13	1.43	0.50
Uniform Delay, d1	29.9	17.7			24.8	11.0		29.2	19.0	17.8	29.9	20.3
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	164.6	0.2			26.0	0.1		30.4	0.5	0.2	399.7	0.9
Delay (s)	194.6	17.9			50.8	11.1		59.6	19.5	17.9	429.6	21.2
Level of Service	F	B			D	B		E	B	B	F	C
Approach Delay (s)		24.0				26.7			21.5			53.0
Approach LOS		C				C			C			D

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	19.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	19
Future Volume (vph)	19
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.3
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1599
Flt Permitted	1.00
Satd. Flow (perm)	1599
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	20
RTOR Reduction (vph)	15
Lane Group Flow (vph)	5
Heavy Vehicles (%)	1%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	13.8
Effective Green, g (s)	13.8
Actuated g/C Ratio	0.23
Clearance Time (s)	5.3
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	365
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.01
Uniform Delay, d1	18.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	18.0
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	2	1	0	1	12	2	57	1	28	93	6
Future Vol, veh/h	35	2	1	0	1	12	2	57	1	28	93	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	90	92	90	92	92	92	92	90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	39	2	1	0	1	13	2	62	1	30	101	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	239	232	105	233	235	63	108	0	0	63	0	0
Stage 1	165	165	-	67	67	-	-	-	-	-	-	-
Stage 2	74	67	-	166	168	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	717	670	952	724	667	1004	1489	-	-	1546	-	-
Stage 1	839	764	-	946	841	-	-	-	-	-	-	-
Stage 2	938	841	-	838	761	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	695	655	952	710	652	1004	1489	-	-	1546	-	-
Mov Cap-2 Maneuver	695	655	-	710	652	-	-	-	-	-	-	-
Stage 1	838	748	-	945	840	-	-	-	-	-	-	-
Stage 2	924	840	-	817	745	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	8.8	0.3	1.6
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1489	-	-	698	963	1546	-	-
HCM Lane V/C Ratio	0.001	-	-	0.06	0.015	0.02	-	-
HCM Control Delay (s)	7.4	0	-	10.5	8.8	7.4	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.1	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	25	1	0	39	20	1	8	0	27	9	57
Future Vol, veh/h	33	25	1	0	39	20	1	8	0	27	9	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	90	92	90	92	92	92	92	90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	37	28	1	0	43	22	1	9	0	29	10	63

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	144	111	42	125	142	9	73	0	0	9	0	0
Stage 1	100	100	-	11	11	-	-	-	-	-	-	-
Stage 2	44	11	-	114	131	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	827	781	1032	851	751	1076	1533	-	-	1617	-	-
Stage 1	909	814	-	1012	888	-	-	-	-	-	-	-
Stage 2	973	888	-	893	790	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	762	765	1032	814	736	1076	1533	-	-	1617	-	-
Mov Cap-2 Maneuver	762	765	-	814	736	-	-	-	-	-	-	-
Stage 1	908	799	-	1011	887	-	-	-	-	-	-	-
Stage 2	906	887	-	845	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	9.7	0.8	2.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1533	-	-	767	823	1617	-	-
HCM Lane V/C Ratio	0.001	-	-	0.085	0.079	0.018	-	-
HCM Control Delay (s)	7.3	0	-	10.1	9.7	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	85	128	357	372	33
Future Vol, veh/h	25	85	128	357	372	33
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	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	26	89	133	372	388	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1043	405	422	0	-	0
Stage 1	405	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	255	648	1143	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	528	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	218	648	1143	-	-	-
Mov Cap-2 Maneuver	218	-	-	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	528	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	2.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1143	-	447	-	-
HCM Lane V/C Ratio	0.117	-	0.256	-	-
HCM Control Delay (s)	8.6	0	15.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1	-	-

Intersection	
Intersection Delay, s/veh	16.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	332	20	46	288	124
Future Vol, veh/h	99	26	3	19	25	57	3	332	20	46	288	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	346	21	48	300	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	11.7	10.6	15.6	19.4
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	77%	19%	10%
Vol Thru, %	99%	0%	20%	25%	63%
Vol Right, %	0%	100%	2%	56%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	335	20	128	101	458
LT Vol	3	0	99	19	46
Through Vol	332	0	26	25	288
RT Vol	0	20	3	57	124
Lane Flow Rate	349	21	133	105	477
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.568	0.03	0.241	0.18	0.694
Departure Headway (Hd)	5.862	5.148	6.515	6.169	5.236
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	614	693	548	578	687
Service Time	3.616	2.9	4.591	4.249	3.285
HCM Lane V/C Ratio	0.568	0.03	0.243	0.182	0.694
HCM Control Delay	16.1	8.1	11.7	10.6	19.4
HCM Lane LOS	C	A	B	B	C
HCM 95th-tile Q	3.6	0.1	0.9	0.7	5.6

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	63	393	15	25	229	7	2	27	74	190	5	21	36
Future Vol, veh/h	63	393	15	25	229	7	2	27	74	190	5	21	36
Conflicting Peds, #/hr	0	0	10	10	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	250	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	427	16	27	249	8	2	29	80	207	5	23	39

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	257	0	0	453	0	0	0	919	892	445	1022	896	253
Stage 1	-	-	-	-	-	-	0	581	581	-	307	307	-
Stage 2	-	-	-	-	-	-	0	338	311	-	715	589	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1308	-	-	1108	-	-	0	252	281	613	214	280	786
Stage 1	-	-	-	-	-	-	0	499	500	-	703	661	-
Stage 2	-	-	-	-	-	-	0	676	658	-	422	495	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	1308	-	-	1097	-	-	0	208	257	607	101	256	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	208	257	-	101	256	-
Stage 1	-	-	-	-	-	-	0	469	470	-	666	644	-
Stage 2	-	-	-	-	-	-	0	604	642	-	219	465	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.8	27.2	16.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	208	439	1308	-	-	1097	-	-	101	446
HCM Lane V/C Ratio	0.141	0.654	0.052	-	-	0.025	-	-	0.054	0.139
HCM Control Delay (s)	25.1	27.4	7.9	-	-	8.4	-	-	42.7	14.4
HCM Lane LOS	D	D	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.5	4.6	0.2	-	-	0.1	-	-	0.2	0.5

Intersection	
Intersection Delay, s/veh	17.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	311	27	32	303	234
Future Vol, veh/h	221	30	7	9	15	34	12	311	27	32	303	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	240	33	8	10	16	37	13	338	29	35	329	254
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	17.2	11.1	20.4	17.4
HCM LOS	C	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	4%	0%	86%	16%	10%	0%
Vol Thru, %	96%	0%	12%	26%	90%	0%
Vol Right, %	0%	100%	3%	59%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	323	27	258	58	335	234
LT Vol	12	0	221	9	32	0
Through Vol	311	0	30	15	303	0
RT Vol	0	27	7	34	0	234
Lane Flow Rate	351	29	280	63	364	254
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.656	0.049	0.529	0.124	0.658	0.406
Departure Headway (Hd)	6.724	5.99	6.792	7.078	6.507	5.743
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	537	597	533	506	557	628
Service Time	4.467	3.732	4.808	5.136	4.228	3.464
HCM Lane V/C Ratio	0.654	0.049	0.525	0.125	0.654	0.404
HCM Control Delay	21.4	9	17.2	11.1	20.9	12.3
HCM Lane LOS	C	A	C	B	C	B
HCM 95th-tile Q	4.7	0.2	3.1	0.4	4.8	2

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	48	233	16	79	294	4	1	18	19	77	11	50	65
Future Vol, veh/h	48	233	16	79	294	4	1	18	19	77	11	50	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	250	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	240	16	81	303	4	1	19	20	79	11	52	67

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	307	0	0	256	0	0	0	873	815	248	863	821	305
Stage 1	-	-	-	-	-	-	0	346	346	-	467	467	-
Stage 2	-	-	-	-	-	-	0	527	469	-	396	354	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1254	-	-	1309	-	-	0	271	312	791	275	309	735
Stage 1	-	-	-	-	-	-	0	670	635	-	576	562	-
Stage 2	-	-	-	-	-	-	0	535	561	-	629	630	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	1254	-	-	1309	-	-	0	196	281	791	217	278	735
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	196	281	-	217	278	-
Stage 1	-	-	-	-	-	-	0	644	610	-	554	527	-
Stage 2	-	-	-	-	-	-	0	412	526	-	526	605	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	1.7	14.4	17.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	196	582	1254	-	-	1309	-	-	217	429
HCM Lane V/C Ratio	0.095	0.17	0.039	-	-	0.062	-	-	0.052	0.276
HCM Control Delay (s)	25.3	12.4	8	-	-	7.9	-	-	22.5	16.6
HCM Lane LOS	D	B	A	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	0.3	0.6	0.1	-	-	0.2	-	-	0.2	1.1

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	332	20	46	288	124
Future Vol, veh/h	99	26	3	19	25	57	3	332	20	46	288	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	346	21	48	300	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.5	10.5	15.8	14.1
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	77%	19%	14%	0%
Vol Thru, %	99%	0%	20%	25%	86%	0%
Vol Right, %	0%	100%	2%	56%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	335	20	128	101	334	124
LT Vol	3	0	99	19	46	0
Through Vol	332	0	26	25	288	0
RT Vol	0	20	3	57	0	124
Lane Flow Rate	349	21	133	105	348	129
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.572	0.03	0.238	0.178	0.565	0.182
Departure Headway (Hd)	5.896	5.182	6.423	6.077	5.844	5.065
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	611	688	556	587	616	707
Service Time	3.646	2.932	4.492	4.147	3.591	2.812
HCM Lane V/C Ratio	0.571	0.031	0.239	0.179	0.565	0.182
HCM Control Delay	16.3	8.1	11.5	10.5	16	8.9
HCM Lane LOS	C	A	B	B	C	A
HCM 95th-tile Q	3.6	0.1	0.9	0.6	3.5	0.7

Intersection: 1: School Dr & Cleveland Ave

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	26	97	31	67
Average Queue (ft)	3	36	14	40
95th Queue (ft)	16	74	38	60
Link Distance (ft)				412
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	75	250	200	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	UL	TR	L	TR
Maximum Queue (ft)	31	27	44	134	29	48
Average Queue (ft)	10	7	14	56	4	23
95th Queue (ft)	31	26	35	102	18	41
Link Distance (ft)				409		225
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	170	200		110	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	46	168	169	165	120	42	98	172	99	30	137	31
Average Queue (ft)	19	89	96	77	54	6	31	100	51	8	71	7
95th Queue (ft)	45	147	151	135	95	23	70	155	84	28	126	27
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)		6		3	0			8	0		4	
Queuing Penalty (veh)		2		3	0			20	2		1	

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	76	31	27
Average Queue (ft)	38	19	2
95th Queue (ft)	60	44	13
Link Distance (ft)	424	327	758
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (ft)	80	55
Average Queue (ft)	42	29
95th Queue (ft)	66	53
Link Distance (ft)	574	1134
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	191	53
Average Queue (ft)	75	19
95th Queue (ft)	129	51
Link Distance (ft)	1402	684
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	115	45	100	28	133	102
Average Queue (ft)	56	22	58	14	63	43
95th Queue (ft)	90	43	78	35	98	71
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			0		0	0
Queuing Penalty (veh)			0		1	0

Zone Summary

Zone wide Queuing Penalty: 29

Intersection: 1: School Dr & Cleveland Ave

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	31	30	52
Average Queue (ft)	5	3	22
95th Queue (ft)	24	18	46
Link Distance (ft)			412
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	250	200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	UL	TR	L	TR
Maximum Queue (ft)	31	20	74	25	52	30	60
Average Queue (ft)	12	1	14	8	29	7	32
95th Queue (ft)	35	6	44	25	46	27	51
Link Distance (ft)		1030			409		225
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100		170	200		110	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	25	124	108	208	145	63	53	149	77	51	156	31
Average Queue (ft)	7	44	50	116	62	15	21	63	46	17	68	10
95th Queue (ft)	25	86	97	175	117	44	52	123	73	42	117	31
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)		1		7	0			2			2	
Queuing Penalty (veh)		0		12	1			5			1	

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	55	31	27
Average Queue (ft)	27	11	1
95th Queue (ft)	50	34	9
Link Distance (ft)	424	327	758
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	54	55	27
Average Queue (ft)	30	30	1
95th Queue (ft)	50	55	9
Link Distance (ft)	574	1134	506
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	113	96
Average Queue (ft)	45	34
95th Queue (ft)	75	74
Link Distance (ft)	1402	684
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	75	45	144	28	151	54
Average Queue (ft)	36	27	66	10	64	34
95th Queue (ft)	59	43	116	31	101	50
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			2		1	
Queuing Penalty (veh)			0		1	

Zone Summary

Zone wide Queuing Penalty: 21

Appendix I: Cumulative Year 2042 No Project Traffic Conditions

Intersection	
Int Delay, s/veh	1.7

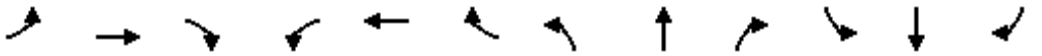
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	386	970	55	31	409	19	2	25	310	84	6	70	130
Future Vol, veh/h	386	970	55	31	409	19	2	25	310	84	6	70	130
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	420	1054	60	34	445	21	2	27	337	91	7	76	141

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	466	0	0	1115	0	0	0	2557	2459	1085	2662	2479	456
Stage 1	-	-	-	-	-	-	0	1925	1925	-	524	524	-
Stage 2	-	-	-	-	-	-	0	632	534	-	2138	1955	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1095	-	-	626	-	-	0	~ 18	~ 31	263	15	~ 30	604
Stage 1	-	-	-	-	-	-	0	86	~ 114	-	537	530	-
Stage 2	-	-	-	-	-	-	0	468	524	-	64	110	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	1095	-	-	625	-	-	0	-	~ 18	263	-	~ 17	604
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	-	~ 18	-	-	~ 17	-
Stage 1	-	-	-	-	-	-	0	53	~ 70	-	331	501	-
Stage 2	-	-	-	-	-	-	0	288	496	-	-	~ 68	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	0.7		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1095	-	-	625	-	-	-	46
HCM Lane V/C Ratio	-	0.383	-	-	0.054	-	-	-	4.726
HCM Control Delay (s)	-	10.3	-	-	11.1	-	-	-	$ 1853.9
HCM Lane LOS	-	B	-	-	B	-	-	-	F
HCM 95th %tile Q(veh)	-	1.8	-	-	0.2	-	-	-	24.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	979	46	130	401	45	30	320	215	7	224	7
Future Volume (vph)	49	979	46	130	401	45	30	320	215	7	224	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3		4.2	4.9		4.2	5.3	5.3	4.2	5.3	5.3
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3515		1770	3486		1770	1863	1563	1769	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3515		1770	3486		1770	1863	1563	1769	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	1064	50	141	436	49	33	348	234	8	243	8
RTOR Reduction (vph)	0	4	0	0	8	0	0	0	146	0	0	6
Lane Group Flow (vph)	53	1110	0	141	477	0	33	348	88	8	243	2
Confl. Peds. (#/hr)									1	1		
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	3.8	30.6		8.4	35.6		2.1	20.0	20.0	0.9	18.8	18.8
Effective Green, g (s)	3.8	30.6		8.4	35.6		2.1	20.0	20.0	0.9	18.8	18.8
Actuated g/C Ratio	0.05	0.39		0.11	0.45		0.03	0.25	0.25	0.01	0.24	0.24
Clearance Time (s)	4.2	5.3		4.2	4.9		4.2	5.3	5.3	4.2	5.3	5.3
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	85	1363		188	1572		47	472	396	20	443	377
v/s Ratio Prot	0.03	c0.32		c0.08	0.14		c0.02	c0.19		0.00	0.13	
v/s Ratio Perm									0.06			0.00
v/c Ratio	0.62	0.81		0.75	0.30		0.70	0.74	0.22	0.40	0.55	0.01
Uniform Delay, d1	36.8	21.6		34.2	13.8		38.1	27.0	23.3	38.7	26.3	22.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.4	3.9		15.4	0.1		38.0	5.9	0.3	12.6	1.4	0.0
Delay (s)	50.2	25.5		49.6	13.9		76.1	33.0	23.6	51.3	27.7	22.9
Level of Service	D	C		D	B		E	C	C	D	C	C
Approach Delay (s)		26.6			21.9			31.7			28.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	19.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	0	0	0	18	0	348	0	15	124	2
Future Vol, veh/h	6	0	0	0	0	18	0	348	0	15	124	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	8	8	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	7	0	0	0	0	20	0	378	0	16	135	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	556	554	136	554	555	386	137	0	0	386	0	0
Stage 1	168	168	-	386	386	-	-	-	-	-	-	-
Stage 2	388	386	-	168	169	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	443	442	915	445	441	664	1453	-	-	1178	-	-
Stage 1	836	761	-	639	612	-	-	-	-	-	-	-
Stage 2	638	612	-	836	761	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	425	432	915	437	431	659	1453	-	-	1169	-	-
Mov Cap-2 Maneuver	425	432	-	437	431	-	-	-	-	-	-	-
Stage 1	836	750	-	634	607	-	-	-	-	-	-	-
Stage 2	619	607	-	823	750	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	10.6	0	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1453	-	-	425	659	1169	-	-
HCM Lane V/C Ratio	-	-	-	0.015	0.03	0.014	-	-
HCM Control Delay (s)	0	-	-	13.6	10.6	8.1	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	62	47	0	0	33	24	0	282	1	19	76	42
Future Vol, veh/h	62	47	0	0	33	24	0	282	1	19	76	42
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	67	51	0	0	36	26	0	307	1	21	83	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	489	456	106	482	479	310	129	0	0	308	0	0
Stage 1	148	148	-	308	308	-	-	-	-	-	-	-
Stage 2	341	308	-	174	171	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	491	502	951	496	487	732	1463	-	-	1258	-	-
Stage 1	857	777	-	704	662	-	-	-	-	-	-	-
Stage 2	676	662	-	830	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	439	493	951	450	478	731	1463	-	-	1258	-	-
Mov Cap-2 Maneuver	439	493	-	450	478	-	-	-	-	-	-	-
Stage 1	857	763	-	704	662	-	-	-	-	-	-	-
Stage 2	615	662	-	760	745	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	12.2	0	1.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1463	-	-	461	560	1258	-	-
HCM Lane V/C Ratio	-	-	-	0.257	0.111	0.016	-	-
HCM Control Delay (s)	0	-	-	15.5	12.2	7.9	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	199	92	479	372	17
Future Vol, veh/h	20	199	92	479	372	17
Conflicting Peds, #/hr	1	0	1	0	0	1
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	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	22	216	100	521	404	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1136	414	423	0	-	0
Stage 1	414	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	224	640	1142	-	-	-
Stage 1	669	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	196	639	1141	-	-	-
Mov Cap-2 Maneuver	196	-	-	-	-	-
Stage 1	586	-	-	-	-	-
Stage 2	483	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1141	-	530	-	-
HCM Lane V/C Ratio	0.088	-	0.449	-	-
HCM Control Delay (s)	8.5	0	17.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.3	-	-

Intersection	
Intersection Delay, s/veh	35.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	307	27	32	290	234
Future Vol, veh/h	221	30	7	9	15	34	12	307	27	32	290	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	240	33	8	10	16	37	13	334	29	35	315	254
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	18.5	11.7	20.6	55
HCM LOS	C	B	C	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	86%	16%	6%
Vol Thru, %	96%	0%	12%	26%	52%
Vol Right, %	0%	100%	3%	59%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	319	27	258	58	556
LT Vol	12	0	221	9	32
Through Vol	307	0	30	15	290
RT Vol	0	27	7	34	234
Lane Flow Rate	347	29	280	63	604
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.655	0.049	0.551	0.131	0.978
Departure Headway (Hd)	6.801	6.065	7.071	7.471	5.823
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	531	588	508	477	622
Service Time	4.561	3.825	5.135	5.567	3.873
HCM Lane V/C Ratio	0.653	0.049	0.551	0.132	0.971
HCM Control Delay	21.6	9.1	18.5	11.7	55
HCM Lane LOS	C	A	C	B	F
HCM 95th-tile Q	4.7	0.2	3.3	0.4	14.2

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	213	723	28	79	1086	7	1	47	109	49	27	286	375
Future Vol, veh/h	213	723	28	79	1086	7	1	47	109	49	27	286	375
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	220	745	29	81	1120	7	1	48	112	51	28	295	387

Major/Minor	Major1			Major2			Minor1				Minor2		
Conflicting Flow All	1127	0	0	774	0	0	0	2827	2489	760	2567	2500	1124
Stage 1	-	-	-	-	-	-	0	1200	1200	-	1286	1286	-
Stage 2	-	-	-	-	-	-	0	1627	1289	-	1281	1214	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	620	-	-	842	-	-	0	~ 11	~ 29	406	~ 17	~ 29	~ 250
Stage 1	-	-	-	-	-	-	0	226	258	-	202	~ 235	-
Stage 2	-	-	-	-	-	-	0	129	234	-	203	~ 254	-
Platoon blocked, %		-	-		-	-	-						
Mov Cap-1 Maneuver	620	-	-	842	-	-	0	-	~ 17	406	-	~ 17	~ 250
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	-	~ 17	-	-	~ 17	-
Stage 1	-	-	-	-	-	-	0	146	166	-	130	~ 212	-
Stage 2	-	-	-	-	-	-	0	~ 25	212	-	37	~ 164	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.1	0.7		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	620	-	-	842	-	-	-	36
HCM Lane V/C Ratio	-	0.354	-	-	0.097	-	-	-	18.929
HCM Control Delay (s)	-	14	-	-	9.7	-	-	-	$ 8277.3
HCM Lane LOS	-	B	-	-	A	-	-	-	F
HCM 95th %tile Q(veh)	-	1.6	-	-	0.3	-	-	-	83.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	33	704	29	6	230	1080	16	35	167	191	56	202
Future Volume (vph)	33	704	29	6	230	1080	16	35	167	191	56	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.2	4.9		4.2	5.3	5.3	4.2	5.3
Lane Util. Factor	1.00	0.95			1.00	0.95		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99			1.00	1.00		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3553			1787	3567		1787	1881	1599	1787	1881
Flt Permitted	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1787	3553			1787	3567		1787	1881	1599	1787	1881
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	35	757	31	6	247	1161	17	38	180	205	60	217
RTOR Reduction (vph)	0	3	0	0	0	1	0	0	0	162	0	0
Lane Group Flow (vph)	35	785	0	0	253	1177	0	38	180	43	60	217
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA		Prot	Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	3	8		5	2		1	6
Permitted Phases										2		
Actuated Green, G (s)	1.7	24.9			8.4	32.0		3.1	14.8	14.8	2.7	14.4
Effective Green, g (s)	1.7	24.9			8.4	32.0		3.1	14.8	14.8	2.7	14.4
Actuated g/C Ratio	0.02	0.36			0.12	0.46		0.04	0.21	0.21	0.04	0.21
Clearance Time (s)	4.2	5.3			4.2	4.9		4.2	5.3	5.3	4.2	5.3
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	43	1267			215	1635		79	398	339	69	388
v/s Ratio Prot	0.02	0.22			c0.14	c0.33		0.02	0.10		c0.03	c0.12
v/s Ratio Perm										0.03		
v/c Ratio	0.81	0.62			1.18	0.72		0.48	0.45	0.13	0.87	0.56
Uniform Delay, d1	33.9	18.5			30.7	15.3		32.6	24.0	22.3	33.4	24.9
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	69.6	0.9			117.3	1.5		4.6	0.8	0.2	64.4	1.8
Delay (s)	103.5	19.4			148.0	16.8		37.1	24.8	22.4	97.7	26.6
Level of Service	F	B			F	B		D	C	C	F	C
Approach Delay (s)		23.0				40.0			24.8			38.2
Approach LOS		C				D			C			D

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	69.8	Sum of lost time (s)	19.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	61
Future Volume (vph)	61
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.3
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1599
Flt Permitted	1.00
Satd. Flow (perm)	1599
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	66
RTOR Reduction (vph)	52
Lane Group Flow (vph)	14
Heavy Vehicles (%)	1%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	14.4
Effective Green, g (s)	14.4
Actuated g/C Ratio	0.21
Clearance Time (s)	5.3
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	329
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.04
Uniform Delay, d1	22.2
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	22.2
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	1	1	0	0	16	1	164	1	28	334	6
Future Vol, veh/h	5	1	1	0	0	16	1	164	1	28	334	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	5	1	1	0	0	17	1	178	1	30	363	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	616	608	367	609	611	179	370	0	0	179	0	0
Stage 1	427	427	-	181	181	-	-	-	-	-	-	-
Stage 2	189	181	-	428	430	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	404	412	681	409	410	866	1194	-	-	1403	-	-
Stage 1	608	587	-	823	752	-	-	-	-	-	-	-
Stage 2	815	752	-	607	585	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	387	400	681	399	399	866	1194	-	-	1403	-	-
Mov Cap-2 Maneuver	387	400	-	399	399	-	-	-	-	-	-	-
Stage 1	607	571	-	822	751	-	-	-	-	-	-	-
Stage 2	798	751	-	589	569	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	9.2	0	0.6
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1194	-	-	414	866	1403	-	-
HCM Lane V/C Ratio	0.001	-	-	0.018	0.02	0.022	-	-
HCM Control Delay (s)	8	0	-	13.9	9.2	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	16	1	0	37	20	1	128	0	27	264	58
Future Vol, veh/h	33	16	1	0	37	20	1	128	0	27	264	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	36	17	1	0	40	22	1	139	0	29	287	63

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	549	518	319	527	549	139	350	0	0	139	0	0
Stage 1	377	377	-	141	141	-	-	-	-	-	-	-
Stage 2	172	141	-	386	408	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	448	463	724	463	445	912	1214	-	-	1451	-	-
Stage 1	647	618	-	864	782	-	-	-	-	-	-	-
Stage 2	832	782	-	639	598	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	398	451	724	440	433	912	1214	-	-	1451	-	-
Mov Cap-2 Maneuver	398	451	-	440	433	-	-	-	-	-	-	-
Stage 1	646	603	-	863	781	-	-	-	-	-	-	-
Stage 2	770	781	-	604	583	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.9	12.7	0.1	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1214	-	-	417	531	1451	-	-
HCM Lane V/C Ratio	0.001	-	-	0.13	0.117	0.02	-	-
HCM Control Delay (s)	8	0	-	14.9	12.7	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	80	128	363	375	34
Future Vol, veh/h	24	80	128	363	375	34
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	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	25	83	133	378	391	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1053	409	426	0	-	0
Stage 1	409	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	252	645	1139	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	215	645	1139	-	-	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	573	-	-	-	-	-
Stage 2	525	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	2.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1139	-	441	-	-
HCM Lane V/C Ratio	0.117	-	0.246	-	-
HCM Control Delay (s)	8.6	0	15.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1	-	-

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	338	20	46	286	124
Future Vol, veh/h	99	26	3	19	25	57	3	338	20	46	286	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	352	21	48	298	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	11.7	10.6	15.9	19.3
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	77%	19%	10%
Vol Thru, %	99%	0%	20%	25%	63%
Vol Right, %	0%	100%	2%	56%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	341	20	128	101	456
LT Vol	3	0	99	19	46
Through Vol	338	0	26	25	286
RT Vol	0	20	3	57	124
Lane Flow Rate	355	21	133	105	475
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.578	0.03	0.242	0.181	0.692
Departure Headway (Hd)	5.863	5.148	6.528	6.181	5.246
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	615	692	547	577	689
Service Time	3.618	2.903	4.606	4.264	3.299
HCM Lane V/C Ratio	0.577	0.03	0.243	0.182	0.689
HCM Control Delay	16.4	8.1	11.7	10.6	19.3
HCM Lane LOS	C	A	B	B	C
HCM 95th-tile Q	3.7	0.1	0.9	0.7	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	386	970	55	31	409	19	2	25	310	84	6	70
Future Volume (vph)	386	970	55	31	409	19	2	25	310	84	6	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9		4.2	5.3			4.2	4.9		4.2	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.97		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1770	3507		1770	3515			1770	1803		1770	1863
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1770	3507		1770	3515			1770	1803		1770	1863
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	420	1054	60	34	445	21	2	27	337	91	7	76
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	9	0	0	0
Lane Group Flow (vph)	420	1110	0	34	463	0	0	29	419	0	7	76
Confl. Peds. (#/hr)			1	1								
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases												
Actuated Green, G (s)	26.5	42.9		3.5	19.5			1.8	24.6		0.8	22.5
Effective Green, g (s)	26.5	42.9		3.5	19.5			1.8	24.6		0.8	22.5
Actuated g/C Ratio	0.29	0.48		0.04	0.22			0.02	0.27		0.01	0.25
Clearance Time (s)	4.2	4.9		4.2	5.3			4.2	4.9		4.2	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	521	1671		68	761			35	492		15	465
v/s Ratio Prot	c0.24	c0.32		0.02	0.13			c0.02	c0.23		0.00	0.04
v/s Ratio Perm												
v/c Ratio	0.81	0.66		0.50	0.61			0.83	0.85		0.47	0.16
Uniform Delay, d1	29.4	18.0		42.4	31.8			43.9	31.0		44.4	26.4
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	8.9	1.0		5.7	1.4			84.5	13.2		21.2	0.2
Delay (s)	38.2	19.0		48.1	33.2			128.4	44.2		65.6	26.6
Level of Service	D	B		D	C			F	D		E	C
Approach Delay (s)		24.3			34.2				49.5			27.4
Approach LOS		C			C				D			C

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	130
Future Volume (vph)	130
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	141
RTOR Reduction (vph)	106
Lane Group Flow (vph)	35
Confl. Peds. (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	22.5
Effective Green, g (s)	22.5
Actuated g/C Ratio	0.25
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	395
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.09
Uniform Delay, d1	25.9
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	26.0
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Intersection Delay, s/veh	17.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	307	27	32	290	234
Future Vol, veh/h	221	30	7	9	15	34	12	307	27	32	290	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	240	33	8	10	16	37	13	334	29	35	315	254
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	16.7	11	19.9	16.2
HCM LOS	C	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	4%	0%	86%	16%	10%	0%
Vol Thru, %	96%	0%	12%	26%	90%	0%
Vol Right, %	0%	100%	3%	59%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	319	27	258	58	322	234
LT Vol	12	0	221	9	32	0
Through Vol	307	0	30	15	290	0
RT Vol	0	27	7	34	0	234
Lane Flow Rate	347	29	280	63	350	254
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.645	0.049	0.517	0.123	0.62	0.397
Departure Headway (Hd)	6.698	5.963	6.746	7.017	6.488	5.723
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	544	604	538	513	560	633
Service Time	4.398	3.663	4.746	5.037	4.188	3.423
HCM Lane V/C Ratio	0.638	0.048	0.52	0.123	0.625	0.401
HCM Control Delay	20.8	9	16.7	11	19.2	12.1
HCM Lane LOS	C	A	C	B	C	B
HCM 95th-tile Q	4.6	0.2	2.9	0.4	4.2	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	213	723	28	79	1086	7	1	47	109	49	27	286
Future Volume (vph)	213	723	28	79	1086	7	1	47	109	49	27	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.9		4.2	5.3			4.2	4.9		4.2	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00			1.00	0.95		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1770	3519		1770	3536			1770	1775		1770	1863
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1770	3519		1770	3536			1770	1775		1770	1863
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	220	745	29	81	1120	7	1	48	112	51	28	295
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	14	0	0	0
Lane Group Flow (vph)	220	772	0	81	1126	0	0	49	149	0	28	295
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA		Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases												
Actuated Green, G (s)	17.2	48.8		7.9	39.1			4.6	26.2		2.7	23.2
Effective Green, g (s)	17.2	48.8		7.9	39.1			4.6	26.2		2.7	23.2
Actuated g/C Ratio	0.17	0.47		0.08	0.38			0.04	0.25		0.03	0.22
Clearance Time (s)	4.2	4.9		4.2	5.3			4.2	4.9		4.2	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	293	1654		134	1331			78	448		46	416
v/s Ratio Prot	c0.12	0.22		0.05	c0.32			c0.03	0.08		0.02	c0.16
v/s Ratio Perm												
v/c Ratio	0.75	0.47		0.60	0.85			0.63	0.33		0.61	0.71
Uniform Delay, d1	41.3	18.7		46.4	29.6			48.8	31.7		50.0	37.2
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	10.3	0.2		7.5	5.2			14.8	0.4		20.7	5.5
Delay (s)	51.6	18.9		53.9	34.8			63.5	32.1		70.7	42.7
Level of Service	D	B		D	C			E	C		E	D
Approach Delay (s)		26.1			36.0				39.4			39.8
Approach LOS		C			D				D			D

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	103.8	Sum of lost time (s)	19.7
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	375
Future Volume (vph)	375
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	387
RTOR Reduction (vph)	236
Lane Group Flow (vph)	151
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	23.2
Effective Green, g (s)	23.2
Actuated g/C Ratio	0.22
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	353
v/s Ratio Prot	
v/s Ratio Perm	0.10
v/c Ratio	0.43
Uniform Delay, d1	34.6
Progression Factor	1.00
Incremental Delay, d2	0.8
Delay (s)	35.4
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	338	20	46	286	124
Future Vol, veh/h	99	26	3	19	25	57	3	338	20	46	286	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	352	21	48	298	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.5	10.5	16.1	14
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	77%	19%	14%	0%
Vol Thru, %	99%	0%	20%	25%	86%	0%
Vol Right, %	0%	100%	2%	56%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	341	20	128	101	332	124
LT Vol	3	0	99	19	46	0
Through Vol	338	0	26	25	286	0
RT Vol	0	20	3	57	0	124
Lane Flow Rate	355	21	133	105	346	129
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.582	0.03	0.238	0.178	0.562	0.182
Departure Headway (Hd)	5.897	5.182	6.439	6.091	5.855	5.076
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	611	689	556	586	616	705
Service Time	3.644	2.929	4.504	4.16	3.6	2.82
HCM Lane V/C Ratio	0.581	0.03	0.239	0.179	0.562	0.183
HCM Control Delay	16.6	8.1	11.5	10.5	15.9	9
HCM Lane LOS	C	A	B	B	C	A
HCM 95th-tile Q	3.7	0.1	0.9	0.6	3.5	0.7

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	UL	TR	L	T	R
Maximum Queue (ft)	369	435	344	74	171	161	220	325	51	95	72
Average Queue (ft)	226	178	180	29	85	94	33	201	7	33	34
95th Queue (ft)	357	318	274	58	134	153	100	284	29	75	59
Link Distance (ft)		7881	7881		1253	1253		410		447	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250			200		110		250
Storage Blk Time (%)	9	0						11		0	
Queuing Penalty (veh)	45	1						3		0	

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	209	388	345	193	125	149	92	247	200	50	158	31
Average Queue (ft)	54	183	191	83	54	72	26	131	83	9	80	4
95th Queue (ft)	157	337	332	138	102	123	61	216	168	33	129	19
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)		22		3	0			15	1		4	
Queuing Penalty (veh)		11		6	0			36	4		1	

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	31	29
Average Queue (ft)	8	16	5
95th Queue (ft)	30	42	21
Link Distance (ft)	452	327	758
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	77	55	31
Average Queue (ft)	42	25	7
95th Queue (ft)	70	49	28
Link Distance (ft)	574	1134	701
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	98	53
Average Queue (ft)	59	24
95th Queue (ft)	89	55
Link Distance (ft)	1402	684
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	115	22	93	28	107	92
Average Queue (ft)	63	16	58	14	60	46
95th Queue (ft)	100	30	86	34	88	72
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			0		0	
Queuing Penalty (veh)			0		0	

Network Summary

Network wide Queuing Penalty: 107

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	UL	TR	L	T	R
Maximum Queue (ft)	210	261	302	368	588	571	135	134	72	263	188
Average Queue (ft)	128	137	150	61	265	281	54	72	31	143	106
95th Queue (ft)	187	210	237	160	435	448	108	124	65	226	177
Link Distance (ft)		7881	7881		1253	1253		410		447	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	250			250			200		110		250
Storage Blk Time (%)		0			13					21	
Queuing Penalty (veh)		0			11					83	

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	196	288	295	245	477	352	114	161	97	75	201	70
Average Queue (ft)	35	156	166	185	231	178	33	73	56	38	89	32
95th Queue (ft)	98	256	266	274	388	300	78	139	85	71	153	61
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)	1	20		48	10			4	0		8	
Queuing Penalty (veh)	3	6		260	25			9	1		9	

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	51	31	28
Average Queue (ft)	9	13	3
95th Queue (ft)	33	38	16
Link Distance (ft)	452	327	758
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	53	54	31
Average Queue (ft)	25	28	2
95th Queue (ft)	49	50	14
Link Distance (ft)	574	1134	701
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	78	74
Average Queue (ft)	38	26
95th Queue (ft)	70	63
Link Distance (ft)	1402	684
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	68	70	91	28	164	78
Average Queue (ft)	36	30	52	16	69	33
95th Queue (ft)	56	53	80	37	116	56
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			0		1	
Queuing Penalty (veh)			0		1	

Network Summary

Network wide Queuing Penalty: 408

Appendix J: Cumulative Year 2042 plus Project Traffic Conditions

Intersection	
Int Delay, s/veh	16.9

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	1	1418	200	135	584	0	155
Future Vol, veh/h	1	1418	200	135	584	0	155
Conflicting Peds, #/hr	0	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	150	-	75	250	-	-	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	92	92	86	86	92	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	1541	233	157	635	0	180

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	-	0	0	1784	0	-	1551
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	-	347	-	0	~ 140
Stage 1	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	0	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	-	-	-	344	-	-	~ 139
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s		4.7	237.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	139	-	-	-	344	-
HCM Lane V/C Ratio	1.297	-	-	-	0.456	-
HCM Control Delay (s)	237.5	-	-	-	24	-
HCM Lane LOS	F	-	-	-	C	-
HCM 95th %tile Q(veh)	11.2	-	-	-	2.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.1

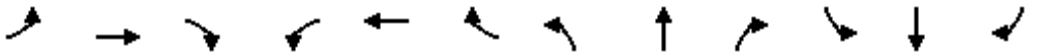
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	11	388	1119	56	31	526	19	2	44	318	190	6	70	138
Future Vol, veh/h	11	388	1119	56	31	526	19	2	44	318	190	6	70	138
Conflicting Peds, #/hr	0	0	0	10	10	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	422	1216	61	34	572	21	2	48	346	207	7	76	150

Major/Minor	Major1				Major2			Minor1				Minor2		
Conflicting Flow All	-	593	0	0	1287	0	0	0	2865	2786	1257	3018	2806	583
Stage 1	-	-	-	-	-	-	-	0	2101	2125	-	651	651	-
Stage 2	-	-	-	-	-	-	-	0	764	661	-	2367	2155	-
Critical Hdwy	-	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	983	-	-	539	-	-	0	~ 11	~ 19	209	8	~ 18	512
Stage 1	-	-	-	-	-	-	-	0	68	~ 90	-	457	465	-
Stage 2	-	-	-	-	-	-	-	0	396	460	-	47	87	-
Platoon blocked, %			-	-		-	-	-						
Mov Cap-1 Maneuver	~ -38	~ -38	-	-	534	-	-	0	-	~ 18	207	-	~ 17	512
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	~ 18	-	-	~ 17	-
Stage 1	-	-	-	-	-	-	-	0	68	~ 89	-	457	435	-
Stage 2	-	-	-	-	-	-	-	0	216	431	-	-	86	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		0.7		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	+	-	-	534	-	-	-	47
HCM Lane V/C Ratio	-	-	-	-	0.063	-	-	-	4.81
HCM Control Delay (s)	-	-	-	-	12.2	-	-	-	$ 1888
HCM Lane LOS	-	-	-	-	B	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	-	0.2	-	-	-	25.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	1226	46	130	479	45	46	320	223	7	224	19
Future Volume (vph)	57	1226	46	130	479	45	46	320	223	7	224	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3		4.2	4.9		4.2	5.3	5.3	4.2	5.3	5.3
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3515		1770	3494		1770	1863	1550	1760	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3515		1770	3494		1770	1863	1550	1760	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	1333	50	141	521	49	50	348	242	8	243	21
RTOR Reduction (vph)	0	2	0	0	6	0	0	0	132	0	0	16
Lane Group Flow (vph)	62	1381	0	141	564	0	50	348	110	8	243	5
Confl. Peds. (#/hr)			10	10					10	10		
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	6.5	39.3		9.1	42.3		4.0	23.3	23.3	0.9	20.2	20.2
Effective Green, g (s)	6.5	39.3		9.1	42.3		4.0	23.3	23.3	0.9	20.2	20.2
Actuated g/C Ratio	0.07	0.43		0.10	0.46		0.04	0.25	0.25	0.01	0.22	0.22
Clearance Time (s)	4.2	5.3		4.2	4.9		4.2	5.3	5.3	4.2	5.3	5.3
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	125	1508		175	1613		77	473	394	17	410	349
v/s Ratio Prot	0.04	c0.39		c0.08	c0.16		c0.03	c0.19		0.00	0.13	
v/s Ratio Perm									0.07			0.00
v/c Ratio	0.50	0.92		0.81	0.35		0.65	0.74	0.28	0.47	0.59	0.01
Uniform Delay, d1	41.0	24.6		40.4	15.8		43.1	31.3	27.4	45.1	32.0	27.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	9.0		23.0	0.1		17.3	5.9	0.4	19.2	2.3	0.0
Delay (s)	44.0	33.6		63.4	16.0		60.4	37.2	27.8	64.3	34.3	27.9
Level of Service	D	C		E	B		E	D	C	E	C	C
Approach Delay (s)		34.0			25.4			35.5			34.7	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	91.6	Sum of lost time (s)	19.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	125	3	0	0	8	18	6	356	0	15	124	5
Future Vol, veh/h	125	3	0	0	8	18	6	356	0	15	124	5
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	92	86	92	86	92	92	92	92	86
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	145	3	0	0	9	20	7	387	0	16	135	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	606	591	158	593	594	407	151	0	0	397	0	0
Stage 1	180	180	-	411	411	-	-	-	-	-	-	-
Stage 2	426	411	-	182	183	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	410	421	890	419	419	646	1436	-	-	1167	-	-
Stage 1	824	752	-	620	597	-	-	-	-	-	-	-
Stage 2	608	597	-	822	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	377	404	873	402	402	634	1422	-	-	1156	-	-
Mov Cap-2 Maneuver	377	404	-	402	402	-	-	-	-	-	-	-
Stage 1	812	733	-	611	587	-	-	-	-	-	-	-
Stage 2	571	587	-	798	731	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.6	12.1	0.1	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1422	-	-	378	535	1156	-	-
HCM Lane V/C Ratio	0.005	-	-	0.394	0.054	0.014	-	-
HCM Control Delay (s)	7.5	0	-	20.6	12.1	8.2	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.8	0.2	0	-	-

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	70	83	0	0	46	30	1	282	1	19	76	42
Future Vol, veh/h	70	83	0	0	46	30	1	282	1	19	76	42
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	92	86	92	86	92	92	92	92	86
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	81	97	0	0	53	33	1	307	1	21	83	49

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	523	480	128	528	504	328	142	0	0	318	0	0
Stage 1	160	160	-	320	320	-	-	-	-	-	-	-
Stage 2	363	320	-	208	184	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	466	487	925	463	472	716	1447	-	-	1248	-	-
Stage 1	845	767	-	694	654	-	-	-	-	-	-	-
Stage 2	658	654	-	796	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	391	468	907	377	454	702	1433	-	-	1236	-	-
Mov Cap-2 Maneuver	391	468	-	377	454	-	-	-	-	-	-	-
Stage 1	836	746	-	686	647	-	-	-	-	-	-	-
Stage 2	570	647	-	674	728	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.2	13.2	0	1.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1433	-	-	429	524	1236	-	-
HCM Lane V/C Ratio	0.001	-	-	0.415	0.164	0.017	-	-
HCM Control Delay (s)	7.5	0	-	19.2	13.2	8	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	219	96	483	372	17
Future Vol, veh/h	30	219	96	483	372	17
Conflicting Peds, #/hr	0	10	10	0	0	10
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	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	33	238	104	525	404	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1156	433	432	0	-	0
Stage 1	423	-	-	-	-	-
Stage 2	733	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	218	625	1133	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	186	613	1122	-	-	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.8	1.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1122	-	480	-	-
HCM Lane V/C Ratio	0.093	-	0.564	-	-
HCM Control Delay (s)	8.5	0	21.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	3.4	-	-

Intersection	
Intersection Delay, s/veh	41.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	315	27	32	310	234
Future Vol, veh/h	221	30	7	9	15	34	12	315	27	32	310	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	240	33	8	10	16	37	13	342	29	35	337	254
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	19	11.9	21.9	66.3
HCM LOS	C	B	C	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	86%	16%	6%
Vol Thru, %	96%	0%	12%	26%	54%
Vol Right, %	0%	100%	3%	59%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	327	27	258	58	576
LT Vol	12	0	221	9	32
Through Vol	315	0	30	15	310
RT Vol	0	27	7	34	234
Lane Flow Rate	355	29	280	63	626
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.678	0.05	0.559	0.133	1.022
Departure Headway (Hd)	6.868	6.132	7.176	7.723	5.877
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	526	581	502	467	614
Service Time	4.633	3.897	5.245	5.723	3.931
HCM Lane V/C Ratio	0.675	0.05	0.558	0.135	1.02
HCM Control Delay	23	9.2	19	11.9	66.3
HCM Lane LOS	C	A	C	B	F
HCM 95th-tile Q	5.1	0.2	3.4	0.5	16.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	965	40	28	1510	0	41
Future Vol, veh/h	0	965	40	28	1510	0	41
Conflicting Peds, #/hr	0	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	150	-	75	250	-	-	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	92	92	90	90	92	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	1049	44	31	1641	0	46

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	-	0	0	1103	0	-	1059
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	-	633	-	0	273
Stage 1	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	0	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	-	-	-	627	-	-	270
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	270	-	-	-	627	-
HCM Lane V/C Ratio	0.169	-	-	-	0.05	-
HCM Control Delay (s)	21	0	-	-	11	-
HCM Lane LOS	C	A	-	-	B	-
HCM 95th %tile Q(veh)	0.6	-	-	-	0.2	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	3	213	762	28	79	1108	7	1	50	111	77	27	286	377
Future Vol, veh/h	3	213	762	28	79	1108	7	1	50	111	77	27	286	377
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	100	-	-	170	-	-	-	-	-	-	110	-	-
Veh in Median Storage, #	-	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	92	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	220	786	29	81	1142	7	1	52	114	79	28	295	389

Major/Minor	Major1				Major2			Minor1				Minor2		
Conflicting Flow All	-	1149	0	0	815	0	0	0	2891	2558	801	2645	2569	1146
Stage 1	-	-	-	-	-	-	-	0	1241	1247	-	1308	1308	-
Stage 2	-	-	-	-	-	-	-	0	1650	1311	-	1337	1261	-
Critical Hdwy	-	4.12	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	2.218	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	608	-	-	812	-	-	0	~ 10	~ 26	384	~ 15	~ 26	~ 243
Stage 1	-	-	-	-	-	-	-	0	214	245	-	196	~ 229	-
Stage 2	-	-	-	-	-	-	-	0	125	229	-	189	~ 241	-
Platoon blocked, %			-	-		-	-	-						
Mov Cap-1 Maneuver	~ -176	~ -176	-	-	812	-	-	0	-	~ 23	384	-	~ 23	~ 243
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	~ 23	-	-	~ 23	-
Stage 1	-	-	-	-	-	-	-	0	214	245	-	196	~ 206	-
Stage 2	-	-	-	-	-	-	-	0	~ 29	206	-	80	~ 241	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		0.7		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	+	-	-	812	-	-	-	47
HCM Lane V/C Ratio	-	-	-	-	0.1	-	-	-	14.543
HCM Control Delay (s)	-	-	-	-	9.9	-	-	-	$ 6257
HCM Lane LOS	-	-	-	-	A	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	-	0.3	-	-	-	82.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	35	769	29	6	230	1093	16	38	167	193	56	202
Future Volume (vph)	35	769	29	6	230	1093	16	38	167	193	56	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3			4.9	4.2		4.2	5.3	5.3	4.2	5.3
Lane Util. Factor	1.00	0.95			1.00	0.95		1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99			1.00	1.00		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	3555			1787	3567		1787	1881	1599	1787	1881
Flt Permitted	0.95	1.00			0.95	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1787	3555			1787	3567		1787	1881	1599	1787	1881
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	38	827	31	6	247	1175	17	41	180	208	60	217
RTOR Reduction (vph)	0	3	0	0	0	1	0	0	0	148	0	0
Lane Group Flow (vph)	38	855	0	0	253	1191	0	41	180	60	60	217
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA		Prot	Prot	NA		Prot	NA	Perm	Prot	NA
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases										8		
Actuated Green, G (s)	2.0	25.5			8.5	33.8		2.0	15.6	15.6	2.9	16.5
Effective Green, g (s)	2.0	25.5			8.5	33.8		2.0	15.6	15.6	2.9	16.5
Actuated g/C Ratio	0.03	0.35			0.12	0.47		0.03	0.22	0.22	0.04	0.23
Clearance Time (s)	4.2	5.3			4.9	4.2		4.2	5.3	5.3	4.2	5.3
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	49	1255			210	1669		49	406	345	71	429
v/s Ratio Prot	0.02	0.24			c0.14	c0.33		0.02	0.10		c0.03	c0.12
v/s Ratio Perm										0.04		
v/c Ratio	0.78	0.68			1.20	0.71		0.84	0.44	0.17	0.85	0.51
Uniform Delay, d1	34.9	19.9			31.9	15.3		34.9	24.5	23.0	34.4	24.3
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	53.1	1.5			128.3	1.5		70.1	0.8	0.2	56.7	0.9
Delay (s)	88.0	21.4			160.2	16.8		105.1	25.3	23.3	91.2	25.2
Level of Service	F	C			F	B		F	C	C	F	C
Approach Delay (s)		24.3				41.9			32.0			36.0
Approach LOS		C				D			C			D

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	72.2	Sum of lost time (s)	19.7
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	63
Future Volume (vph)	63
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.3
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1599
Flt Permitted	1.00
Satd. Flow (perm)	1599
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	68
RTOR Reduction (vph)	52
Lane Group Flow (vph)	16
Heavy Vehicles (%)	1%
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	16.5
Effective Green, g (s)	16.5
Actuated g/C Ratio	0.23
Clearance Time (s)	5.3
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	365
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.04
Uniform Delay, d1	21.7
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	21.7
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	2	1	0	1	16	2	166	1	28	334	6
Future Vol, veh/h	35	2	1	0	1	16	2	166	1	28	334	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	90	92	90	92	92	92	92	90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	39	2	1	0	1	17	2	180	1	30	363	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	621	612	367	613	615	181	370	0	0	181	0	0
Stage 1	427	427	-	185	185	-	-	-	-	-	-	-
Stage 2	194	185	-	428	430	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	401	409	681	406	408	864	1194	-	-	1400	-	-
Stage 1	608	587	-	819	749	-	-	-	-	-	-	-
Stage 2	810	749	-	607	585	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	383	397	681	395	396	864	1194	-	-	1400	-	-
Mov Cap-2 Maneuver	383	397	-	395	396	-	-	-	-	-	-	-
Stage 1	607	571	-	817	748	-	-	-	-	-	-	-
Stage 2	791	748	-	587	569	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	9.6	0.1	0.6
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1194	-	-	388	807	1400	-	-
HCM Lane V/C Ratio	0.002	-	-	0.109	0.023	0.022	-	-
HCM Control Delay (s)	8	0	-	15.4	9.6	7.6	0	-
HCM Lane LOS	A	A	-	C	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	25	1	0	39	21	1	128	0	27	264	58
Future Vol, veh/h	35	25	1	0	39	21	1	128	0	27	264	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	92	90	92	90	92	92	92	92	90
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	39	28	1	0	43	23	1	139	0	29	287	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	551	518	319	533	550	139	351	0	0	139	0	0
Stage 1	377	377	-	141	141	-	-	-	-	-	-	-
Stage 2	174	141	-	392	409	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	447	463	724	459	444	912	1213	-	-	1451	-	-
Stage 1	647	618	-	864	782	-	-	-	-	-	-	-
Stage 2	830	782	-	635	598	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	395	451	724	428	432	912	1213	-	-	1451	-	-
Mov Cap-2 Maneuver	395	451	-	428	432	-	-	-	-	-	-	-
Stage 1	646	603	-	863	781	-	-	-	-	-	-	-
Stage 2	764	781	-	590	583	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	12.8	0.1	0.6
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1213	-	-	419	528	1451	-	-
HCM Lane V/C Ratio	0.001	-	-	0.162	0.125	0.02	-	-
HCM Control Delay (s)	8	0	-	15.2	12.8	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	85	128	364	375	34
Future Vol, veh/h	26	85	128	364	375	34
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	96	96	96	96	96	96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	27	89	133	379	391	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1054	409	426	0	-	0
Stage 1	409	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	251	645	1139	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	214	645	1139	-	-	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	573	-	-	-	-	-
Stage 2	524	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.1	2.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1139	-	438	-	-
HCM Lane V/C Ratio	0.117	-	0.264	-	-
HCM Control Delay (s)	8.6	0	16.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1	-	-

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	339	20	46	291	124
Future Vol, veh/h	99	26	3	19	25	57	3	339	20	46	291	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	353	21	48	303	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	11.7	10.7	16	19.8
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	77%	19%	10%
Vol Thru, %	99%	0%	20%	25%	63%
Vol Right, %	0%	100%	2%	56%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	342	20	128	101	461
LT Vol	3	0	99	19	46
Through Vol	339	0	26	25	291
RT Vol	0	20	3	57	124
Lane Flow Rate	356	21	133	105	480
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.581	0.03	0.242	0.181	0.701
Departure Headway (Hd)	5.872	5.157	6.547	6.202	5.253
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	613	691	545	574	687
Service Time	3.626	2.911	4.627	4.285	3.304
HCM Lane V/C Ratio	0.581	0.03	0.244	0.183	0.699
HCM Control Delay	16.5	8.1	11.7	10.7	19.8
HCM Lane LOS	C	A	B	B	C
HCM 95th-tile Q	3.7	0.1	0.9	0.7	5.7

Intersection	
Int Delay, s/veh	3.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	1	1418	200	135	584	0	155
Future Vol, veh/h	1	1418	200	135	584	0	155
Conflicting Peds, #/hr	0	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	150	-	75	250	-	-	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	92	92	86	86	92	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	1	1541	233	157	635	0	180

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	635	0	0	1784	0	-	781
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	6.44	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	568	-	-	344	-	0	338
Stage 1	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	0	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	568	-	-	341	-	-	335
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.8	27.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	335	568	-	-	341	-
HCM Lane V/C Ratio	0.538	0.002	-	-	0.46	-
HCM Control Delay (s)	27.6	11.3	-	-	24.3	-
HCM Lane LOS	D	B	-	-	C	-
HCM 95th %tile Q(veh)	3	0	-	-	2.3	-

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	11	388	1119	56	31	526	19	2	44	318	190	6
Future Volume (vph)	11	388	1119	56	31	526	19	2	44	318	190	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9		4.2	5.3			4.2	4.9	4.9	4.2
Lane Util. Factor		1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Frt		1.00	0.99		1.00	0.99			1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00		0.95	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)		1770	3508		1770	3520			1770	1863	1583	1770
Flt Permitted		0.95	1.00		0.95	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)		1770	3508		1770	3520			1770	1863	1583	1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	422	1216	61	34	572	21	2	48	346	207	7
RTOR Reduction (vph)	0	0	3	0	0	2	0	0	0	0	123	0
Lane Group Flow (vph)	0	434	1274	0	34	591	0	0	50	346	84	7
Confl. Peds. (#/hr)				10	10							
Turn Type	Prot	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	8		5	5	2		1
Permitted Phases											2	
Actuated Green, G (s)		26.6	45.9		3.0	21.9			4.1	22.0	22.0	0.8
Effective Green, g (s)		26.6	45.9		3.0	21.9			4.1	22.0	22.0	0.8
Actuated g/C Ratio		0.30	0.51		0.03	0.24			0.05	0.24	0.24	0.01
Clearance Time (s)		4.2	4.9		4.2	5.3			4.2	4.9	4.9	4.2
Vehicle Extension (s)		3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		523	1791		59	857			80	455	387	15
v/s Ratio Prot		c0.25	c0.36		0.02	0.17			c0.03	c0.19		0.00
v/s Ratio Perm											0.05	
v/c Ratio		0.83	0.71		0.58	0.69			0.62	0.76	0.22	0.47
Uniform Delay, d1		29.5	16.9		42.8	30.9			42.1	31.5	27.1	44.3
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		10.5	1.4		12.9	2.3			14.2	7.3	0.3	21.2
Delay (s)		40.0	18.3		55.7	33.2			56.4	38.8	27.4	65.6
Level of Service		D	B		E	C			E	D	C	E
Approach Delay (s)			23.8			34.5				36.4		
Approach LOS			C			C				D		

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	19.7
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	70	138
Future Volume (vph)	70	138
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1863	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1863	1583
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	76	150
RTOR Reduction (vph)	0	121
Lane Group Flow (vph)	76	29
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	17.6	17.6
Effective Green, g (s)	17.6	17.6
Actuated g/C Ratio	0.20	0.20
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	364	309
v/s Ratio Prot	0.04	
v/s Ratio Perm		0.02
v/c Ratio	0.21	0.10
Uniform Delay, d1	30.3	29.6
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	30.6	29.8
Level of Service	C	C
Approach Delay (s)	31.1	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	18.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	30	7	9	15	34	12	315	27	32	310	234
Future Vol, veh/h	221	30	7	9	15	34	12	315	27	32	310	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	240	33	8	10	16	37	13	342	29	35	337	254
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	17.3	11.2	21	17.9
HCM LOS	C	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	4%	0%	86%	16%	9%	0%
Vol Thru, %	96%	0%	12%	26%	91%	0%
Vol Right, %	0%	100%	3%	59%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	327	27	258	58	342	234
LT Vol	12	0	221	9	32	0
Through Vol	315	0	30	15	310	0
RT Vol	0	27	7	34	0	234
Lane Flow Rate	355	29	280	63	372	254
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.666	0.049	0.532	0.125	0.674	0.407
Departure Headway (Hd)	6.745	6.01	6.825	7.121	6.523	5.76
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	537	595	530	502	554	626
Service Time	4.49	3.755	4.841	5.182	4.247	3.484
HCM Lane V/C Ratio	0.661	0.049	0.528	0.125	0.671	0.406
HCM Control Delay	22	9.1	17.3	11.2	21.7	12.4
HCM Lane LOS	C	A	C	B	C	B
HCM 95th-tile Q	4.9	0.2	3.1	0.4	5.1	2

Intersection	
Int Delay, s/veh	0.3

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	965	40	28	1510	0	41
Future Vol, veh/h	0	965	40	28	1510	0	41
Conflicting Peds, #/hr	0	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	150	-	75	250	-	-	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	92	92	90	90	92	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	1049	44	31	1641	0	46

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	1641	0	0	1103	0	-	535
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	6.44	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	2.52	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	128	-	-	629	-	0	490
Stage 1	-	-	-	-	-	0	-
Stage 2	-	-	-	-	-	0	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	128	-	-	623	-	-	485
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	485	128	-	-	623	-
HCM Lane V/C Ratio	0.094	-	-	-	0.05	-
HCM Control Delay (s)	13.2	0	-	-	11.1	-
HCM Lane LOS	B	A	-	-	B	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0.2	-

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	3	213	762	28	79	1108	7	1	50	111	77	27
Future Volume (vph)	3	213	762	28	79	1108	7	1	50	111	77	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.9		4.2	5.3			4.2	4.9	4.9	4.2
Lane Util. Factor		1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00
Frt		1.00	0.99		1.00	1.00			1.00	1.00	0.85	1.00
Flt Protected		0.95	1.00		0.95	1.00			0.95	1.00	1.00	0.95
Satd. Flow (prot)		1770	3520		1770	3536			1770	1863	1583	1770
Flt Permitted		0.95	1.00		0.95	1.00			0.95	1.00	1.00	0.95
Satd. Flow (perm)		1770	3520		1770	3536			1770	1863	1583	1770
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	3	220	786	29	81	1142	7	1	52	114	79	28
RTOR Reduction (vph)	0	0	2	0	0	1	0	0	0	0	59	0
Lane Group Flow (vph)	0	223	813	0	81	1148	0	0	53	114	20	28
Turn Type	Prot	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot
Protected Phases	7	7	4		3	8		5	5	2		1
Permitted Phases											2	
Actuated Green, G (s)		17.0	49.3		7.9	39.8			4.3	26.1	26.1	2.7
Effective Green, g (s)		17.0	49.3		7.9	39.8			4.3	26.1	26.1	2.7
Actuated g/C Ratio		0.16	0.47		0.08	0.38			0.04	0.25	0.25	0.03
Clearance Time (s)		4.2	4.9		4.2	5.3			4.2	4.9	4.9	4.2
Vehicle Extension (s)		3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		288	1665		134	1350			73	466	396	45
v/s Ratio Prot		c0.13	0.23		0.05	c0.32			c0.03	0.06		0.02
v/s Ratio Perm											0.01	
v/c Ratio		0.77	0.49		0.60	0.85			0.73	0.24	0.05	0.62
Uniform Delay, d1		41.8	18.8		46.6	29.5			49.4	31.2	29.6	50.2
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		12.2	0.2		7.5	5.3			29.9	0.3	0.1	23.8
Delay (s)		54.0	19.0		54.1	34.8			79.2	31.5	29.7	74.1
Level of Service		D	B		D	C			E	C	C	E
Approach Delay (s)			26.5			36.1				41.2		
Approach LOS			C			D				D		

Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	104.2	Sum of lost time (s)	19.7
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	286	377
Future Volume (vph)	286	377
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	1863	1583
Flt Permitted	1.00	1.00
Satd. Flow (perm)	1863	1583
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	295	389
RTOR Reduction (vph)	0	217
Lane Group Flow (vph)	295	172
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	23.4	23.4
Effective Green, g (s)	23.4	23.4
Actuated g/C Ratio	0.22	0.22
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	418	355
v/s Ratio Prot	c0.16	
v/s Ratio Perm		0.11
v/c Ratio	0.71	0.48
Uniform Delay, d1	37.2	35.1
Progression Factor	1.00	1.00
Incremental Delay, d2	5.4	1.0
Delay (s)	42.6	36.2
Level of Service	D	D
Approach Delay (s)	40.3	
Approach LOS	D	

Intersection Summary

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	26	3	19	25	57	3	339	20	46	291	124
Future Vol, veh/h	99	26	3	19	25	57	3	339	20	46	291	124
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	103	27	3	20	26	59	3	353	21	48	303	129
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.6	10.5	16.2	14.3
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	77%	19%	14%	0%
Vol Thru, %	99%	0%	20%	25%	86%	0%
Vol Right, %	0%	100%	2%	56%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	342	20	128	101	337	124
LT Vol	3	0	99	19	46	0
Through Vol	339	0	26	25	291	0
RT Vol	0	20	3	57	0	124
Lane Flow Rate	356	21	133	105	351	129
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.584	0.03	0.239	0.179	0.571	0.182
Departure Headway (Hd)	5.906	5.191	6.455	6.11	5.859	5.08
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	609	687	553	584	614	704
Service Time	3.656	2.941	4.522	4.178	3.606	2.826
HCM Lane V/C Ratio	0.585	0.031	0.241	0.18	0.572	0.183
HCM Control Delay	16.7	8.1	11.6	10.5	16.2	9
HCM Lane LOS	C	A	B	B	C	A
HCM 95th-tile Q	3.8	0.1	0.9	0.6	3.6	0.7

Intersection: 1: School Dr & Cleveland Ave

Movement	EB	EB	EB	WB	NB
Directions Served	U	T	R	L	R
Maximum Queue (ft)	26	31	51	157	137
Average Queue (ft)	1	1	5	63	54
95th Queue (ft)	9	10	23	118	104
Link Distance (ft)		638			397
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150		75	250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	TR	L	T	TR	UL	T	R	L	T	R
Maximum Queue (ft)	313	291	299	73	220	215	94	246	200	50	97	96
Average Queue (ft)	197	165	177	20	102	106	42	138	80	12	40	38
95th Queue (ft)	288	268	272	48	174	184	84	214	162	35	79	67
Link Distance (ft)		1022	1022		1242	1242		410			510	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			250			250		120	250		120
Storage Blk Time (%)	4	1						15	0			
Queuing Penalty (veh)	21	3						36	1			

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	209	453	444	166	160	188	118	259	200	49	244	31
Average Queue (ft)	43	220	228	84	76	85	35	125	78	7	107	11
95th Queue (ft)	106	390	388	142	139	141	88	195	157	30	194	33
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)	2	31		4	1			21	5		15	
Queuing Penalty (veh)	11	18		10	1			55	17		4	

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	75	31	32	52
Average Queue (ft)	38	20	1	5
95th Queue (ft)	63	44	10	29
Link Distance (ft)	424	327	701	758
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	72	96	54
Average Queue (ft)	45	33	7
95th Queue (ft)	66	57	30
Link Distance (ft)	574	1134	701
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	222	97	71
Average Queue (ft)	90	43	6
95th Queue (ft)	168	90	33
Link Distance (ft)	1402	684	1434
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	115	22	99	28	158	56
Average Queue (ft)	55	19	58	13	66	43
95th Queue (ft)	88	30	89	34	101	62
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			0		0	
Queuing Penalty (veh)			0		1	

Zone Summary

Zone wide Queuing Penalty: 176

Intersection: 1: School Dr & Cleveland Ave

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	31	50
Average Queue (ft)	8	24
95th Queue (ft)	30	43
Link Distance (ft)		397
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	250	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Westberry Blvd & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	TR	L	T	TR	UL	T	R	L	T	R
Maximum Queue (ft)	214	270	293	90	391	410	96	136	90	93	542	200
Average Queue (ft)	123	161	165	51	229	233	45	60	28	30	188	144
95th Queue (ft)	213	262	262	86	352	366	78	106	61	74	367	233
Link Distance (ft)		1022	1022		1242	1242		410			510	
Upstream Blk Time (%)											0	
Queuing Penalty (veh)											0	
Storage Bay Dist (ft)	250			250			250		120	250		120
Storage Blk Time (%)		1			6			1			21	11
Queuing Penalty (veh)		2			5			2			84	35

Intersection: 3: Granada Dr & Cleveland Ave

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	UL	T	TR	L	T	R	L	T	R
Maximum Queue (ft)	132	353	342	244	342	290	72	160	132	98	180	74
Average Queue (ft)	24	150	162	134	151	148	25	74	63	43	87	28
95th Queue (ft)	67	286	302	226	274	248	58	122	108	84	146	58
Link Distance (ft)		1251	1251		4184	4184		488			1209	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	90			125			150		100	150		100
Storage Blk Time (%)	1	16		24	6			3	2		5	
Queuing Penalty (veh)	4	6		133	15			7	4		5	

Intersection: 4: Westberry Blvd & Fairway Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	54	31	27	28
Average Queue (ft)	24	11	1	2
95th Queue (ft)	49	36	9	13
Link Distance (ft)	424	327	701	758
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Westberry Blvd & Fairfield Way

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	97	94	73
Average Queue (ft)	29	30	6
95th Queue (ft)	59	60	35
Link Distance (ft)	574	1134	701
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Granada Dr & Pamela Dr

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	94	93
Average Queue (ft)	40	36
95th Queue (ft)	70	75
Link Distance (ft)	1402	684
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Granada Dr & Riverview Dr

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	R	LT	R
Maximum Queue (ft)	77	65	139	28	122	53
Average Queue (ft)	38	28	57	15	60	34
95th Queue (ft)	65	50	97	36	93	52
Link Distance (ft)	551	468	1194		684	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		120
Storage Blk Time (%)			1		0	
Queuing Penalty (veh)			0		0	

Zone Summary

Zone wide Queuing Penalty: 301

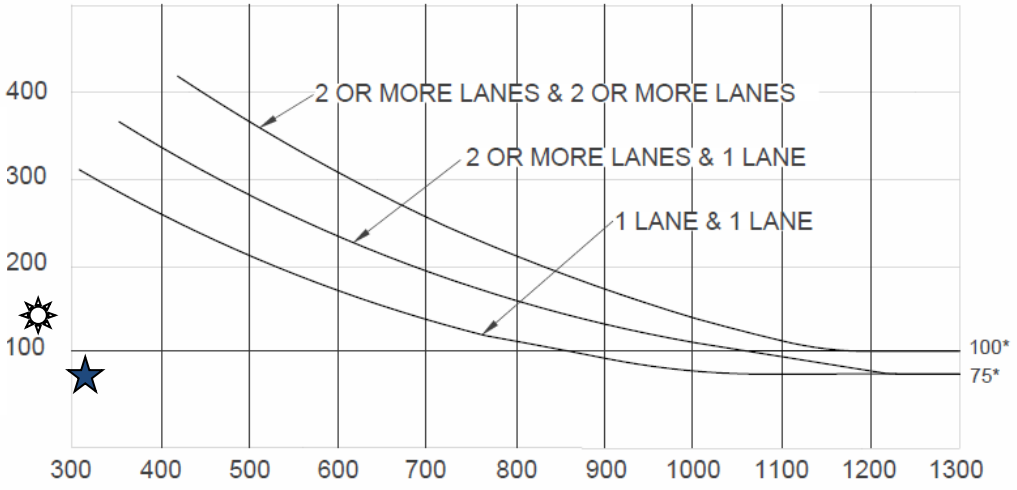
Appendix K: Traffic Signal Warrants

Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
2. Westberry Boulevard / Cleveland Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Westberry Boulevard Highest Approach Volume = 144 (70) VPH



Cleveland Avenue Total of Both Approaches = 234 (314) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met
PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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Part 4: Highway Traffic Signals
November 7, 2014

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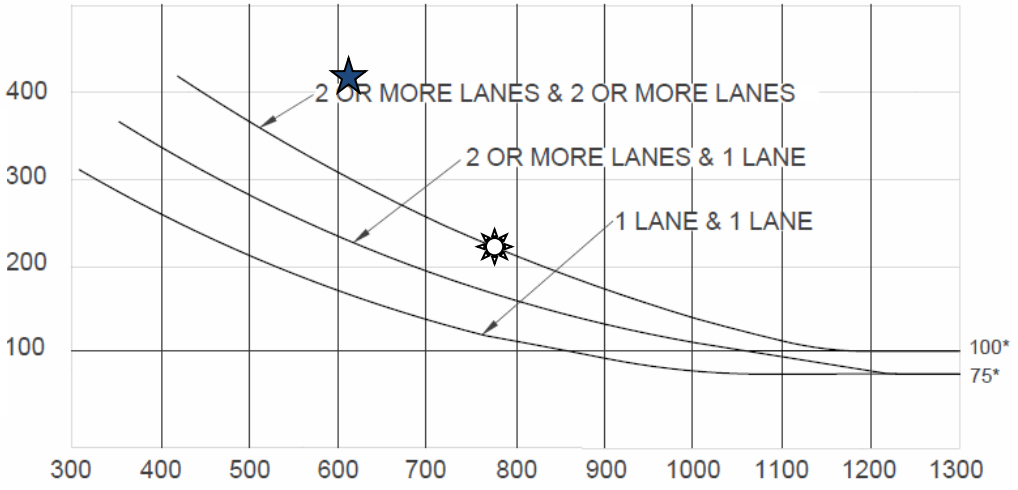
Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
3. Granada Drive / Cleveland Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Cleveland Avenue Highest Approach Volume = 219 (427) VPH



Granada Drive Total of Both Approaches =

781 (611) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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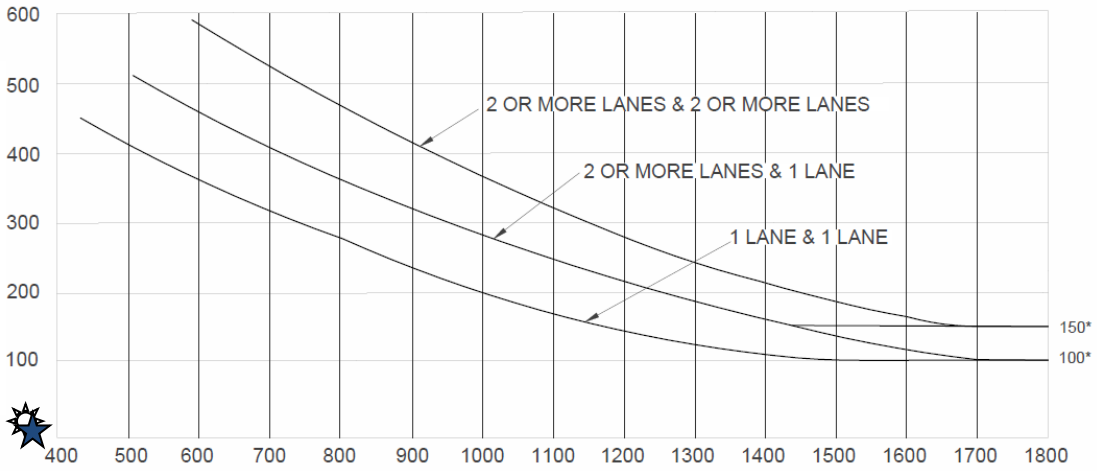
Warrant 3: Peak Hour (Urban)

Existing Traffic Conditions
4. Westberry Boulevard / Fairway Avenue
AM (PM) Peak Hour

Fairway Avenue Highest Approach Volume = 15 (7) VPH



Westberry Boulevard Total of Both Approaches =

139 (144) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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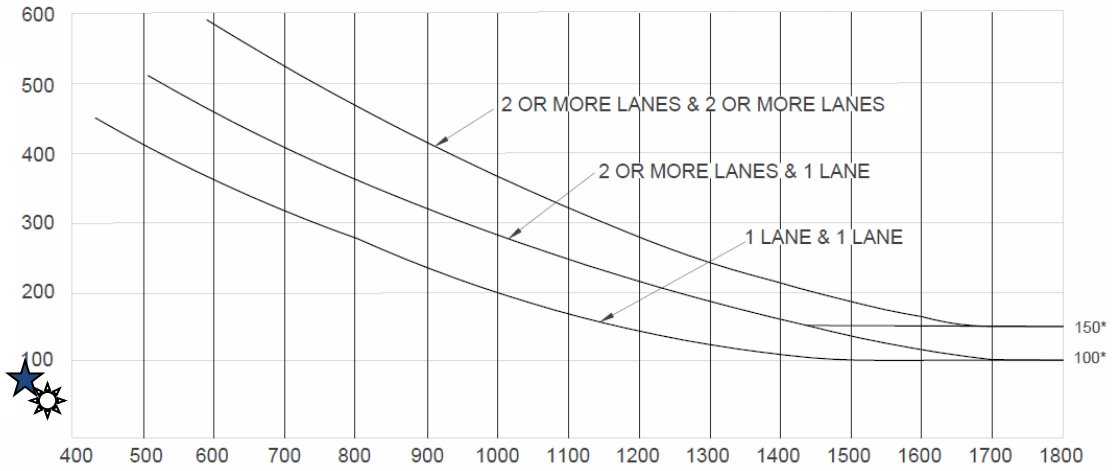
Warrant 3: Peak Hour (Urban)

Existing Traffic Conditions
5. Westberry Boulevard / Fairfield Way
AM (PM) Peak Hour

Westberry Boulevard Highest Approach Volume = 51 (74) VPH



Fairfield Way Total of Both Approaches = 152 (91) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met
PM Peak Hour – Signal Warrant is Not Met

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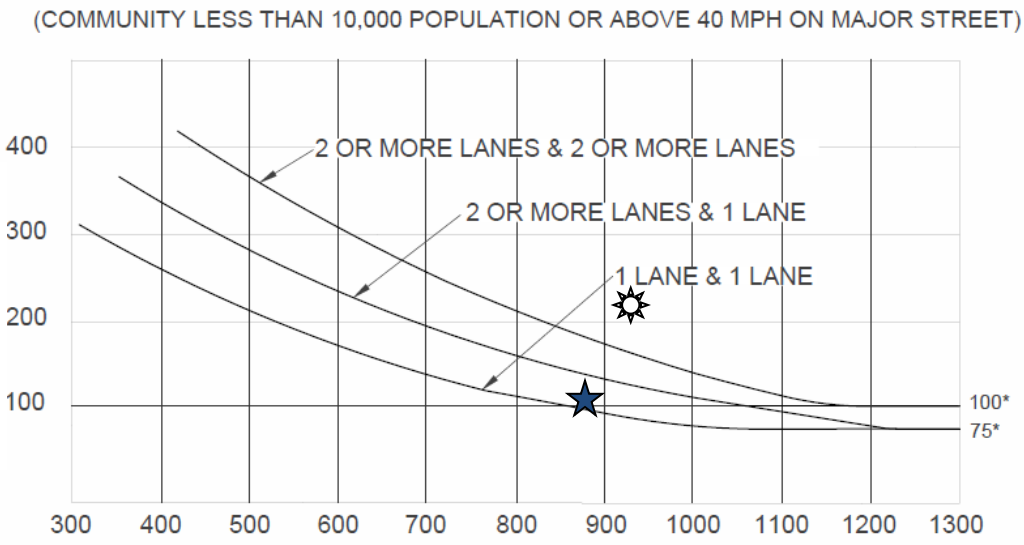
Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
6. Granada Drive / Pamela Drive
AM (PM) Peak Hour



Granada Drive Total of Both Approaches =

937 (880) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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Warrant 3: Peak Hour (Rural)

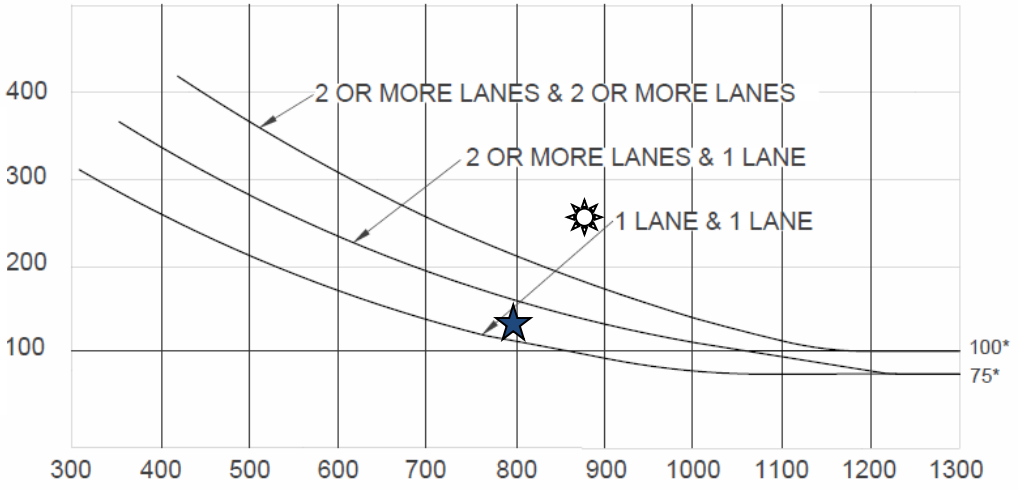
Existing Traffic Conditions
7. Granada Drive / Riverview Drive
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Riverview Drive

Highest Approach Volume =

258 (128) VPH



Granada Drive Total of Both Approaches =

882 (797) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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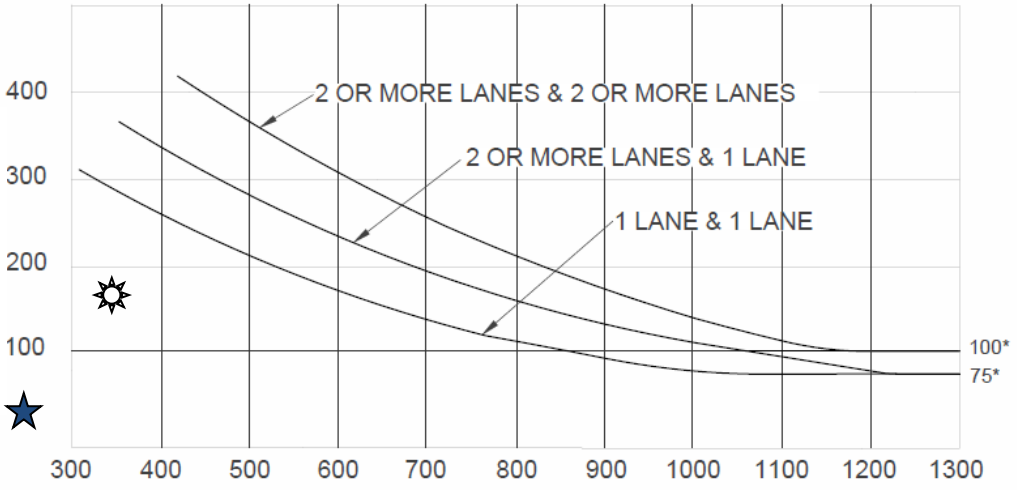
Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
1. Project Driveway / Cleveland Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Project Driveway Highest Approach Volume = 161 (41) VPH



Cleveland Avenue Total of Both Approaches = 345 (68) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met
PM Peak Hour – Signal Warrant is Not Met

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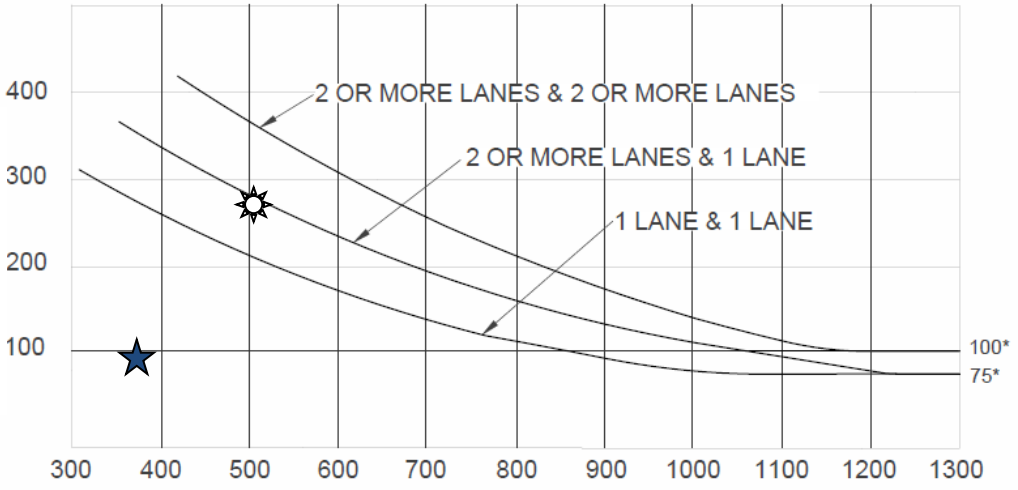
Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
2. Westberry Boulevard / Cleveland Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Westberry Boulevard Highest Approach Volume = 271 (91) VPH



Cleveland Avenue Total of Both Approaches = 503 (375) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met
PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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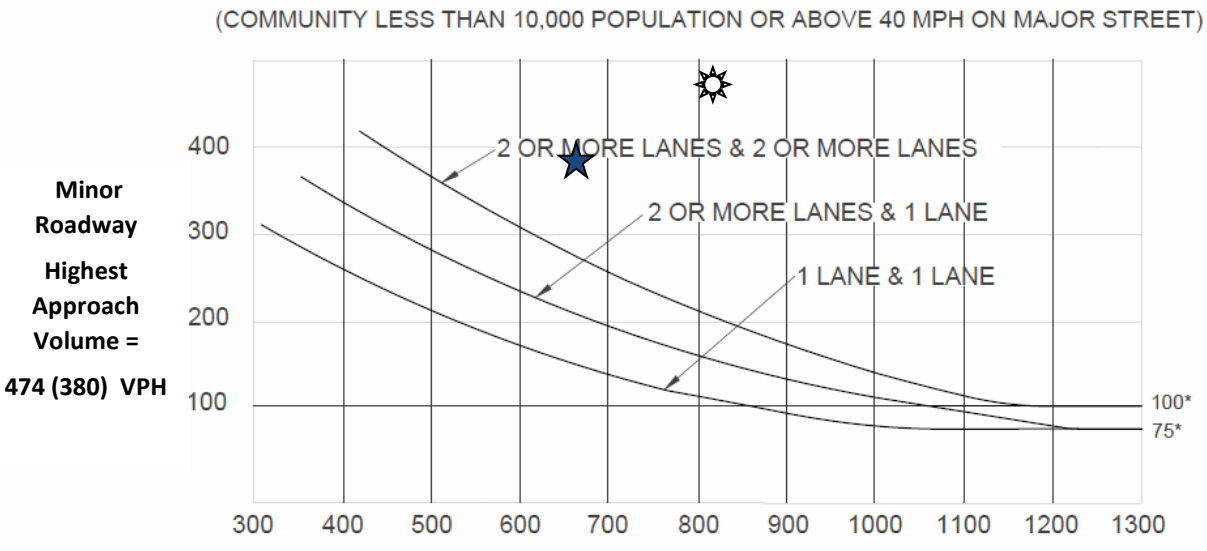
Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
3. Granada Drive / Cleveland Avenue
AM (PM) Peak Hour



Major Roadway Total of Both Approaches =

817 (665) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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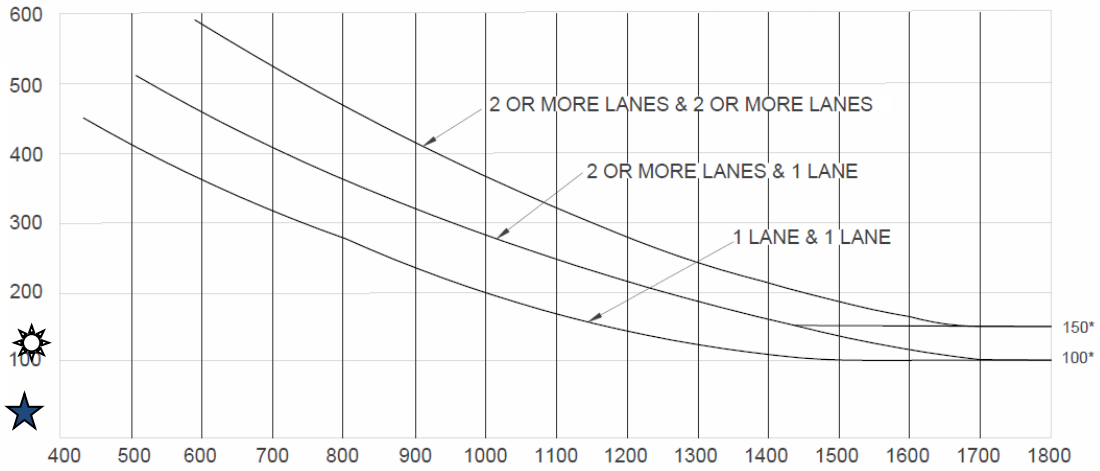
Warrant 3: Peak Hour (Urban)

Existing plus Project Traffic Conditions
4. Westberry Boulevard / Fairway Avenue
AM (PM) Peak Hour

Fairway Avenue Highest Approach Volume = 116 (34) VPH



Westberry Boulevard Total of Both Approaches =

156 (147) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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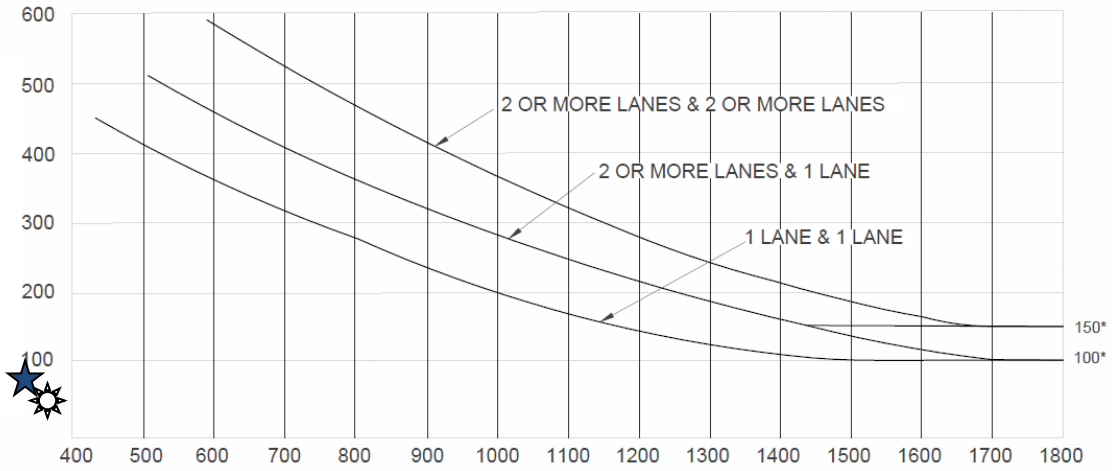
Warrant 3: Peak Hour (Urban)

Existing plus Project Traffic Conditions
5. Westberry Boulevard / Fairfield Way
AM (PM) Peak Hour

Westberry Boulevard Highest Approach Volume = 51 (74) VPH



Fairfield Way Total of Both Approaches = 215 (105) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met
PM Peak Hour – Signal Warrant is Not Met

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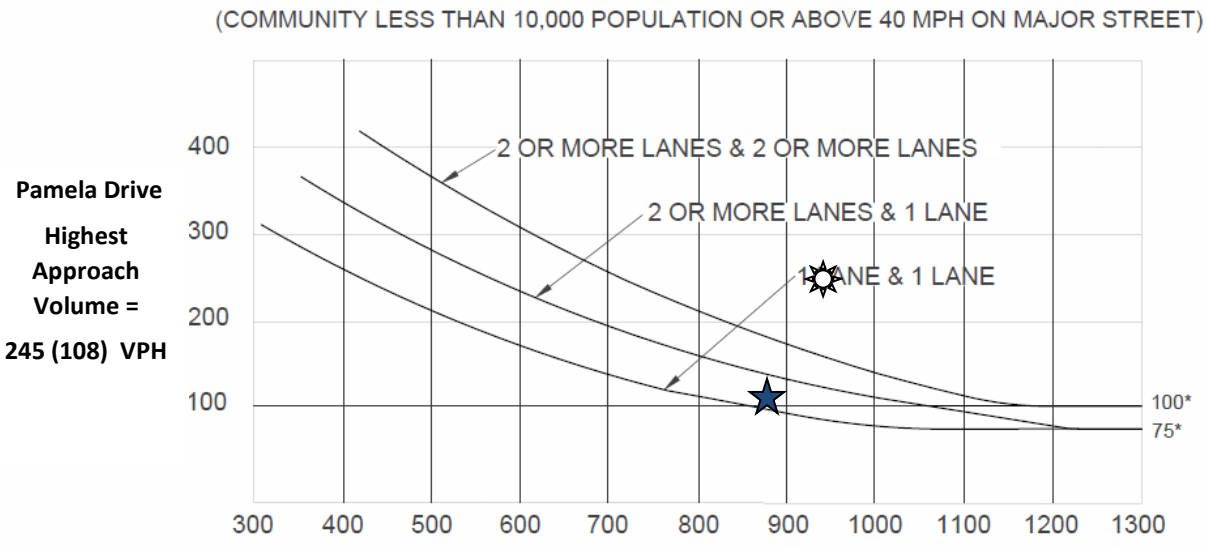
Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
6. Granada Drive / Pamela Drive
AM (PM) Peak Hour



Granada Drive Total of Both Approaches =

945 (881) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

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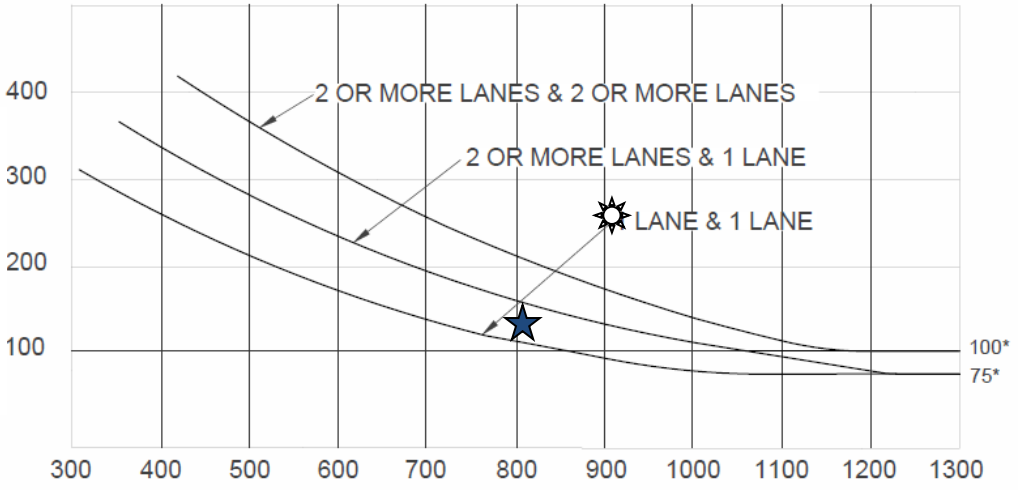
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Existing plus Project Traffic Conditions
7. Granada Drive / Riverview Drive
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Riverview Drive Highest Approach Volume = 258 (128) VPH



Granada Drive Total of Both Approaches =

910 (803) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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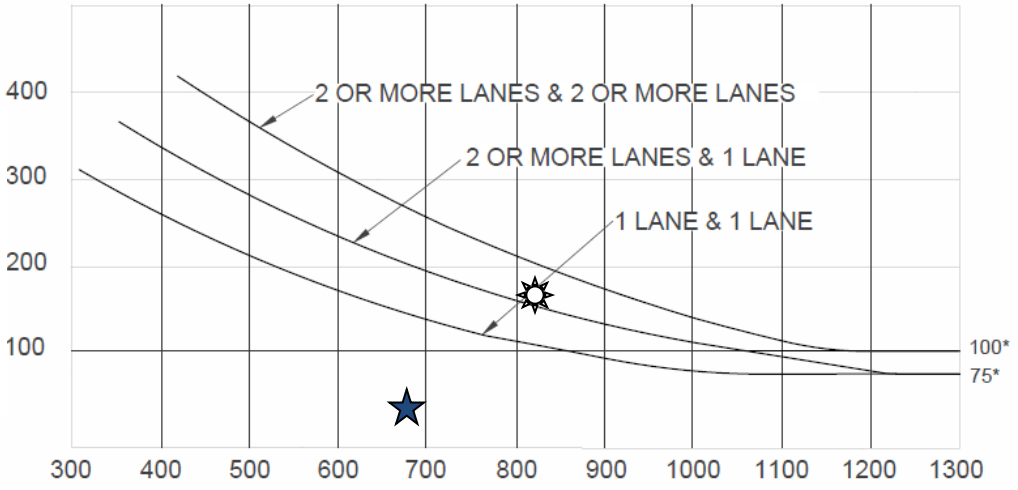
Warrant 3: Peak Hour (Rural)

Existing plus Approved & Pending plus Project Traffic Conditions
1. Project Driveway / Cleveland Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Project Driveway Highest Approach Volume = 161 (41) VPH



Cleveland Avenue Total of Both Approaches =

818 (676) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
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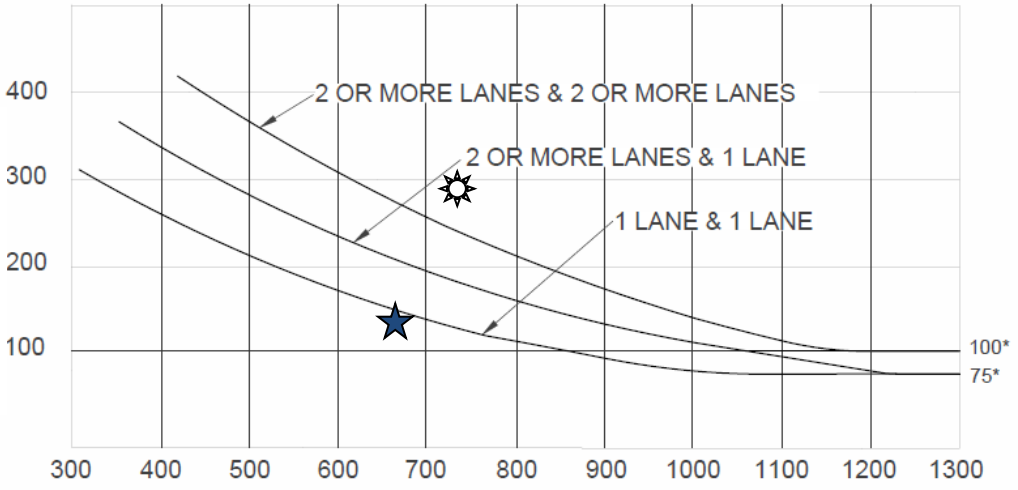
Warrant 3: Peak Hour (Rural)

Existing plus Approved & Pending plus Project Traffic Conditions
2. Westberry Boulevard / Cleveland Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Westberry Boulevard Highest Approach Volume = 293 (126) VPH



Cleveland Avenue Total of Both Approaches = 732 (674) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

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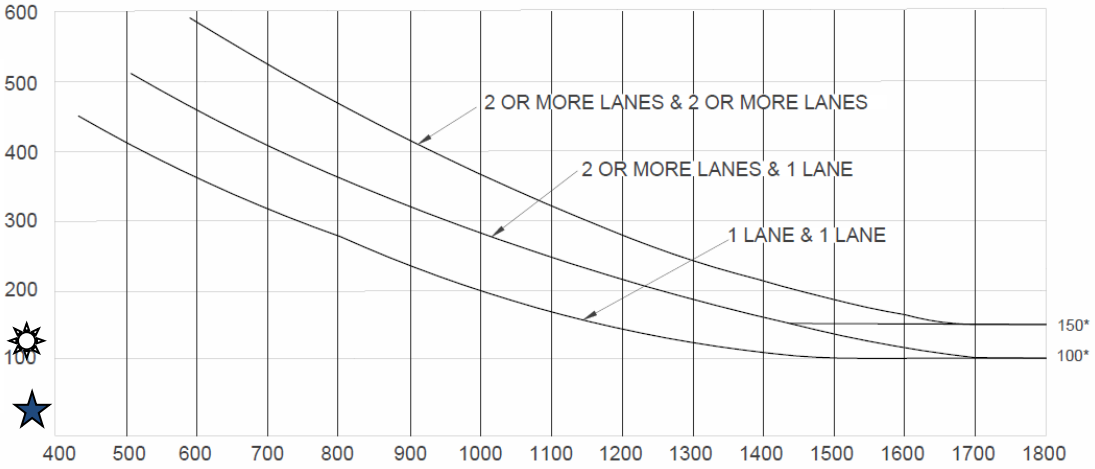
Warrant 3: Peak Hour (Urban)

Existing plus Approved & Pending plus Project Traffic Conditions
4. Westberry Boulevard / Fairway Avenue
AM (PM) Peak Hour

Fairway Avenue Highest Approach Volume = 122 (38) VPH



Westberry Boulevard Total of Both Approaches =

184 (187) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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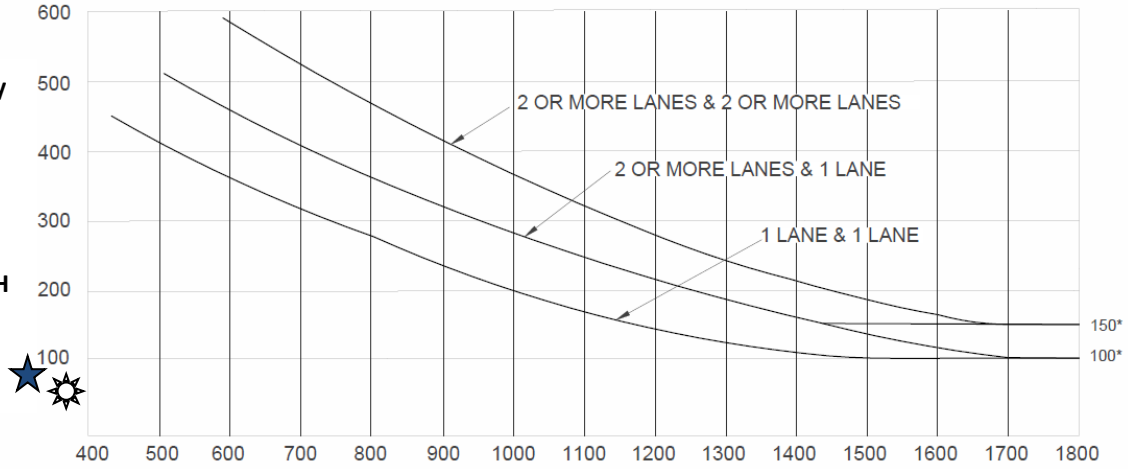
Warrant 3: Peak Hour (Urban)

Existing plus Approved & Pending plus Project Traffic Conditions
5. Westberry Boulevard / Fairfield Way
AM (PM) Peak Hour

Westberry Boulevard Highest Approach Volume = 58 (93) VPH



Fairfield Way Total of Both Approaches = 229 (118) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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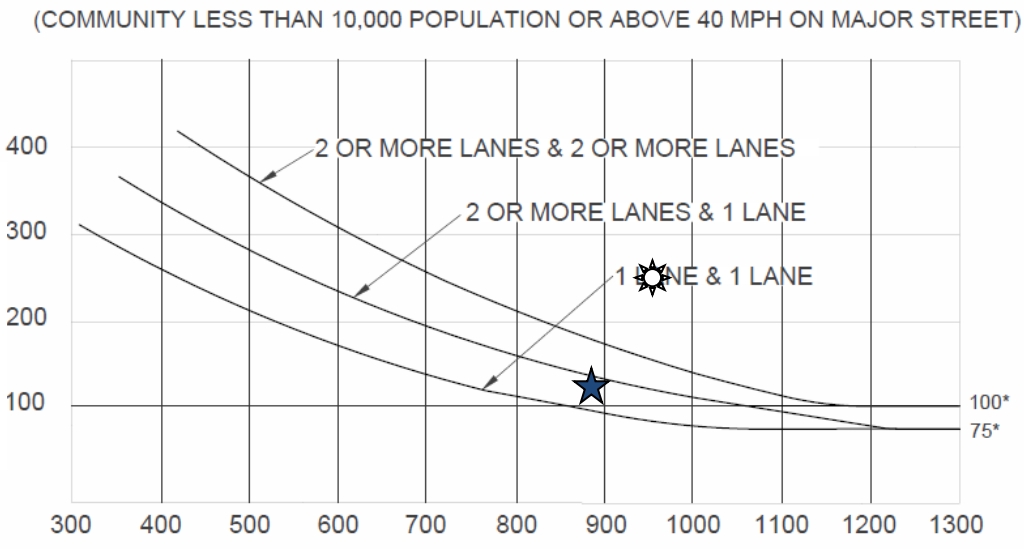
Warrant 3: Peak Hour (Rural)

Existing plus Approved & Pending plus Project Traffic Conditions
6. Granada Drive / Pamela Drive
AM (PM) Peak Hour



Pamela Drive Highest Approach Volume = 249 (110) VPH

Granada Drive Total of Both Approaches = 952 (890) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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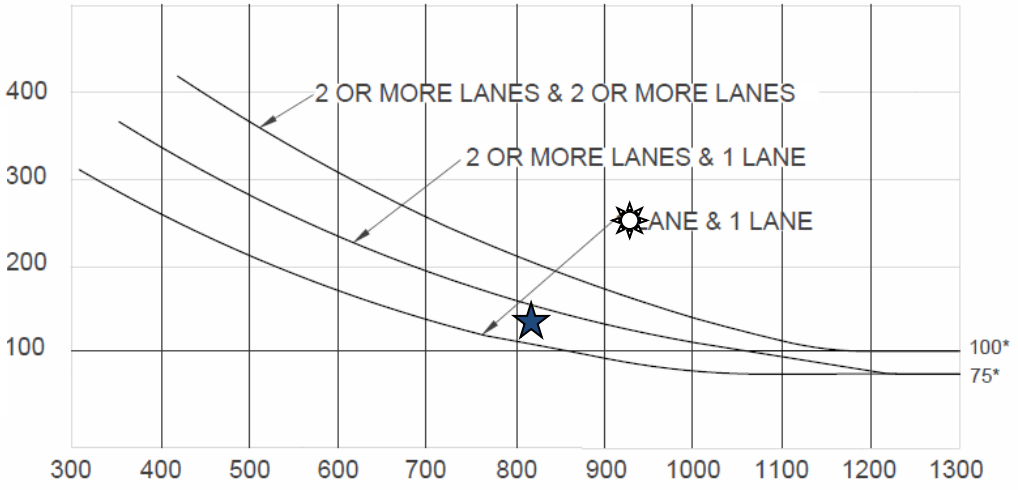
Warrant 3: Peak Hour (Rural)

Existing plus Approved & Pending plus Project Traffic Conditions
7. Granada Drive / Riverview Drive
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Riverview Drive Highest Approach Volume = 258 (128) VPH



Granada Drive Total of Both Approaches =

919 (813) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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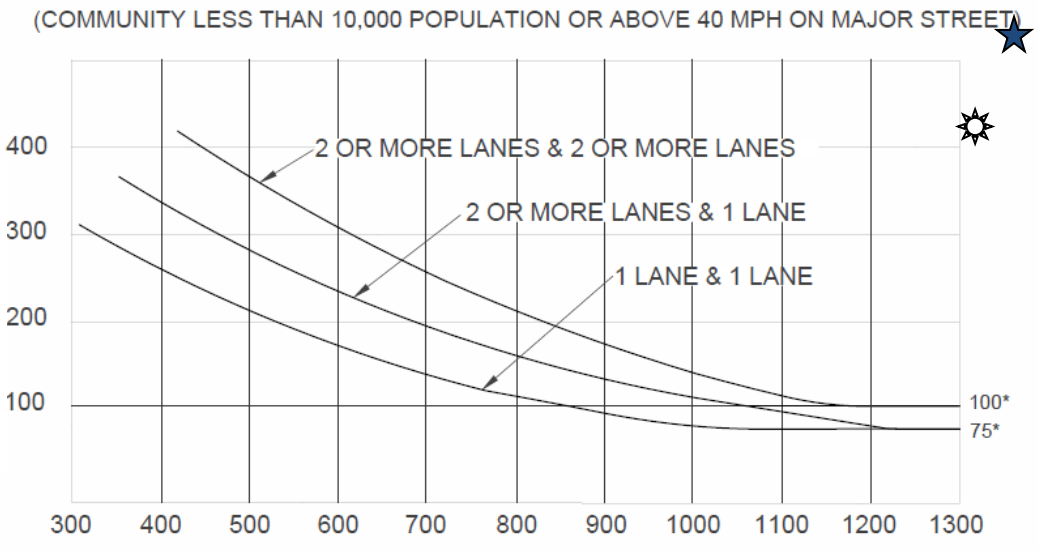
Warrant 3: Peak Hour (Rural)

Cumulative Year 2042 No Project Traffic Conditions
2. Westberry Boulevard / Cleveland Avenue
AM (PM) Peak Hour

Westberry Boulevard Highest Approach Volume = 421 (688) VPH



Cleveland Avenue Total of Both Approaches =

1870 (2136) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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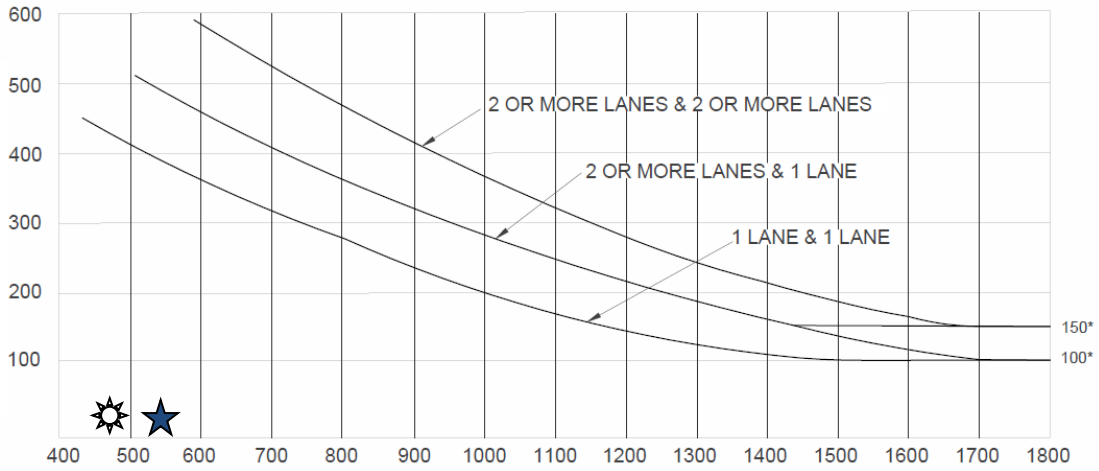
Warrant 3: Peak Hour (Urban)

Cumulative Year 2042 No Project Traffic Conditions
4. Westberry Boulevard / Fairway Avenue
AM (PM) Peak Hour

Fairway Avenue Highest Approach Volume = 18 (16) VPH



Westberry Boulevard Total of Both Approaches = 489 (534) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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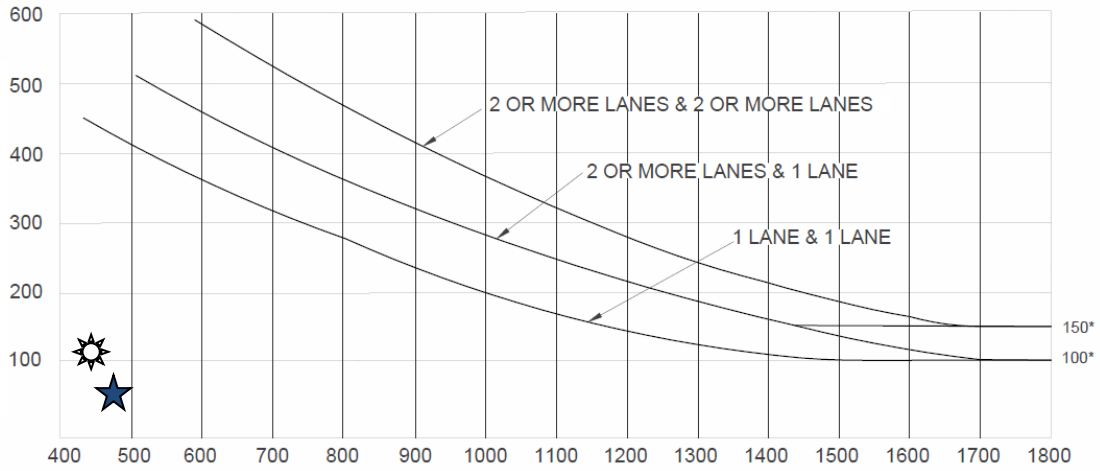
Warrant 3: Peak Hour (Urban)

Cumulative Year 2042 No Project Traffic Conditions
5. Westberry Boulevard / Fairfield Way
AM (PM) Peak Hour

Fairfield Way Highest Approach Volume =

109 (57) VPH



Westberry Boulevard Total of Both Approaches =

420 (478) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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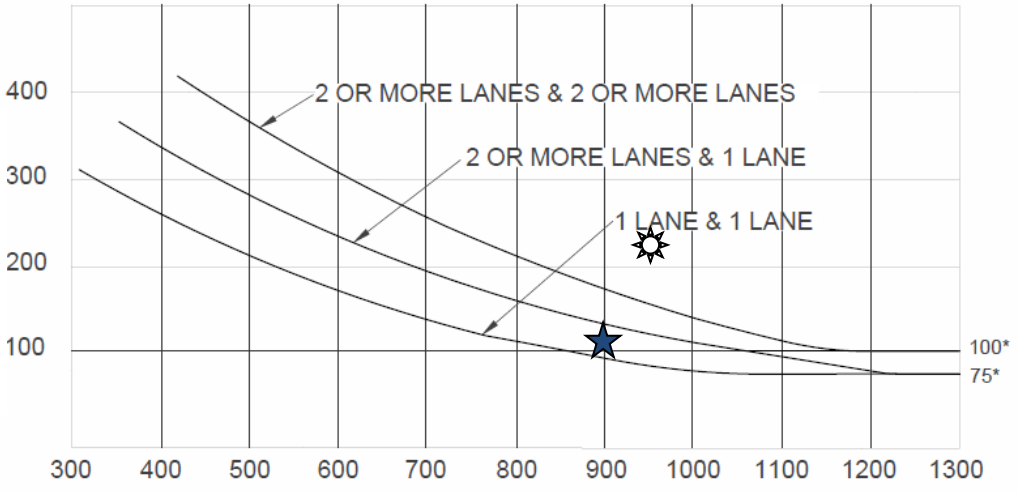
Warrant 3: Peak Hour (Rural)

Cumulative Year 2042 No Project Traffic Conditions
6. Granada Drive / Pamela Drive
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Pamela Drive Highest Approach Volume = 219 (104) VPH



Granada Drive Total of Both Approaches = 960 (900) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met
PM Peak Hour – Signal Warrant is Met

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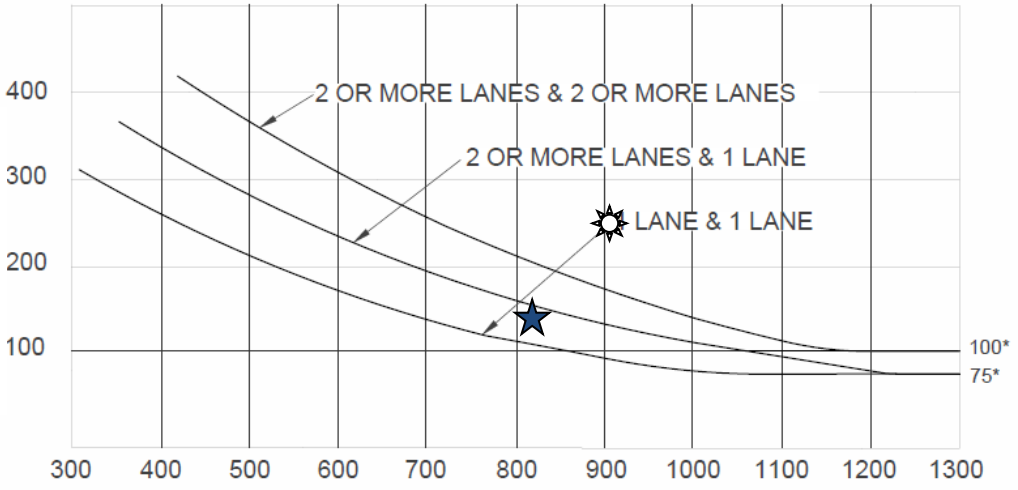
Warrant 3: Peak Hour (Rural)

Cumulative Year 2042 No Project Traffic Conditions
7. Granada Drive / Riverview Drive
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Riverview Drive Highest Approach Volume = 258 (128) VPH



Granada Drive Total of Both Approaches = 902 (817) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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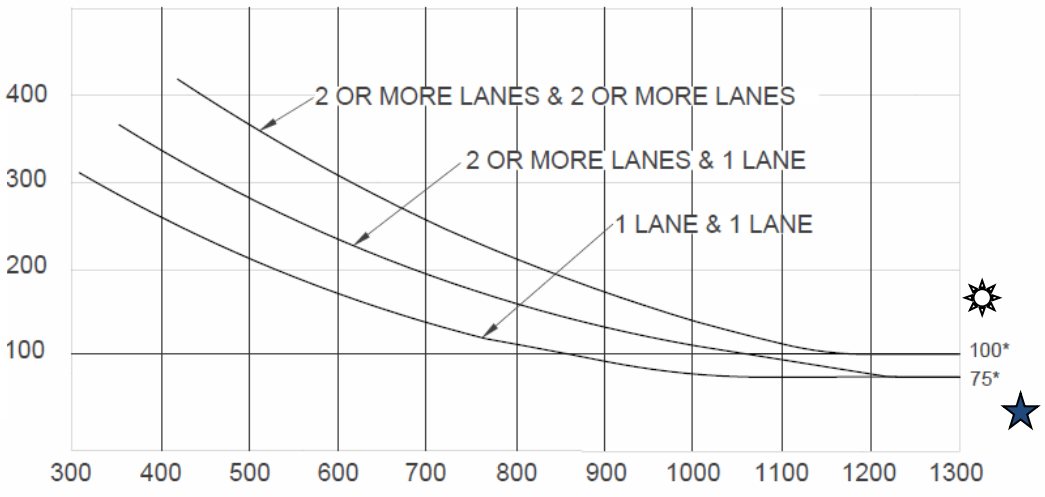
Warrant 3: Peak Hour (Rural)

Cumulative Year 2042 plus Project Traffic Conditions
1. Project Driveway / Cleveland Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Project Driveway Highest Approach Volume = 155 (41) VPH



Cleveland Avenue Total of Both Approaches =

2338 (2543) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

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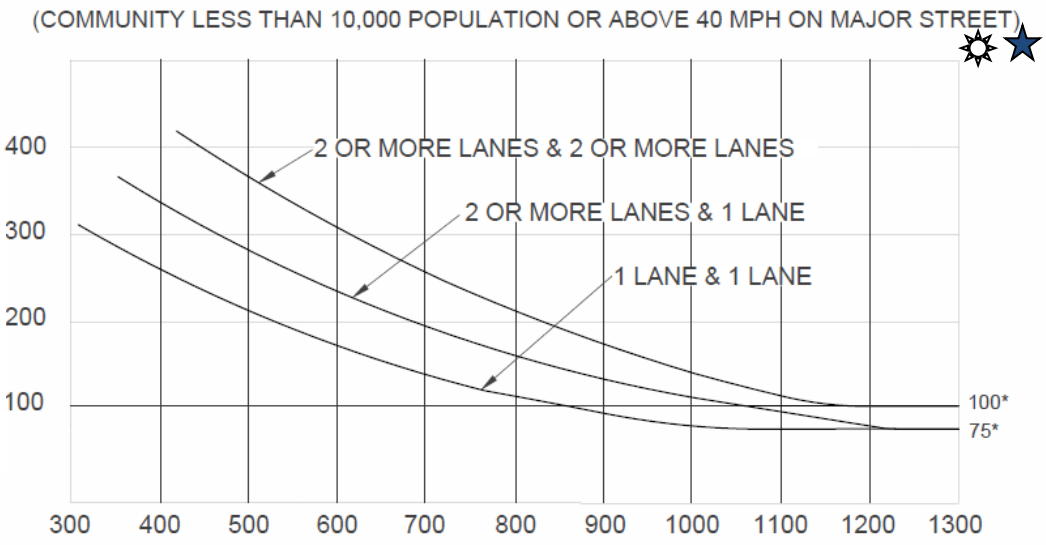
Warrant 3: Peak Hour (Rural)

Cumulative Year 2042 plus Project Traffic Conditions
2. Westberry Boulevard / Cleveland Avenue
AM (PM) Peak Hour



Westberry Boulevard Highest Approach Volume = 554 (690) VPH

Cleveland Avenue Total of Both Approaches = 2150 (2200) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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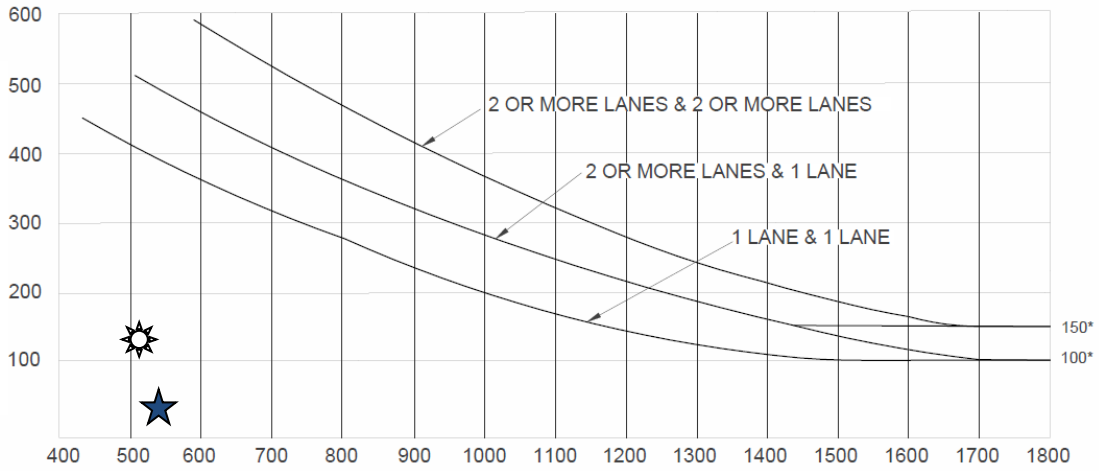
Warrant 3: Peak Hour (Urban)

Cumulative Year 2042 plus Project Traffic Conditions
4. Westberry Boulevard / Fairway Avenue
AM (PM) Peak Hour

Fairway Avenue Highest Approach Volume = 128 (38) VPH



Westberry Boulevard Total of Both Approaches = 506 (537) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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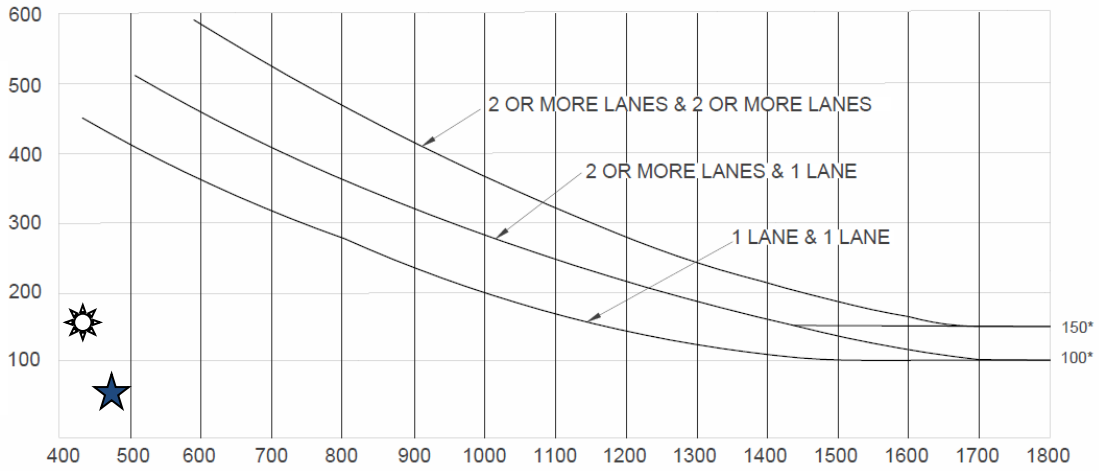
Warrant 3: Peak Hour (Urban)

Cumulative Year 2042 plus Project Traffic Conditions
5. Westberry Boulevard / Fairfield Way
AM (PM) Peak Hour

Fairfield Way Highest Approach Volume = 153 (61) VPH



Westberry Boulevard Total of Both Approaches = 421 (478) VPH

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

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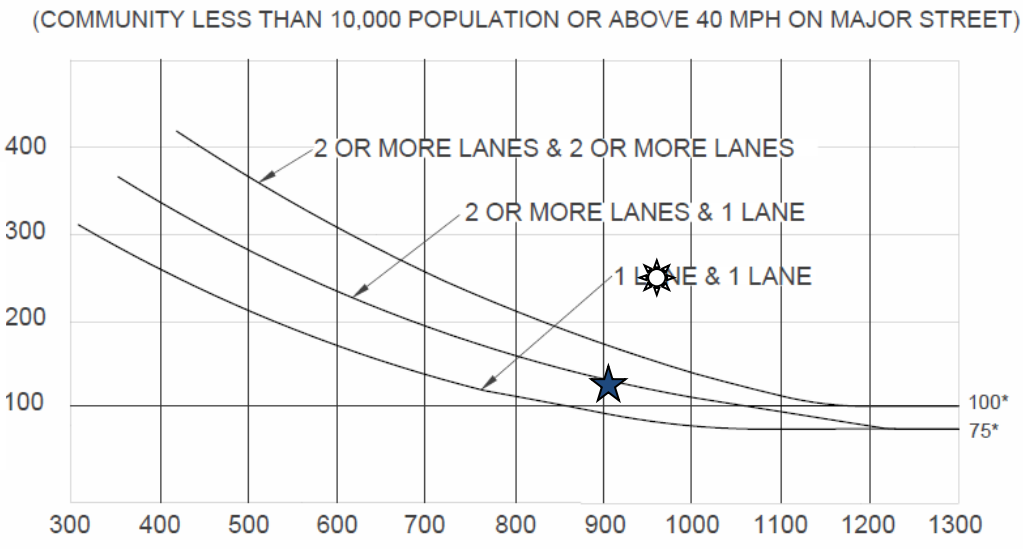
Warrant 3: Peak Hour (Rural)

Cumulative Year 2042 plus Project Traffic Conditions
6. Granada Drive / Pamela Drive
AM (PM) Peak Hour

Pamela Drive Highest Approach Volume = 249 (111) VPH



Granada Drive Total of Both Approaches =

968 (901) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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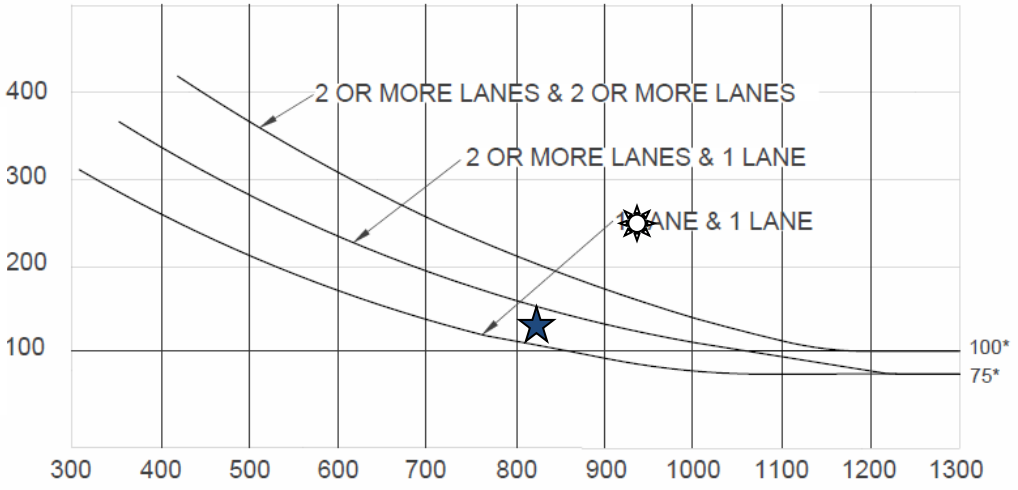
Warrant 3: Peak Hour (Rural)

Cumulative Year 2042 plus Project Traffic Conditions
7. Granada Drive / Riverview Drive
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Riverview Drive Highest Approach Volume = 258 (128) VPH



Granada Drive Total of Both Approaches = 930 (823) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

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Vehicle Miles Traveled Analysis

King Husein School

Located on the Southwest Quadrant of Westberry Boulevard and Cleveland Avenue

In the City of Madera, California

Prepared for:

Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 302
Visalia, CA 93291

July 6, 2023

Project No. 008-006

Traffic Engineering, Transportation Planning, & Parking Solutions
516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
Phone: (559) 570-8991
www.JLBtraffic.com

Traffic Engineering, Transportation Planning, & Parking Solutions

Vehicle Miles Traveled Analysis

For the King Husein School Project located on the Southwest Quadrant of Westberry Boulevard and Cleveland Avenue

In the City of Madera, CA

July 6, 2023

This Vehicle Miles Traveled Analysis has been prepared under the direction of a licensed Traffic Engineer. The licensed Traffic Engineer attests to the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data from which recommendations, conclusions and decisions are based.

Prepared by:

Jose Luis Benavides, P.E., T.E.

President

Traffic Engineering, Transportation Planning, & Parking Solutions
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Phone: (559) 570-8991
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List of Appendices

Project Description

This report describes a Vehicle Miles Traveled (VMT) Analysis prepared by JLB Traffic Engineering, Inc. (JLB) for the for the King Husein School (Project) located on the southwest quadrant of Westberry Boulevard and Cleveland Avenue in the City of Madera by the Madera Unified School District (MUSD). The Project proposes to develop 15.0 acres with a school that serves approximately 1,000 students from transitional kindergarten through eighth grade.

VMT Analysis

Regulatory Setting

Senate Bill (SB) 743 requires that relevant California Environmental Quality Act (CEQA) analysis of transportation impacts be conducted using a metric known as Vehicle Miles Traveled (VMT) instead of level of service (LOS). VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto our roads, the project may cause a significant transportation impact.

The State CEQA Guidelines were amended to implement SB 743, by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities are no longer a relevant CEQA criteria for transportation impacts.

CEQA Guidelines Section 15064.3(b)(4) states that "[a] lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

The City of Madera has not yet adopted any VMT guidelines pursuant to Senate Bill 743. Currently, the City of Madera is utilizing the Madera County Transportation Commission (MCTC) screen out maps with supporting language to conduct VMT Analyses. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (TA) published by the Governor's Office of Planning and Research (OPR) was utilized as a reference and guidance document in the preparation of this VMT Analysis.

The TA contains screening criteria that can be used to screen out qualified development projects that meet the adopted criteria from needing to prepare a detailed VMT Analysis. These criteria may be size, map based screening, proximity to transit and affordable housing. In general, development projects that are consistent with the City of Madera's General Plan and Zoning and that that meet one or more of the following criteria can be screened out from a quantitative VMT analysis.

1. Project is a Low Trip Generator (Less than 110 average daily trips)
2. Project is located in a Low VMT Zone displayed on a screen out map
3. Project Located in a Transit Priority Area/High Quality Transit Corridor (within 0.5 miles of a transit stop).
4. Project has Affordable Housing Units

The screening map includes an analysis of those portions of the City that satisfy the standard of reducing VMT by 15% from existing VMT per employee averages within the relevant region. MCTC developed a VMT screening map based on a VMT per capita and VMT per employment measure. Since the Project VMT gets driven by employment and student data, this VMT Analysis makes calculations and observations based on the VMT per employee. This Project falls within a zone (TAZ 286) that can be screened out based on employment. An image of this map and the zone of the Project can be found in Appendix A.

For projects that are not screened out, a quantitative analysis of VMT impacts must be prepared and compared against the adopted VMT thresholds of significance. These thresholds of significance were developed using the County of Madera as the applicable region and the required reduction of VMT (as stated in the TA) corresponds to contribution to the statewide GHG emission reduction target. In order to reach the statewide GHG reduction target of 15%, Madera County attempts to reduce its GHG emissions by 15%. The method of reducing GHG by 15% is to reduce VMT by 15% as well.

VMT Results

Based on data provided by MUSD, the Project is located within a defined service area generally bound by Avenue 17, the Fresno River, Road 23 and State Route 99. Moreover, the area is currently being served by other schools including Lincoln Elementary School located on the northwest quadrant of the intersection of Westberry Boulevard at Sunset Avenue in the City of Madera, Dixieland Elementary School on the southwest corner of the intersection of Road 19 at Avenue 18½ in the County of Madera and John Adams Elementary School on the northwest corner of the intersection of Pine Street at Sunset Avenue in the City of Madera. The current and proposed boundaries were used to determine the distance that the current students travel to school as well as the distance that the current students will travel to the proposed Project. The current and proposed school boundary can be located in Appendix B.

At present, the average VMT to existing schools is 4.58 miles (round-trip). Upon completion of the Project, the average VMT is projected to be 2.12 miles (round-trip). Therefore, the Project is anticipated to reduce current VMT generated by students by 53.7% ((4.58-2.12)/4.58). Considering the Project is located in an area mostly surrounded by residential land uses with adequate walking facilities, it is anticipated that a considerable number of children will walk and bike to the Project site further reducing the Project's transportation VMT impact. As a result, the Project is projected to create a less than significant VMT impact.

Conclusion

Conclusion and recommendations regarding the proposed Project are provided below:

- Per the MCTC screen out map based on VMT per Employee, the Project is located within a TAZ that can be screened out of a VMT Analysis.
- Students have a current roundtrip travel length of 4.58 miles.
- Students are proposed to have a roundtrip travel length of 2.12 miles after construction of the proposed campus.
- Therefore, the Project is anticipated to reduce the VMT generated by students by 53.7%.
- The Project has adequate walking facilities connecting to nearby neighborhoods.
- As a result, the Project is projected to create a less than significant VMT impact.

Study Participants

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Adrian Benavides	Engineering Aide

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Raquel Rios	City of Madera
Keith Helmuth	City of Madera
Will Tackett	City of Madera
Dylan Stone	Madera County Transportation Commission

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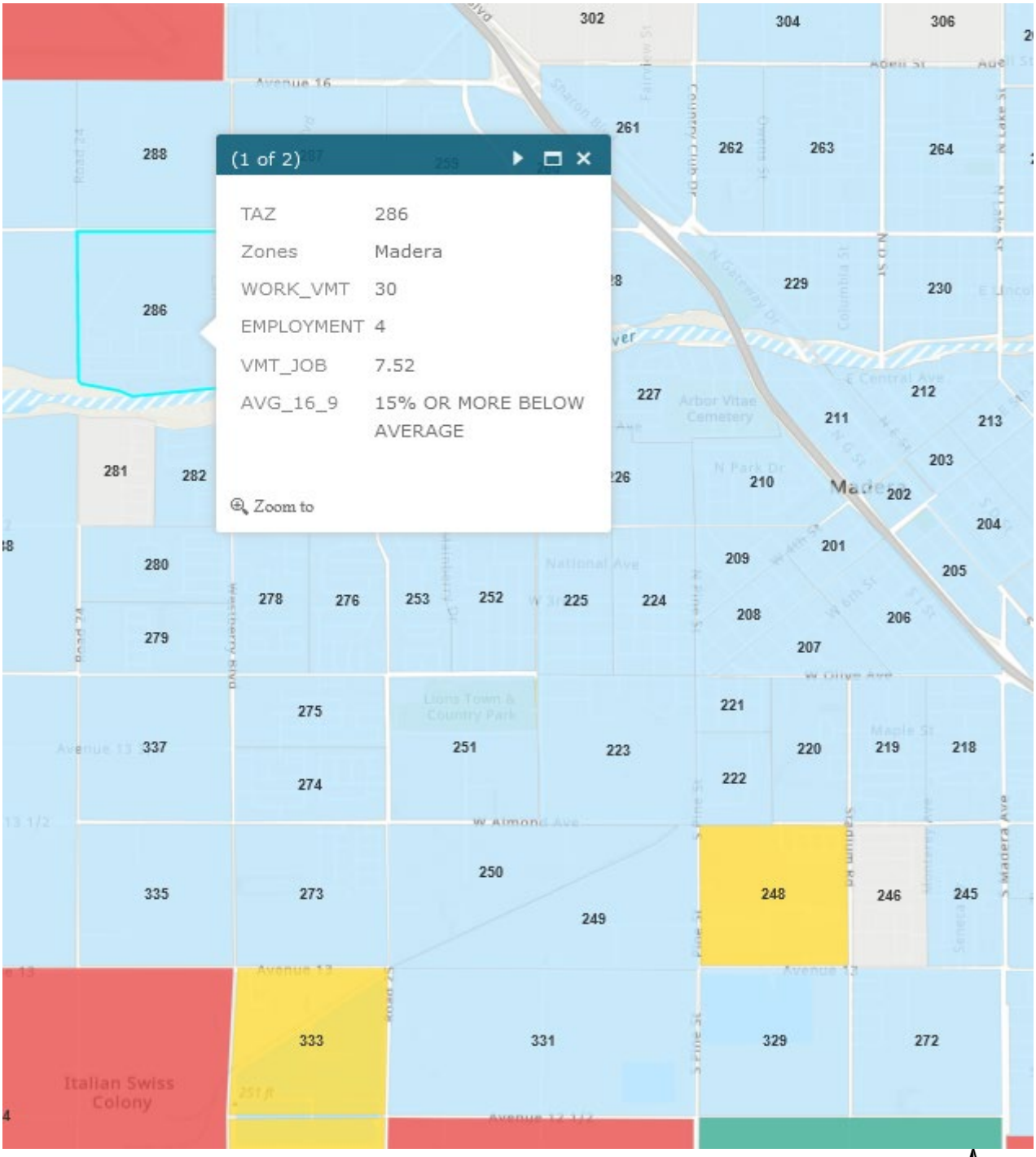
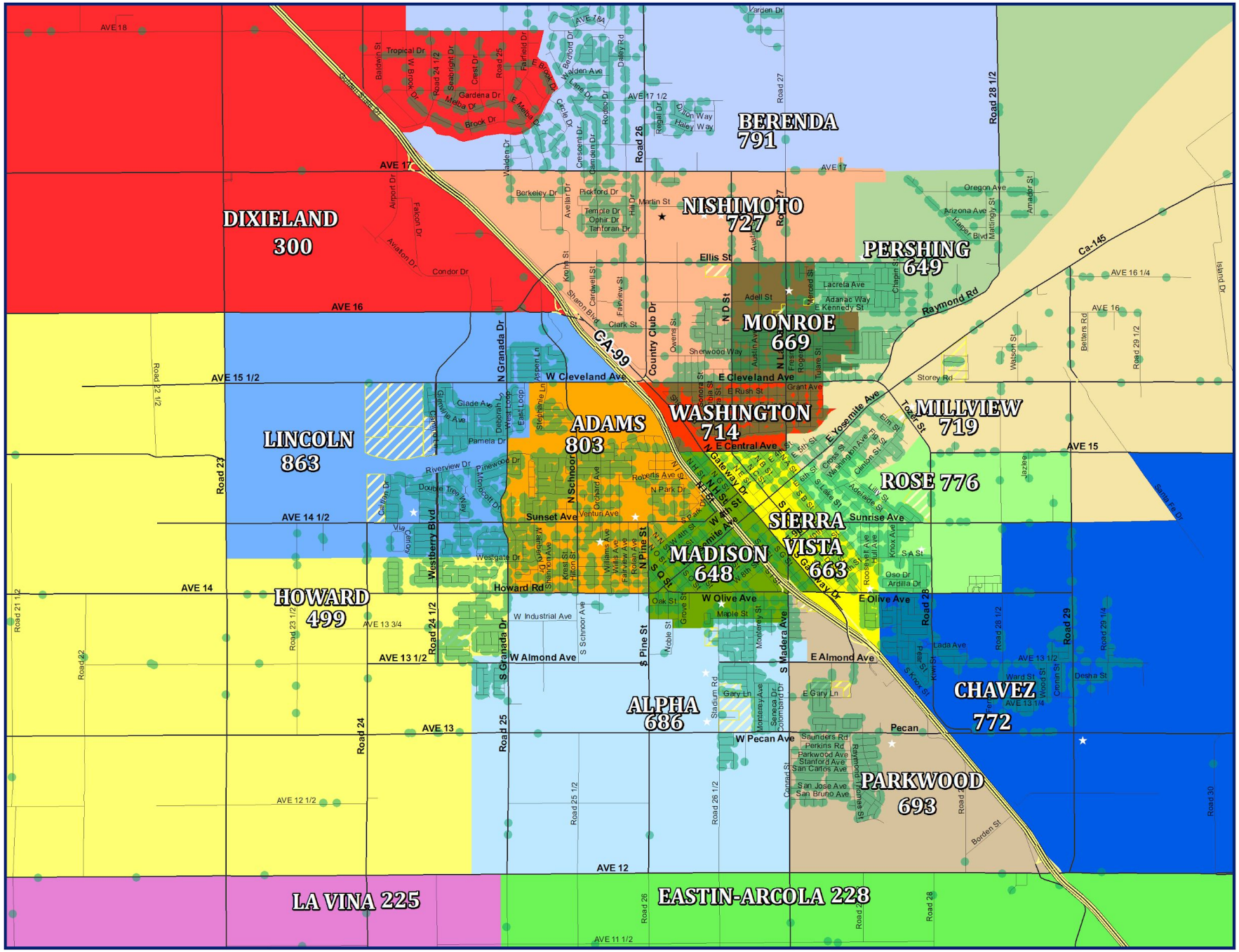
Appendix A: VMT per Employee Screen Out Map



Appendix B: Current and Potential School Boundary

Current Elementary Attendance Areas with 2019 CBEDS Enrollment



Scenario A: 1 New K-8 School West of HWY 99