

Trumble and Watson Warehouse Project
Plot Plan PLN22-0190

Initial Study – Mitigated Negative Declaration

prepared by

City of Menifee
Planning Division, Department of Community Development
29844 Haun Road
Menifee, California 92586
Contact: Russell Brown, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
250 East 1st, Suite 1400
Los Angeles, California 90012

October 2025

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Initial Study

1. Project Title

Trumble and Watson Warehouse Project.

2. Lead Agency Name and Address

City of Menifee
29844 Haun Road
Menifee, California 92586

3. Contact Person and Phone Number

Russell Brown, Senior Planner
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4. Project Location

The planned development is located at 25675 Trumble Road in the City of Menifee (City), California ("Project Site"). The Project Site encompasses approximately 17.19 acres that are identified as Assessor Parcel Numbers (APNs) 329-240-046/-048/-049/ and -051. Figure 1, below, depicts the Project Site in relation to the general region and Figure 2, below, shows the Project Site in its neighborhood context.

5. Project Sponsor's Name and Address

Lovett Industrial
Trumble Road
Menifee, CA

6. General Plan Designation and Zoning

According to the Menifee municipal code, the Project Site is within the Economic Development Corridor (EDC) zoning and general plan designation, which is intended to promote economic vitality and flexibility along the City's major development corridors. The Project Site is located in the Northern Gateway subarea, which is envisioned as an employment center at Menifee's northern gateway that focuses on providing opportunity for business park development and traditional industrial uses.

Figure 1 Regional Location



Figure 2 Project Location



7. Regional Setting

The City of Menifee is an inland city in Riverside County. Menifee is surrounded by Canyon Lake and Lake Elsinore to the west, the City of Perris to the north, the City of Hemet to the east, the City of Wildomar to the southwest, and the Cities of Murrieta and Temecula to the south. Regional access to the Project Site is available from Interstate 215 (I-215) and California State Route 74 (SR-74). Local vehicular access to the Project Site is available by Trumble Road. The Project Site is also accessible via Riverside Transit Agency (RTA) bus route 28, with the nearest bus stop located less than 500 feet east of the Project Site on Jackson Avenue.

8. Project Site and Surrounding Land Uses

The Project Site consists of four parcels located near the southeast corner of the intersection of Watson Road and Trumble Road. The Project Site is an inactive fill site and the Proposed Project involves the construction of a warehouse building and Watson Road improvements. The Project Site is currently heavily disturbed and contains limited ruderal vegetation. The elevation is approximately 1,428 feet above mean sea level (AMSL). The surrounding area contains commercial and vacant land uses with Soil Retention Products located immediately across Trumble Road, west of the Project Site. The Project Site is surrounded by commercial and light industrial uses to the west, industrial uses and Watson Road to the north, commercial and light industrial uses to the east, and residential uses and Illinois Avenue to the south. Table 1, below, lists the existing land uses that are located immediately adjacent to the Project Site.

Table 1 Surrounding Land Uses

Direction	General Plan Designation	Zoning District	Existing Land Use
Project Site	Economic Development Corridor- EDC	Economic Development Corridor – Northern Gateway (EDC-NG)	Vacant
North	Economic Development Corridor- EDC	EDC-NG	Light Industrial
South	Economic Development Corridor- EDC	EDC-NG	Single Family Residential
East	Economic Development Corridor- EDC	EDC-NG	Light Industrial
West	City of Perris - Light Industrial and Community Commercial	City of Perris - Light Industrial and Community Commercial	Commercial

9. Description of Project

Project Background

An Initial Study (IS) was prepared for a prior iteration of this project in 2023 under a separate Mitigated Negative Declaration (MND), the previous project (“2023 Project” or “2023 MND”) included the submittal of Grading Permit No. 22-019. The 2023 Project involved the rough grading and restoration of 7.6 acres of the existing Trumble Open Pit located at 25675 Trumble Road.

Project Description

The applicant proposes to construct a 328,205-square-foot warehouse building ("Project" or "Proposed Project'), including 15,000 square-feet of office space and associated parking lot and drive aisles (422 parking spaces, including 296 standard stalls and 126 trailer stalls). Watson Road would be improved while providing safe and adequate access across the railroad tracks to Highway 74). Historically, operation of the Project Site has included mining activities and soil hauling for import and export purposes. Vehicular access to the Project Site would be provided via two proposed driveways – one located at the northwest corner of the Project Site and the other on the southwest corner of the Project Site, both of which connect to Trumble Road.

The Project Site, formerly known as the Trumble Pit Site (or Trumble Road Open Pit), was originally operated as an open pit mine and soil hauling (import and export) facility and has, most recently, been used as a soil and concrete recycling area. The former open pit was subject to rough grading and restoration between 2019 and 2023. The pit restoration involved 5,000 cubic yards (cy) of cut and 207,000 cy of fill import to fill the pit and level the site.

The current Project proposes to construct a 328,205-square-foot warehouse building, including 15,000 square-feet of office space and associated parking lot and drive aisles (422 parking spaces, including 296 standard stalls and 126 trailer stalls). Watson Road would be improved while providing safe and adequate access across the railroad tracks to Highway 74.

Overall, the Project would result in approximately 29,623 cubic yards (cy) of cut strictly related to building stability and pads.

10. Required Approvals

A formal Grading permit is required through the City of Menifee Engineering Department.

The approval of a Plot Plan application is required to permit/allow a warehouse use in the Economic Development Corridor – Northern Gateway (EDC-NG).

11. Other Public Agencies Whose Approval is Required

Eastern Municipal Water District (water/sewer connections); Santa Ana Regional Water Quality Control Board [Santa Ana RWQCB] (National Pollutant Discharge Elimination System [NPDES] Permit); California Department of Fish and Wildlife (CDFW); Regional Water Quality Control Board (RWQCB); and Riverside County Airport Land Use Compatibility Plan review.

12. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code (PRC) Section 21080.3.1?

Request for AB52 tribal consultation sent out 8/01/2022 to local tribes in the area (Pechanga Band of Indians, Agua Caliente, Rincon Band of Luiseno Indians, and Soboba). Pechanga officially requested tribal consultation for the project. The cultural report was sent to Pechanga and Soboba on 1/09/2025 along with the standard city cultural conditions of approval. The City met with Soboba

on 1/28/2025 as part of ongoing quarterly meetings and Soboba agreed with implementing the agreed upon conditions of approval and had no further comments on the project. The City met with Pechanga on 5/15/2025 as a part of the ongoing quarterly meetings; the tribe agreed to implementing two conditions; 1) inadvertent finds and 2) discovery of human remains. Pechanga was previously on-site monitoring the filling of the pit and agreed to close out consultation on 5/16/2025 with the implementation of the aforementioned two conditions.

Environmental Factors Potentially Affected

This Project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

Based on 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 to 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 "less than significant with mitigation incorporated" 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 potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

Signature	Date
Printed Name	Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
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. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

For purposes of determining significance under CEQA, scenic resources are the visible natural and cultural features of the landscape that contribute to the public's enjoyment of the environment. A scenic vista is defined as a public viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Public views are those that are experienced from a publicly accessible vantage point, such as a roadway or public park. Scenic vistas can be officially designated by public agencies. The California Department of Transportation (Caltrans) manages the California State Scenic Highway Program, which designates state scenic highways. Scenic highways are highways located in areas of natural beauty. A scenic highway becomes officially designated when the local governing body applies to and is approved by Caltrans for scenic highway designation and adopts a Corridor Protection Program that preserves the scenic quality of the land that is visible from the highway right of way.

a. Would the project have a substantial adverse effect on a scenic vista?

Scenic vistas can be impacted by development in two ways. First, a structure may be constructed that blocks the view of a vista. Second, the vista itself may be altered by development.

The natural mountainous setting of the Menifee area is critical to its overall visual character and provides scenic vistas. Scenic views from Menifee include the San Jacinto Mountains to the northeast and east; the San Bernardino Mountains to the north; the San Gabriel Mountains to the northwest; and the Santa Ana Mountains to the west and southwest. The Project is located at the southeast corner of the intersection of Watson Road and Trumble, where views of hillsides and mountains are visible from all directions from the Project Site, though existing structures and trees obstruct clear viewsheds. However, as discussed in the General Plan Draft EIR, implementation of General Plan policies would ensure that areas that are designated for development would minimize impacts on scenic vistas by preserving the undisturbed hillsides and other natural landforms (Menifee 2013a).

The Project would not substantially block views of any hillsides and mountains (e.g., Menifee Mountain) surrounding the Project Site, including the mountainous portion of the Project Site, due to the relatively low height of the warehouse proposed and existing industrial and commercial development surrounding the Project Site. Existing views of the San Jacinto Mountains, San Bernadino Mountains, the San Gabriel Mountains, and the Santa Ana Mountains are limited by site topography and existing structures near the Project Site. Thus, impacts would be considered less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The Project Site is not adjacent to any officially designated state scenic highway as identified by the California Scenic Highway Mapping System (California Department of Transportation [Caltrans] 2019). However, the City of Menifee General Plan Community Design Element designates I-215 as an Enhanced Landscape Corridor (Menifee 2013b). Enhanced Landscape Corridors are intended to help foster a strong identity along the City's major corridors and receive special design consideration to ensure they complement the existing community and help visually frame the community's most distinctive features. The City's Scenic Corridors are the same as roadways designated Eligible County Scenic Highways in the Circulation Element. The Proposed Project is located 0.3 mile east of I-215. The Proposed Project cannot be seen from I-215 due to the flat topography of the area and surrounding development. All proposed changes would be contained within the Project Site.

The Project Site contains no scenic resources such as rock outcroppings, significant trees, or historical buildings. Therefore, development of the Proposed Project would not damage scenic resources within view from a state scenic highway. Moreover, as discussed in the General Plan EIR, implementation of General Plan policies and compliance with City Design Guidelines would ensure that the Proposed Project would not cause significant impacts on these resources. In addition, I-215 is not an officially designated as a scenic highway, impacts to these views would be less than significant, and no mitigation is required.

LESS THAN SIGNIFICANT IMPACT

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Development of the Project could result in a significant impact if it resulted in substantial degradation of the existing visual character or quality of the site and its surroundings. Degradation of visual character or quality is defined by substantial changes to the existing site appearance through construction of structures such that they are poorly designed or conflict with the Project Site's existing surroundings. However, the Project Site is not considered to be located in a non-urbanized area, as discussed below, since its surrounded by industrial and commercially zoned land.

In particular, the Proposed Project would develop a warehouse on the Project Site. While development of the Project would modify the appearance of the Project Site relative to existing conditions, it is not anticipated to degrade the existing visual character or quality of the site since the Proposed Project would construct a warehouse similar in scale and style to the commercial buildings located to the east, west, and south of the Project Site.

Upon approval of the Project, the addition of the warehouse would not degrade the existing visual character or quality of the site and its immediate surroundings and would be consistent with the City's envisioned visual character and quality of the Project Site and surrounding neighborhoods. Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Excessive or inappropriately directed lighting can adversely impact nighttime views by reducing the ability to see the night sky and stars. Glare can be caused from unshielded or misdirected lighting sources. Reflective surfaces (i.e., polished metal) can also cause glare. Impacts associated with glare range from simple nuisance to potentially dangerous situations (i.e., if glare is directed into the eyes of motorists). There are lighting sources adjacent to the Project Site on Trumble Road, including free-standing streetlights, light fixtures on buildings, vehicle headlights, and traffic lights. There are no existing light sources on the Project Site.

Chapter 6.01 of the Menifee Municipal Code (Dark Sky; Light Pollution) indicates that low-pressure sodium lamps are the preferred illuminating source and that all non-exempt outdoor light fixtures shall be shielded. A maximum of 8,100 total lumens per acre or per parcel if less than one acre shall be allowed. When lighting is allowed, it must be fully shielded if feasible and partially shielded in all other cases and must be focused to minimize spill light into the night sky and onto adjacent properties (Section 6.01.040). The Project Site will be conditioned that, prior to the issuance of building permits, all construction activities that would introduce light sources be required to have shielding or other light pollution limiting characteristics such as hood or lumen restrictions.

The City of Menifee General Plan Community Design Element includes goals that encourage attractive landscaping, lighting, and signage that conveys a positive image of the community (CD-6) and that limit light leakage and spillage that may interfere with the operations of the Palomar Observatory (Goal CD-6.5). Lighting associated with the Proposed Project would comply with Menifee Municipal Code Section 6.01 and General Plan goals. Accordingly, the Proposed Project

would have a less than significant impact on interfering with the nighttime use of the Mt. Palomar Observatory.

In addition, the Project design does not propose any new highly reflective materials that could potentially cause significant glare during the day, such as stainless-steel panels. The design of the Project, including its finish, colors, and materials, would be reviewed for approval through the City's review process. This regulatory procedure provides the City with an additional layer of review for aesthetics including light and glare, and an opportunity to incorporate additional conditions to improve the Project's building materials and lighting plans. The City of Menifee General Plan Community Design Element includes goals that encourage attractive landscaping, lighting, and signage that conveys a positive image of the community (CD-6) and that limit light leakage and spillage that may interfere with the operations of the Palomar Observatory (Goal CD-6.5) (Menifee 2013c). Therefore, upon compliance with Menifee Municipal Code Section 6.01 and General Plan lighting goals, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on 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?	☐	☐	☐	■

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The Proposed Project is located on a developed site, and the surrounding parcels are comprised of commercial and light industrial uses. The map of Important Farmland in California (2014) prepared by the Department of Conservation (DOC) does not identify the Project Site as being Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2025). The Project Site is designated as Farmland of Local Importance, Other Land, and Urban and Built-Up Land by the Farmland Mapping and Monitoring Program (FMMP), which means the site had been designated for

agricultural use in previous local plans (DOC 2025). However, the Project Site is not designated as being Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

The Project Site is designated EDC in the City's General Plan and is zoned EDC - Northern Gateway (EDC-NG). The Project Site is already heavily disturbed. And according to the General Plan and Zoning Map, the Proposed Project is intended for non-farmland uses, and would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance into non-agricultural uses. Therefore, no impact would occur.

NO IMPACT

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

No Williamson Act Contracts are active for the Project Site. The Project Site is zoned EDC - Northern Gateway (EDC-NG), which is intended as a business park area providing light industrial uses. Therefore, the Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act Contract. Thus, no impact would occur.

NO IMPACT

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

Public Resources Code Section 12220(g) identifies forest land as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish, and wildlife, biodiversity, water quality, recreation, and other public benefits. The Project Site and surrounding properties are not currently being managed or used for forest land as defined in Public Resources Code Section 12220(g). Historically, operation of the Project Site has included mining activities and soil hauling for import and export purposes. Therefore, development of the Proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Thus, no impact would occur.

NO IMPACT

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

The Project Site has historically been used for mining activities and soil hauling; thus, there would be no loss of forest land or conversion of forest land to non-forest use as a result of the Proposed Project. As a result, no impact would occur.

NO IMPACT

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

The Project Site is classified as Farmland of Local Importance and Urban Built-Up Land; however, the Project Site is designated EDC and zoned EDC – Northern Gateway (EDC-NG). The Project Site is not currently being used for agriculture, nor has it been historically used for agriculture. Menifee's

future development emphasizes mixed-use, commercial, industrial, and residential projects rather than supporting the continuation of agricultural uses, which are becoming less economically viable (Menifee 2013). Development of the Proposed Project would not involve changes in the existing environment in a manner that would result in the conversion of agricultural land to non-agricultural land or forest land to non-forest land. Therefore, no impact would occur, and no mitigation is required.

NO IMPACT

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3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	■	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

Most of the information below is based on Appendix A, CalEEMod Worksheets, to this MIND.

Overview of Air Pollution

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),[1] nitrogen oxides (NO_X), particulate matter with diameters of ten microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO_X. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles. Secondary pollutants include oxidants, ozone, sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

[1] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this IS-MND.

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.
- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air Quality Standards and Attainment

The Project Site is located in the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). As the local air quality management agency, SCAQMD must monitor air pollutant levels to ensure that the NAAQS and CAAQS are met, if they are not met, to develop strategies to meet the standards.

Depending on whether the standards are met or exceeded, the SCAB is classified as being in "attainment" or "nonattainment." In areas designated as nonattainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants. The human health associated with these criteria pollutants, presented in Table 2, is already occurring in those areas as part of the environmental baseline condition. Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The SCAB is in nonattainment for ozone and $PM_{2.5}$ federal standards. Also, the SCAB is in nonattainment for the state standard for PM_{10} and designated unclassifiable or in attainment for all other federal and state standards (CARB 2023). The nonattainment statuses result from several factors. These factors include the combination of emissions from a large urban area, the regional meteorological conditions adverse to the dispersion of air pollution emissions, and the mountainous terrain surrounding the SCAB that traps pollutants. (SCAQMD 2022).

Table 2 Health Effects Associated with Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	Reduces oxygen delivery leading to: (1) aggravation of chest pain (angina pectoris) and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.
Nitrogen dioxide (NO_2)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide (SO_2)	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.

Pollutant	Adverse Effects
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).[1]
Suspended particulate matter ($PM_{2.5}$)	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma.
Lead	(1) Short-term overexposures: lead poisoning can cause (a) anemia, (b) weakness, (c) kidney damage, and (d) brain damage; (2) long-term exposures: long-term exposure to lead increases risk for (a) high blood pressure, (b) heart disease, (c) kidney failure, and (d) reduced fertility.

Source: United States Environmental Protection Agency (U.S. EPA) 2024

Air Quality Management

Since the SCAB currently exceeds ozone and $PM_{2.5}$ NAAQS standard, the SCAQMD is required to implement strategies to reduce pollutant levels to achieve attainment of the NAAQS. The SCAQMD 2022 Air Quality Management Plan (2022 AQMP) is a regional blueprint designed to meet the NAAQS and demonstrate how attainment will be reached. The 2022 AQMP represents a thorough analysis of existing and potential regulatory control options, includes available, proven, and cost-effective strategies, and seeks to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The prior AQMP, published in 2016, determined that, with implementation of the proposed control strategy, the SCAB could expect to reach attainment of the 1997 8-hour ozone standard by July 15, 2024, and the 2012 annual $PM_{2.5}$ by 2025. The 2006 24-hour $PM_{2.5}$ did not meet the attainment date of December 31, 2019, which required SCAQMD to revise the plan to meet standard as early as possible. SCAQMD's 2022 AQMP, an update to the 2016 AQMP, was developed to identify and implement strategies and control measures to meet the 2015 8-hour ozone NAAQS as expeditiously as practicable, but no later than the statutory attainment deadline of August 3, 2038 for the SCAB (SCAQMD 2022).

Air Emission Thresholds

The SCAQMD approved the *CEQA Air Quality Handbook* in 1993. Since then, the SCAQMD has provided supplemental guidance on their website to address changes to the methodology and nature of CEQA since the publication of the Handbook. Some of these changes include recommended thresholds for emissions associated with both construction and operation of the Project are used to evaluate a project's potential regional and localized air quality impacts (SCAQMD 2023).

Regional Thresholds

Table 3 presents the significance thresholds for regional construction and operational-related criteria air pollutant and precursor emissions being used for the purposes of this analysis.

Table 3 Air Quality Thresholds of Significance

Pollutant	Construction (pounds per day)	Operation (pounds per day)
NO_x	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_x	150	150
CO	550	550

NO_x = Nitrogen Oxides; VOC = Volatile Organic Compounds; PM_{10} = Particulate Matter with a diameter no more than 10 microns; $PM_{2.5}$ = Particulate Matter with a diameter no more than 2.5 microns; SO_x = Sulfur Oxide; CO = Carbon Monoxide

Source: SCAQMD 2023

Localized Significance Thresholds

In addition to the above regional thresholds, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities and have been developed for NO_X, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or State ambient air quality standard at the nearest sensitive receptor by taking into consideration ambient concentrations in each SRA, distance to the sensitive receptor, and project size. LSTs have been developed for emissions generated in construction areas up to five acres in size. However, LSTs only apply to emissions in a fixed stationary location and are not applicable to mobile sources, such as cars on a roadway (SCAQMD 2009).

The Project Site is located within SRA 24 (Perris Valley). SCAQMD provides LST lookup tables for Project Sites that measure one, two, or five acres. The construction area of the Project Site is approximately 17.2 acres. Therefore, the LST analysis conservatively uses five-acre LSTs. LSTs are provided for receptors at a distance of 82 feet (25 meters), 164 feet (50 meters), 328 feet (100 meters), 656 (200 meters), 1,640 feet (500 meters) from the Project disturbance boundary to the sensitive receptors. The border of construction activity would occur approximately 10 feet to single-family residences located south of the Project Site. According to the SCAQMD's publication, *Final LST Methodology*, projects with boundaries located closer than 82 feet to the nearest receptor should use the LSTs for receptors located at 82 feet (SCAQMD 2009). Therefore, the analysis below uses the LST values for 82 feet. LSTs for construction and operation in SRA 24 on a five-acre site with a receptor 82 feet away are shown in Table 4.

Table 4 SCAQMD LSTs for Construction/Operation (SRA-24)

Pollutant	Allowable Emissions from a Five-acre Site in SRA-24 for a Receptor 82 Feet Away (lbs/day)
Gradual conversion of NO_X to NO_2	270/270
CO	1,577/1,577
PM_{10}	13/4
$PM_{2.5}$	8/2

lbs/day = pounds per day; NO_X = nitrogen oxides; NO_2 = nitrogen dioxide; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter; SCAQMD = South Coast Air Quality Management District

Allowable Emissions for a 5-acre Site in SRA-24 for a Receptor 82 Feet Away

Source: SCAQMD 2009

Toxic Air Contaminants

SCAQMD has developed significance thresholds for the emissions of toxic air contaminants (TACs) based on health risks associated with elevated exposure to such compounds. For carcinogenic compounds, cancer risk is assessed in terms of incremental excess cancer risk. A project would result in a potentially significant impact if it would generate an incremental excess cancer risk of 10 in 1 million (1×10^{-6}) or a cancer burden of 0.5 excess cancer cases in areas exceeding a one-in-one-million risk. In addition, non-carcinogenic health risks are assessed in terms of a hazard index. A project would result in a potentially significant impact if it would result in a chronic and acute hazard index greater than 1.0 (SCAQMD 2023).

Methodology

Air pollutant emissions generated by Project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1.1. CalEEMod uses Project-specific information, including the Project's land uses, square footage for different uses (e.g., warehouse, office and parking), and location, to model a Project's construction and operational emissions. The analysis reflects the construction and operation of the Project as described under Section 9, *Project Description.*

Construction emissions modeled include emissions generated by construction equipment used on-site and vehicle trips associated with construction, such as worker and vendor trips. CalEEMod estimates construction emissions by multiplying the time equipment is in operation by emission factors. CalEEMod defaults were used to estimate quantities and hours of operation for each construction phase. Construction of the Proposed Project was analyzed based on the applicant-provided construction schedule and site plans. Construction would begin in October 2025 and occur over approximately 20 months. During the grading phase, all excavated soil would be used as fill onsite. Therefore, hauling trips would not be required for soil export. The Project applicant has indicated that construction equipment would utilize U.S. EPA Tier 4-rated diesel engines at a minimum. The Project assumes that construction equipment used would be diesel-powered and would comply with applicable regulatory standards. In particular, the Project would comply with SCAQMD Rule 403 for dust control measures and Rule 1113 for architectural coating VOC limits.

The proposed uses were assigned the following land uses based on the *CalEEMod User Guide*: Warehouse facilities were assumed as "Unrefrigerated Warehouse – No Rail" and the office spaces were assumed as "General Office Building." Parking and on-site non-asphalt surfaces such as landscaping were modeled as such.

Operational emissions modeled include mobile source emissions (i.e., vehicle emissions), energy emissions, and area source emissions. Mobile source emissions are generated by vehicle trips to and from the Project Site. The trip generation rates in CalEEMod were adjusted to be consistent with the 861 daily vehicle trips estimate in the *Trip Generation Estimate Memorandum*[2] prepared by

2 This analysis uses Non Passenger Car Equivalent (Non PCE) trip generation estimates in order to accurately reflect emissions from light, medium, and heavy duty trucks.

Translutions (2025). Total trip generation includes approximately 33 2-axle trucks, 45 3-axle trucks, and 119 4-axle trucks. In addition, because weekend trip rates and VMT were not provided by the transportation impact analysis, this analysis uses the same trip rates for weekdays and weekends. Emissions attributed to energy use include natural gas consumption by appliances as well as for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products, and architectural coatings.

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

A project may be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding forecasts used in the development of the AQMP. The 2022 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates local city general plans and the Southern California Association of Governments (SCAG)'s 2020 RTP/SCS socioeconomic forecast projections of regional population, housing, and employment growth (SCAQMD 2022, SCAG 2020).

The Proposed Project would involve the construction and operation of an industrial building. The Proposed Project would not directly increase the city's population since it does not involve the construction of housing. However, the Proposed Project could potentially increase the number of new employees in Menifee. According to the SCAG Employment Density Report, warehouses typically have an average of one employee for every 1,195 square feet of floor space, while low-rise offices average one employee for every 1,014 square feet of floor space (SCAG 2001). Based on these figures, the Project's warehousing floor space would accommodate approximately 262 employees, and the office floor space would accommodate approximately 15 employees. Therefore, the Project as a whole would create approximately 277 employees. Although Project employees would likely be drawn from the existing labor pool in the region and may not relocate to the City, this analysis conservatively assumes that 277 employees would relocate to the City and become new residents.

According to the SCAG's RTP/SCS Demographic and Growth Forecast Appendix, the City of Menifee had an estimated population of 40,200 in 2016 (SCAG 2020). SCAG's 2020 RTP/SCS forecast the city's population is to increase to approximately 129,800 by 2045, which is an increase of 89,600 or 222 percent from the 2016 population (SCAG 2020). The addition of approximately 277 new residents (employees moving to the city for employment) would constitute approximately 0.3 percent of the city's total projected population growth through year 2045. Therefore, potential indirect population growth generated by the Project would be within the respective SCAG growth forecast.

The employment growth forecasts in SCAG's 2020 RTP/SCS for the City of Menifee estimate that the total number of jobs would increase from 13,800 in 2016 to 29,200 in 2045, for an increase of 15,400 jobs (SCAG 2020). The Project would include approximately 277 employment opportunities from the warehouse and office uses. The Proposed Project would be within the SCAG's projected 2045 employment increase of 15,400 jobs from 2016, and the Project would not cause the City of Menifee to exceed official regional employment projections. Therefore, the Project would be consistent with the 2022 AQMP and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The SCAB has been designated as a federal nonattainment area for ozone and $PM_{2.5}$ and a state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$. The SCAB is designated unclassifiable or in attainment for all other federal and state standards.

Construction Emissions

Project construction would generate temporary air pollutant emissions associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction equipment and construction vehicles in addition to VOC emissions that would be released during the drying of architectural coating and paving phases. Table 5 summarizes the estimated maximum daily emissions of pollutants during project construction. As shown therein, construction-related emissions would not exceed SCAQMD thresholds. Therefore, Project construction would not 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. Impacts would be less than significant.

Table 5 Project Construction Emissions

	Maximum Daily Emissions (lbs/day)				
Year	**TOG[1]**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
2025	1	3	30	8	4
2026	1	5	36	4	2
2027	59	5	22	2	1
SCAQMD Threshold	75	100	550	150	55
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**

[1] Total Organic Gases (TOG) were conservatively compared to SCAQMD thresholds for VOC because CalEEMod version 2022.1 does not display VOC emissions.

Note: Some numbers may not add up precisely due to rounding. See Appendix C for complete modeling results.

For a conservative estimate of project emissions, construction and operational emissions were modeled during winter and summer, then reported for the maximum day during the winter or summer, whichever was highest. Maximum daily emission estimates were then compared to the SCAQMD thresholds measured in pounds-per-day.

Operational Emissions

Operation of the Project would generate criteria air pollutant emissions associated with area sources (e.g., architectural coatings, consumer products, and landscaping equipment), energy sources (i.e., use of natural gas for space and water heating), and mobile sources (i.e., vehicle trips to and from the Project Site). Table 6 summarizes the Project's maximum daily operational emissions by emission source. As shown therein, operational emissions would not exceed SCAQMD regional thresholds for criteria pollutants. Therefore, Project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, and impacts would be less than significant.

Table 6 Project Operational Emissions

Emission Source	Maximum Daily Emissions (lbs/day)					
	TOG[1]	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Mobile	1	8	17	<1	7	2
Area	10	<1	14	<1	<1	<1
Energy	<1	2	1	<1	<1	<1
Project Emissions	12	11	33	<1	7	2
SCAQMD Regional Thresholds	55	55	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

[1] Total Organic Gases (TOG) were conservatively compared to SCAQMD thresholds for VOC because CalEEMod version 2022.1 does not display VOC emissions.

lbs/day = pounds per day; TOG = total organic gases; NO_x = nitrogen oxide; CO = carbon monoxide; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: Some numbers may not add up precisely due to rounding considerations. See Appendix C for complete modeling results.

In addition, the Project would be required to comply with SCAQMD's 2305 Indirect Source Rule for warehouses greater than or equal to 100,000 square feet of indoor floor space which is anticipated to further reduce operational emissions. Rule 2305 establishes the WAIRE Program, which is aimed at reducing emissions either directly from the site or elsewhere in the region. The WAIRE Program implements a points system for warehouse operators based on weighted annual truck trips and warehouse size in order to determine the extent of compliance obligations. Such obligations are met by completing actions off the WAIRE Menu, by implementing an approved Custom WAIRE Plan, or by paying a mitigation fee every year. While there is anticipated to be a reduction in emission from what is presented in the analysis, it is possible that reductions are achieved entirely through mitigation fees or other indirect means. Therefore, the reductions cannot be quantified because the exact measures to be implemented are unknown at this time.

LESS THAN SIGNIFICANT IMPACT

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

Carbon Monoxide Hotspots

The *Trip Generation Memorandum* prepared by Translutions (2025) estimated the Project would add 561 vehicle trips per day. Of these trips, there would be 197 truck trips (equivalent to 497 passenger cars) and 364 passenger car trips. A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. The SCAB has been attaining federal CO standards since 2007, and most air quality monitoring stations no longer report CO levels (SCAQMD 2017). The nearest monitoring station from the Project Site measured a maximum 1-hour and 8-hour CO concentrations of 1.3 ppm and 0.7 ppm, respectively, in 2023 (SCAQMD 2024). These concentrations are well below the respective 1-hour and 8-hour standards of 20 ppm and 9 ppm. Typical development projects, such as the Project, do not emit the levels of CO necessary to result in a localized hot spot.

As an example, a detailed carbon monoxide analysis was conducted during the preparation of the SCAQMD's 2003 AQMP. The locations selected for microscale modeling in the 2003 AQMP included

high average daily traffic (ADT) intersections in the SCAB that are expected to experience the highest CO concentrations. In the City of Menifee General Plan Circulation Element Traffic Study's Table 4-1, the highest existing (2012) ADT along Ethanac Road is 11,300 ADT (City of Menifee 2013). The Proposed Project is expected to generate 561 daily trips but would not increase traffic volumes on Menifee Road to more than 100,000 ADT. This is significantly below the 100,000 ADT at the intersection studied by SCAQMD in the 2003 AQMP, which found that CO emissions at that intersection were below the federal standards. Therefore, the Project would not expose sensitive receptors to substantial CO pollutant concentrations and impacts would be less than significant.

Localized Significance Thresholds

Sensitive receptors in the Project vicinity include single-family residences located south of the Project Site, ranging from 10 to 300 feet from the Project Site boundary. The Project would not include the siting of new sensitive receptors. Localized air quality impacts to sensitive receptors typically result from localized criteria air pollutants and TACs. SCAQMD has developed LSTs to estimate exposure of individuals to criteria pollutants in local communities. Table 7 and Table 8 show the estimates of the on-site construction and operational emissions considering the size of the Project, the location, and the receptor distance to the nearest sensitive receptor. The Project-specific LST threshold in Sensitive Receptor Area (SRA) 24, with allowable emissions for a five-acre Project Site with a receptor distance of 82 feet. As shown therein, localized construction and operational emissions would not exceed SCAQMD LST thresholds for criteria pollutants. Therefore, Project construction and operation would not result in a local air quality impact, and potential impacts would be less than significant.

Table 7 Project LST Construction Emissions

	Maximum Daily Emissions (lbs/day)					
Year	**VOC**	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Maximum On-site Emissions	59	4	35	<1	8	4
SCAQMD LST	N/A	270	1,577	N/A	13	8
Threshold Exceeded?	**N/A**	**No**	**No**	**N/A**	**No**	**No**

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = nitrogen oxide; CO = carbon monoxide; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: Maximum on-site emissions are the highest emissions that would occur on the Project Site from on-site sources, such as heavy construction equipment and architectural coatings, and excludes off-site emissions from sources such as construction worker vehicle trips. Some numbers may not add up precisely due to rounding considerations.

Source: See CalEEMod worksheets in Appendix A

Table 8 Project LST Operational Emissions

Emission Source	Maximum Daily Emissions (lbs/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Maximum On-site Emissions	11	2	16	<1	<1	<1
SCAQMD LST	N/A	270	1,577	N/A	4	2
Threshold Exceeded?	**N/A**	**No**	**No**	**N/A**	**No**	**No**

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = nitrogen oxide; CO = carbon monoxide; PM_{10} = particulate matter with a diameter no more than 10 microns; $PM_{2.5}$ = particulate matter with a diameter no more than 2.5 microns; SO_x = sulfur oxide

Notes: Maximum on-site emissions are the highest emissions that would occur on the Project Site from on-site sources, such as heavy construction equipment and architectural coatings, and excludes off-site emissions from sources such as construction worker vehicle trips. Some numbers may not add up precisely due to rounding considerations.

Source: See CalEEMod worksheets in Appendix A

Toxic Air Contaminants

Construction

Construction-related activities would result in temporary Project-generated diesel particulate matter exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities. Generation of diesel particulate matter, which was identified as a TAC by CARB in 1998, from construction projects typically occurs in a single area for a short period. The Proposed Project's construction would occur in phases over approximately 20 months with sensitive receptors approximately 10 feet from the Project Site. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has to the substance. Dose is positively correlated with time, and a more extended exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a more extended period. According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period (assumed to be the approximate time that a person spends in a household). OEHHA recommends this risk be bracketed with 9-year and 70-year exposure periods. Health risk assessments should be limited to the period/duration of activities associated with the Project.

The maximum $PM_{2.5}$ emissions, which is used to represent DPM emissions for this analysis, would occur during site preparation activities. While site preparation emissions represent the worst-case condition, such activities would only occur for approximately three months, which is less than three percent, 0.9 and 0.6 percent of the typical health risk calculation period of 9 years, 30 years, and 70 years, respectively. $PM_{2.5}$ emissions would decrease for the remaining construction period because construction activities such as building construction and paving would require less construction equipment. In addition, the Project would implement would utilize U.S. EPA Tier 4-rated diesel engines at a minimum, which would reduce DPM emissions compared to an average construction fleet mix.

The Proposed Project would also be consistent with the applicable AQMP requirements and control strategies intended to reduce emissions from construction equipment and activities. The Proposed Project would comply with the CARB Air Toxics Control Measure that limits diesel powered

equipment and vehicle idling to no more than five minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction.

Given the aforementioned, DPM generated by Project construction is not expected to create conditions where the probability that the Maximally Exposed Individual would contract cancer is greater than 10 in one million or to generate ground-level concentrations of noncarcinogenic TACs that exceed a Hazard Index greater than one in one million for the Maximally Exposed Individual. Construction impacts to sensitive receptors would be less than significant.

Operation

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* notes that warehouse facilities with over 100 trucks per day can be a source of TACs due to DPM emissions (CARB 2005). According to the Trip Generation Assessment, the Proposed Project would generate 197 one-way truck trips or approximately 99 round-trip truck trips. Therefore, the proposed warehouse facility would have less than 100 trucks per day and would not be considered a significant source of TACs from DPM emissions. In addition, the trucking fleet used at the Project Site would be required to meet California's policies for incorporating ZEV vehicles into their fleet. While the initial operation of the fleet may be exclusively diesel (as assumed in the analysis), as trucks age out and California policies for ZEV fleets increase, the trucking fleet will employ more and more ZEV vehicles and further reduce emissions beyond what is incorporated in the analysis, which will reduce TAC emissions and subsequent impacts to nearby sensitive receptors. Additionally, the expected hazardous TACs generated on site (e.g., cleaning solvents, paints, landscape pesticides, etc.) for the proposed land uses would be below thresholds warranting further study under the California Accidental Release Program. Therefore, the Project would not expose sensitive receptors to substantial operational TAC pollutant concentrations and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

During construction activities, heavy equipment and vehicles would emit odors associated with vehicle and engine exhaust and during idling. However, these odors would be intermittent and temporary and would cease upon completion, and odors disperse with distance. In addition, Project construction would be required to comply with SCAQMD Rule 402, which specifies that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Overall, Project construction would not generate other emissions, such as those leading to odors, affecting a substantial number of people. Construction-related impacts would be less than significant.

With respect to operation, the SCAQMD's *CEQA Air Quality Handbook* (1993) identifies land uses associated with odor complaints as agricultural uses, wastewater treatment plants, chemical and food processing plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project would not include any of the land uses that have been identified by the SCAQMD as odor sources. Therefore, the Proposed Project would not generate other emissions such as those leading to odors affecting a substantial number of people, and no operational impact would occur.

LESS THAN SIGNIFICANT IMPACT

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4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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 Wildlife 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, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	■
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■
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?	☐	☐	■	☐

A Habitat Assessment and MSHCP Consistency Analysis was prepared in February of 2025, by Rincon Consultants (Appendix B). The following section is partially based on Appendix B.

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

According to the Habitat Assessment and MSHCP Consistency Analysis for the Proposed Project, no special-status plant species are expected to occur within the Project Site. As such, there are no issues regarding direct or indirect impacts to special-status plants. The Project will be limited to disturbed and developed habitat, and no habitat for special-status plants is present. As no such species are anticipated, no additional measures are required to address potential impacts.

No special-status wildlife species are considered to have a moderate or high potential to occur in the Project Site. However, migratory birds protected under the Migratory Bird Treaty Act have potential to nest and forage in the Study Area. Suitable nesting habitat for ground-nesters occurs on the ground surface within the Project Site, and in ornamental trees outside of the Project Site within the Study Area. Project development has the potential to directly (e.g., destroy a nest) or indirectly (e.g., cause an active nest to fail) impact nesting birds protected under the CFGC and MBTA. Project development could also lead to loss of foraging habitat for species such as loggerhead shrike if present. The loss of foraging habitat could be considered significant if it had substantial adverse effects to local populations of species protected under the CFGC or the MBTA. However, Project development would not significantly impact foraging habitat as the Project Site is highly disturbed.

Potential impacts to nesting birds will further be avoided and minimized with implementation of Mitigation Measures (MMs). These MMs include general best management practices to be implemented during the Project to avoid impacts to wildlife and other biological resources, the establishment of a training program to ensure all personnel present onsite understand the special-status species and biological resources that can occur onsite, and require a pre-construction nesting bird survey prior to the commencement of ground-disturbing activities to identify and establish non-disturbance buffers depending on the species, nest location, and construction activities. Thus, Project development will not adversely affect nesting birds or raptors with implementation of mitigation measures, and potential impacts would be reduced to less-than-significant levels.

MM BIO-1 Direct and Indirect Impacts During Construction

- Consistent with the Best Management Practices from MSHCP Volume 1, Attachment C, the following shall be implemented to avoid direct and indirect impacts during construction:
  - Limiting grading to the minimum area necessary for construction, operation, and decommissioning of the project
  - Limiting vegetation disturbance/removal to the maximum extent practicable
  - Implementing fiber rolls and sandbags around drainage areas and the site perimeter
  - Stockpiling and disposing of demolition debris, concrete, and soil properly
  - Installation of a stabilized construction entrance/exit and stabilization of disturbed areas
  - Proper protections for fueling and maintenance of equipment and vehicles
  - Managing waste, aggressively controlling litter, and implementing sediment controls
  - Soil stabilization in disturbed areas by revegetation
- **Minimize Spills of Hazardous Materials.** All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills and contaminated soil

shall be immediately cleaned up and the contaminated soil shall be properly handled or disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.

- **Invasive Plant Species Control.** Invasive plant species, for the purpose of this document, shall include all species with a California Invasive Plant Council (Cal-IPC) rating of limited, moderate, or high. Construction personnel and equipment shall be free of invasive plant seeds, propagules, and any material which may contain them (e.g., soil) prior to entering the Project Site. All potentially contaminated equipment will be carefully cleaned prior to the initiation of project activities. Staging areas and temporary work areas shall avoid weed infestations and infestations within the work area(s) shall be flagged and avoided to the maximum extent feasible. Only certified weed-free materials (e.g., gravel, straw, and fill) will be used for the project.
- **Removal of Native Vegetation.** The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
- **Standard Dust Control Measures.** Standard dust control measures as per the South Coast Air Quality Management District shall be implemented to reduce dust impacts on nearby conserved lands, plants, and wildlife. Measures include controlling speed to 15 mph or less on unpaved roads, replacing ground cover in disturbed areas as quickly as possible, frequently watering active work sites, installation of shaker plates, and suspending excavation and grading operations during periods of high winds.
- **Wildlife Hazards.** The following measures shall be implemented to ensure that wildlife do not become trapped, entangled, injured, or poisoned by construction activities:
  - Structures in which wildlife may become trapped (e.g., open pipes, pits, trenches, etc.) shall be tightly covered at the end of each work day. If covering the structure is not possible, an escape ramp shall be provided to allow any wildlife that falls in to safely escape.
  - Debris piles, construction materials, equipment, and other items that may be used as wildlife refuge shall be inspected for wildlife at the start of each work day and prior to disturbance. If wildlife is discovered, it shall either be moved out of harm's way by a qualified biologist or allowed to move off of the study area on its own.
  - Nets and mesh shall be made of loose-weave material that is not fused at the intersections of the weave, as nets with welded weaves present an entanglement risk.
  - Toxic materials and garbage shall be removed from the work site and safely stored or disposed of at the end of each workday.

MM BIO-2 Worker Environmental Awareness Plan Training

Prior to the initiation of the Project, an approved biologist shall present Worker Environmental Awareness Plan training (WEAP) to all on-site personnel. The WEAP will educate the personnel on the identification of special-status species and regulated biological resources that are present or have the potential to occur within the Project Site, will cover the applicable regulatory policies and provisions regarding their protection, and will provide an overview of the project's avoidance, minimization, and mitigation measures. Furthermore, on-site personnel will be briefed on the reporting process if an inadvertent injury or mortality should occur to a special-status species during construction or operations.

MM BIO-3 Pre-construction Nesting Bird Surveys

To avoid disturbance of nesting birds, including special-status bird species and birds protected by the Migratory Bird Species Act (MBTA) and California Fish and Game Code (CFGC Section 3503), project activities shall occur outside of the breeding season for nesting birds (generally February 1 through August 31), if feasible.

If construction occurs during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to the initiation of Project activities. If more than one phase of grading occurs during nesting season, the pre-construction nesting bird survey shall be repeated. The nesting bird survey shall be conducted on foot inside the Project Site and include a 500-foot buffer for raptors and special status bird species and a 100-foot buffer for all other bird species. The survey shall be conducted by a biologist familiar with avian species known to inhabit Southern California. If nests are found, an avoidance buffer of up to 500 feet for raptors and special-status species and up to 100 feet for non-raptors (dependent upon the species, the proposed work activity, and existing disturbances associated with land use outside of the workspace) shall be determined and demarcated by the biologist with construction fencing, flagging, or other means to mark the boundary. The buffer shall be maintained and nest avoided until the young have fledged and/or the nest is no longer active.

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

According to the Habitat Assessment and MSHCP Consistency Analysis for the Proposed Project, no riparian habitat or any other sensitive natural communities occur within the Project Site. As such, there are no issues regarding direct or indirect impacts to these communities because the Project will be limited to disturbed and developed habitat. No impacts to sensitive communities would occur.

NO IMPACT

c. Would the project 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?

The U.S. Army Corps of Engineers (USACE), under Section 404 of the Federal Clean Water Act (CWA), regulates discharges of dredged or fill materials into “waters of the United States”. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a connection to interstate or foreign commerce. The USACE typically regulates as non-wetland waters of the U.S. any body of water displaying an ordinary high water mark (OHWM). To be considered a jurisdictional wetland under Section 404, an area must possess hydrophytic vegetation, hydric soils, and wetland hydrology. CDFW, under Sections 1600 *et seq* of the California Fish and Game Code, regulates alterations to lakes, rivers, and streams. A stream is defined by the presence of a channel bed and banks, and at least an occasional flow of water. The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA, through water quality certification of any activity that may result in a discharge to jurisdictional waters of the U.S. The RWQCB may also regulate discharges to “waters of the State” including wetlands, under the California Porter-Cologne Water Quality Control Act.

The Habitat Assessment and MSHCP Consistency Analysis determined that there are no State or federally protected wetlands present within the Project footprint or Study Area. No impacts to protected wetlands would occur.

NO IMPACT

d. Would the project 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?

According to the Habitat Assessment and MSCHP Consistency Analysis prepared for the Proposed Project, Proposed Project activities are restricted to a 17.19-acre lot and include mostly disturbed habitat. The Project Site is surrounded by Highway 74 to the north and residential and commercial properties to the north, south, and west. The Project Site is not located within any MSHCP linkages or other established movement corridors. Furthermore, the habitat in the Project Site does not support migratory fish species nor does it support wildlife nursery sites. As such, there would be no impact to established resident or migratory wildlife corridors, or wildlife nursery sites.

NO IMPACT

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

According to the Habitat Assessment and MSCHP Consistency Analysis prepared for the Proposed Project, the only local policies or ordinances applicable to Project Site are the City's tree protection policies. No protected trees were observed during the field surveys. No additional permits or compliance measures are required, and no impact would occur.

NO IMPACT

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

MSCHP Requirements

According to the Habitat Assessment and MSCHP Consistency Analysis prepared for the Proposed Project, the Proposed Project is located within the boundaries of the MSHCP, and the City as the CEQA lead agency is also a Permittee to the MSHCP. As such, with their discretionary authority over the Project, the City can also convey MSHCP take coverage to the Project if needed, consistent with the MSHCP.

The Habitat Assessment and MSCHP Consistency Analysis contains additional details that demonstrate the Project's consistency with the MSHCP. In addition, payment of MSHCP mitigation fees is required. Payment of fees, as well as compliance with the requirements of Section 6.0 of the MSHCP, is intended to provide full mitigation under CEQA, the National Environmental Policy Act (NEPA), CESA, and ESA for impacts to special-status species and protected habitats covered by the MSHCP, pursuant to agreements with the USFWS and the CDFW, and set forth in the implementing agreement for the MSHCP.

Stephens' Kangaroo Rat Habitat Conservation Plan

According to the Habitat Assessment and MSCHP Consistency Analysis prepared for the Proposed Project, the Proposed Project is located within the Stephens' Kangaroo Rat Habitat Conservation Plan Area and is subject to the plan's associated mitigation fees. No Stephens' kangaroo rat conservation measures are required by the Proposed Project as this species is now considered fully conserved under the Stephens' Kangaroo Rat Habitat Conservation Plan. Therefore, with payment of fees, the Proposed Project will not conflict with the Stephens' Kangaroo Rat Habitat Conservation Plan.

LESS THAN SIGNIFICANT IMPACT

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5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	■
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

A Cultural Resources Report was prepared on January 9, 2025 and can be found in Appendix C. The Cultural Resources Report describes a records search for cultural resources for the Project Site through the California Historical Resources Information System (CHRIS) conducted on December 5, 2024, a Sacred Lands File Search requested on November 1, 2024, and a geoarchaeological review. The following section is partially based on the Cultural Resources Report.

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

This Project Site does not satisfy any of the criteria for a historic resource defined in Section 15064.5 of the CEQA Guidelines. The Project Site is not listed with the State Office of Historic Preservation (SHPO) or the National Register of Historic Places (OHP 2025; National Park Service 2025). The Project Site has been heavily disturbed and there are no known historically or culturally significant resources, structures, buildings, or objects located on the Project Site. Furthermore, on January 9, 2025, a cultural resources survey was conducted and found that no previously unrecorded cultural or archaeological resources were on the Project Site. As such, the Proposed Project would not cause an adverse change in the significance of a historical resource and impacts to historic resources are not anticipated. Therefore, no impact would occur, and no mitigation is required.

NO IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The Project proposes the construction of a warehouse building and associated office and parking space. Ground-disturbing excavations associated with the Project development may reach the depth of 8-feet for utility line trenching. Excavation for stormwater infrastructure may reach maximum depth of 20-feet below the current ground surface.

No prehistoric or historic-period archaeological resources were identified within the Project Site. The geoarchaeological review suggests the likelihood for encountering surface or subsurface archaeological resources is low given the age of the geologic unit mapped at surface within the Project Site and the previous disturbances by the mining pit operation and restoration. As such, Project-related ground disturbance is not likely to encounter intact archaeological resources that may qualify as historical resources or unique archaeological resources pursuant to CEQA, However, unanticipated discoveries during construction remain a possibility and the below mitigation measure is proposed to help reduce potential impacts.

Mitigation Measures

CUL-1: Human Remains

If human remains are encountered, State Health and Safety Code § 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code § 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in PRC § 5097.98.

CUL-2: Inadvertent Archaeological Find

If during ground disturbance activities, unique cultural resources are discovered that were not assessed by the archaeological report(s) and/or environmental assessment conducted prior to project approval, the following procedures shall be followed. Unique cultural resources are defined, for this condition only, as being multiple artifacts in close association with each other, but may include fewer artifacts if the area of the find is determined to be of significance due to its sacred or cultural importance as determined in consultation with the Native American Tribe(s).

a) All ground disturbance activities within 100 feet of the discovered cultural resources shall be halted until a meeting is convened between the developer, the archaeologist, the tribal representative(s) and the Community Development Director to discuss the significance of the find.

b) At the meeting, the significance of the discoveries shall be discussed and after consultation with the tribal representative(s) and the archaeologist, a decision shall be made, with the concurrence of the Community Development Director, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.

c) Grading of further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation. Work shall be allowed to continue outside of the buffer area and will be monitored by additional Tribal monitors if needed.

d) Treatment and avoidance of the newly discovered resources shall be consistent with the Cultural Resources Management Plan and Monitoring Agreements entered into with the appropriate tribes. This may include avoidance of the cultural resources through project design, in-place preservation of cultural resources located in native soils and/or re-burial on

the Project property so they are not subject to further disturbance in perpetuity as identified in Non-Disclosure of Reburial Condition.

Pursuant to Calif. Pub. Res. Code § 21083.2(b) avoidance is the preferred method of preservation for archaeological resources and cultural resources. If the landowner and the Tribe(s) cannot agree on the significance or the mitigation for the archaeological or cultural resources, these issues will be presented to the City Community Development Director for decision. The City Community Development Director shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological resources, recommendations of the project archeologist and shall take into account the cultural and religious principles and practices of the Tribe. Notwithstanding any other rights available under the law, the decision of the City Community Development Director shall be appealable to the City Planning Commission and/or City Council.

Significance After Mitigation

Implementation of Mitigation Measures CUL-1 would reduce potential impacts to less than significant by ensuring any subsurface archaeological resources are identified and evaluated. Should any identified resources be identified as eligible for the CRHR, those resources would be avoided or appropriate measures, such as data recovery, would be identified on a case by case basis.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

No human remains are known to be present within the Project Site. However, the discovery of human remains is always a possibility during ground-disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the Coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

With adherence to existing regulations, the Proposed Project, with regard to the potential discovery of human remains or cemeteries during construction, would result in a less than significant impact.

LESS THAN SIGNIFICANT IMPACT

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6 Energy

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

In 2022, California was one of the lowest per capita energy users in the United States, ranked 49th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2024a). Electricity and natural gas are primarily consumed by the built environment for lighting, appliances, heating and cooling systems, fireplaces, and other uses such as industrial processes in addition to being consumed by alternative fuel vehicles. Most of California's electricity is generated in state with approximately 23 percent imported from the Northwest and Southwest in 2023; however, the state relies on out-of-state natural gas imports for nearly 90 percent of its supply (California Energy Commission [CEC] 2024a and 2024b). In addition, approximately 57.9 percent of California's electricity supply in 2023 came from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (CEC 2024a). In 2022, Senate Bill 1020 (SB 1020) creates clean electricity targets for eligible renewable energy resources and zero-carbon resources to supply 90 percent of retail sale electricity by 2035, 95 percent by 2040, 100 percent by 2045, and 100 percent of electricity procured to serve all state agencies by 2035. Electricity would be provided to the Project by Southern California Edison (SCE) and natural gas would be provided by Southern California Gas (SCG). Table 9 and Table 10 summarize the electricity and natural gas consumption for Riverside County, in which the Project Site would be located, and for SCE and SCG, as compared to statewide consumption.

Table 9 2022 Electricity Consumption

Energy Type	Riverside County	SCE	California	Proportion SCE Consumption[1,2]	Proportion of County Consumption[1,2]
Electricity (GWh)	17,781	85,870	287,826	30%	6%

GWh = gigawatt-hours

[1] Proportion to statewide consumption.

[2] SCE electricity consumption compared to statewide consumption.

[3] For reference, the population of Riverside County (2,442,378 persons) is approximately 6.2 percent of the population of California (39,128,162 persons) (California Department of Finance 2024).

Source: CEC 2024c

Table 10 2022 Natural Gas Consumption

Energy Type	Riverside County	SCG	California	Proportion SCG Consumption[1,2]	Proportion of County Consumption[1,2]
Natural Gas (MMTherms)	431	5,027	11,708	9%	4%

MMTherms = Millions of therms.

[1] Proportion to statewide consumption.

[2] SCG natural gas consumption compared to statewide consumption.

[3] For reference, the population of Riverside County (2,442,378 persons) is approximately 6.2 percent of the population of California (39,128,162 persons) (California Department of Finance 2024).

Source: CEC 2024d

Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being the 7th largest petroleum-producing state in the nation in 2023 (United States Energy Information Administration 2024b). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with 13,576 million gallons sold in 2023 (CEC 2024e). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 2,316 million gallons sold in 2023 (CEC 2024e). Table 11 summarizes the petroleum fuel consumption for Riverside County, in which the Project Site would be located, as compared to statewide consumption.

Table 11 2023 Annual Gasoline and Diesel Consumption

Fuel Type	Riverside County (million gallons)	California (million gallons)	Proportion of Statewide Consumption[1]
Gasoline	980	13,576	7%
Diesel	180	2,316	8%

[1] For reference, the population of Riverside County (2,442,378 persons) is approximately 6.2 percent of the population of California (39,128,162 persons) (California Department of Finance 2024).

Source: CEC 2024e

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the Project's energy consumption are discussed in detail in Section 3, *Air Quality* and Section 8, *Greenhouse Gas Emissions*, respectively.

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

Construction

During Project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the Project Site, construction workers travel to and from the Project Site, and vehicles used to deliver materials. In addition, the Project

would require vendor trips during building construction; and worker trips for all phases of construction, such as site preparation, grading, paving, building construction, and architectural coating. Excavated soil would be balanced onsite and no soil hauling trips would be required.

The total gasoline and diesel fuel consumption during Project construction was estimated using the assumptions and factors from CalEEMod used to estimate construction air emissions (Appendix A). Table 12 presents the estimated construction phase energy consumption, indicating construction equipment and hauling and vendor trips would consume 89,326 gallons of diesel fuel, and worker trips would consume about 35,725 gallons of gasoline fuel over the Project construction period. The Project would consume less than one tenth of a percent of the total consumption in the Riverside County region.

Table 12 Estimated Fuel Consumption during Construction

Fuel Type	Gallons of Fuel	MMBtu
Diesel Fuel (Construction Equipment)	66,408	8,464
Diesel Fuel (Vendor Trips)	22,828	2,910
Other Petroleum Fuel (Worker Trips)	35,725	3,922
Total		**15,296**

See Appendix A for calculation details

The construction energy estimates represent a conservative estimate as the construction equipment used in each construction phase was assumed to operate every day of construction. Construction equipment would be maintained to applicable standards, and construction activity and associated fuel consumption and energy use would be temporary and typical for construction sites. It is reasonable to assume contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction to reduce construction costs. Therefore, the Project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction and impacts would be less than significant.

Operation

Operation of the Project would contribute to regional energy demand by consuming electricity and gasoline and diesel fuels. Electricity would be used for heating and cooling systems, lighting, appliances, and water and wastewater conveyance, among other purposes. Gasoline and diesel consumption would be associated with truck trips and vehicle trips generated by employees. Table 13 summarizes estimated operational energy consumption for the Proposed Project. As shown therein, Project operation would require approximately 101,426 gallons of gasoline and 130,625 gallons of diesel for transportation fuels, 7.1 GWh of electricity, and 8,702 MMBtu of natural gas. Vehicle trips associated with future workers, customers, and deliveries would represent the greatest operational use of energy associated with the Proposed Project.

Table 13 Estimated Project Annual Operational Energy Consumption

Source	Energy Consumption[1]	Energy Consumption[1]
Transportation Fuels		
Gasoline	101,426 gallons	11,135 MMBtu

Source	Energy Consumption[1]	Energy Consumption[1]
Diesel	130,625 gallons	16,649 MMBtu
Electricity	1.4 GWh	4,670 MMBtu
Natural Gas	6,387,964 kBtu	6,388 MMBtu
Total		**38,842 MMBtu**

MMBtu = million metric British thermal units; GWh = gigawatt-hours

[1] Energy consumption is converted to MMBtu for each source

See Appendix A for CalEEMod output results for electricity and total VMT.

The Proposed Project would exceed standards set in the latest iteration of the CBC (CCR Title 24) by two percent, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation. California's CALGreen standards (CCR Title 24, Part 11) require implementation of energy-efficient light fixtures and building materials into the design of new construction projects. In addition, the 2022 Building Energy Efficiency Standards (CCR Title 24, Part 6) require newly constructed buildings to meet energy performance standards set by the CEC. These standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. Pursuant to CALGreen, all plumbing fixtures used for the Proposed Project would be high-efficiency fixtures, which would minimize the potential for the inefficient or wasteful consumption of energy related to water and wastewater. The Proposed Project would include 150 kW of onsite solar electricity generation and would be served by SCE, which is required to increase its share of renewable energy procurement pursuant to SB 100 requirements. As a result, the Proposed Project would maximize the use of renewable energy.

As discussed in Section 3, *Air Quality*, the trucking fleet would be required to meet California's policies for incorporating ZEV vehicles into their fleet. Therefore, while the initial operation of the fleet may be exclusively diesel (as assumed in the analysis), as trucks age out and California policies for ZEV fleets increase, the trucking fleet will employ more and more ZEV vehicles and further reduce consumption of nonrenewable transportation fuels. Therefore, Project operation would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The City of Menifee General Plan outlines policies to promote energy efficiency and generation within Menifee. The Open Space and Conservation Element include the goal OSC-4, Energy & Mineral, which promotes efficient and management of energy to ensure its availability for future generations. Policies within the Open Space and Conservation Element such as Policy OCS-4.1, Policy OCS-4.2, and Policy OCS-9.5 are intended to increase energy efficiency. The Project would provide electric vehicle charging spaces standards based on the latest CALGreen standards for new construction of commercial buildings. As discussed in the impact above, the Project would exceed CALGreen's latest Building Energy Efficiency Standards by two percent and install 150 kW of onsite solar electricity generation. In addition, electricity would be provided by SCE, which continues to increase renewable energy sources to comply with state requirements of SB 100.

With regard to transportation related energy usage, the Proposed Project would not conflict with the goals of SCAG's 2024–2050 RTP/SCS, which incorporates VMT targets established by SB 375. SCAG's 2024–2050 RTP/SCS focuses on four core categories: mobility, communities, environment and economy. In addition, the SCS implementation strategies include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, and supporting implementation of sustainability policies. Future adoption of ZEV vehicles as mandated by State policies would reduce consumption of nonrenewable transportation fuels by the Proposed Project, and the inclusion of conduits for future trucking electric vehicle charging stations would facilitate future electrification. The Proposed Project would be consistent with the energy efficiency policies by being consistent with the CALGreen and Building Energy Efficiency Standards for appliances and electric vehicle charging provisions. In addition, the Project is near existing warehouses and logistics facilities in close proximity to freeways and arterial roads, providing connectivity with the existing land use area, which could reduce reliance of motor vehicle use. Therefore, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. 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?	☐	☐	■	☐
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	■
4. 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 Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	■	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐

This analysis incorporates the results of a Paleontological Records search performed by Rincon Consultants, Inc. and the Geotechnical Report prepared by LGC Geotechnical, Inc. in May of 2022 (Appendix D).

a.1. Would the project directly or indirectly cause 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?

Although the Project Site is located in seismically active Southern California, the site is not located within an Alquist-Priolo Earthquake Fault Zone (DOC 2025). No faults were identified on the site during site evaluation. In addition, the site is not located within a fault zone as delineated by the City of Menifee. The closest active fault is the Anza segment of the San Jacinto Fault Zone; an active, right-lateral, strike-slip fault, located approximately 9.9 miles northeast of the Project Site. Therefore, impacts would be less than significant, and no mitigation is required.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The Proposed Project would be subject to ground-shaking impacts should a major earthquake in the area occur in the future. Potential impacts include injury or loss of life and property damage. The Project Site is subject to strong seismic ground shaking as are virtually all properties in Southern California.

The proposed warehouse would be subject to the seismic design criteria of the California Building Code (CBC). The 2022 CBC (CBC, California Code of Regulations, Title 24, Part 2) contains seismic safety provisions with the aim of preventing building collapse during a design earthquake, so that occupants would be able to evacuate after the earthquake. Adherence to these requirements would reduce the potential of the building from collapsing during an earthquake, thereby minimizing injury and loss of life. Although structures may be damaged during earthquakes, adherence to seismic design requirements would minimize damage to property within the structure because the structure is designed not to collapse. The CBC is intended to provide minimum requirements to prevent major structural failure and loss of life. Adherence to existing regulations would reduce the risk of loss, injury, and death; impacts due to strong ground shaking would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction is a phenomenon that occurs when soil undergoes transformation from a solid state to a liquefied condition due to the effects of increased pore-water pressure. This typically occurs where susceptible soils (particularly the medium sand to silt range) are located over a high groundwater table (within 50 feet of the surface). Affected soils lose all strength during liquefaction and foundation failure can occur.

According to the Geotechnical Investigation and the California Department of Conservation Seismic Hazard Evaluation system and the Menifee General Plan, the Project Site is not located in a Zone of Required Investigation for liquefaction (DOC 2025). This indicates that the area has not been subject to historic occurrence of liquefaction, or local geological, geotechnical, and groundwater conditions

do not indicate potential for permanent ground displacement such that mitigation as defined in Public Resources Code Section 2693(c) would be required. Due to the depth of groundwater greater than 50-feet (Appendix D), the potential for liquefaction and liquefaction-induced settlement is considered very low. Additionally, the proposed development would primarily consist of construction over dense alluvial deposits. These soils are not considered susceptible to liquefaction. Therefore, no impacts due to the Project Site from seismically induced liquefaction would occur. No mitigation is required.

NO IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The geologic character of an area determines its potential for landslides. Steep slopes, the extent of erosion, and the rock composition of a hillside all contribute to the potential for slope failure and landslide events. In order to fail, unstable slopes need to be disturbed; common triggering mechanisms of slope failure include undercutting slopes by erosion or grading, saturation of marginally stable slopes by rainfall or irrigation; and shaking of marginally stable slopes during earthquakes.

Field observations did not indicate the presence of landslides on or in the immediate vicinity of the subject site. The Project Site is not located in a Zone of Required Investigation for landslides (DOC 2025). Review of the regional geologic map of the area does not indicate the presence of known or suspected landslides in the vicinity of the site. Furthermore, the Project is required to be constructed in accordance with the CBC which would ensure that the development would not exacerbate risk of landslides. No impacts to the Project Site from landslides would occur and no mitigation is required.

NO IMPACT

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

Topsoil is used to cover surface areas for the establishment and maintenance of vegetation due to its high concentrations of organic matter and microorganisms. The Project has the potential to expose surficial soils to wind and water erosion during construction activities. Fugitive dust caused by strong wind and/or earth-moving operations during construction would be minimized through compliance with SCAQMD Rule 403, which prohibits visible particulate matter from crossing property lines. Standard practices to control fugitive dust emissions include watering of active grading sites, covering soil stockpiles with plastic sheeting, and covering soils in haul trucks with secured tarps. In addition, the potential for Project construction activities to result in increased erosion and sediment transport by stormwater to surface waters would be minimized because the Project would be required to comply with a Construction General Permit, which is issued by the State Water Resources Control Board (SWRCB). The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP), which outlines best management practices (BMPs) to reduce erosion and topsoil loss from stormwater runoff (also refer to the discussion in Section 10, *Hydrology and Water Quality*. Compliance with the Construction General Permit would ensure that BMPs are implemented during construction and minimize substantial soil erosion or the loss of topsoil. Upon completion of construction, the Project Site would be stabilized with landscaping and paving, and operational activities would not result in soil erosion. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project 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?

Impacts related to liquefaction and landslides are discussed above. Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer. The downslope movement is due to gravity and earthquake shaking combined. Such movement can occur on slope gradients of as little as one degree. Lateral spreading typically damages pipelines, utilities, bridges, and structures.

Due to the very low potential for liquefaction, the potential for lateral spreading is also considered very low. Further, the Proposed Project consists of grading and construction activities. Furthermore, the Project is required to be constructed in accordance with the CBC. Therefore, through compliance with CBC requirements, impacts related to unstable soils would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Subsurface exploration indicates that the Project Site primarily consists of undocumented fill overlying Qof deposits, which have “very low” expansion potential. Thus, the Proposed Project would not be located on expansive soil and would not create substantial direct or indirect risks related to expansive soils. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Wastewater generated by the Proposed Project would require conveyance through a municipal sewage system and would not utilize a septic system. Therefore, the Proposed Project would not have an impact on soils incapable of adequately supporting the use of septic tanks. No impact would occur.

NO IMPACT

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

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows, etc.). Paleontological resources are not found in “soil” but are contained within the geologic deposits or bedrock that underlies the soil layer. Typically, fossils are greater than 5,000 years old (i.e., older than middle Holocene in age) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology [SVP] 2010). Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors. It is possible to evaluate the potential for geologic units to contain scientifically

important paleontological resources and therefore evaluate the potential for impacts to those resources and provide mitigation for paleontological resources if they are discovered during construction of a development project.

Rincon evaluated the paleontological sensitivity of the geologic units that underlie the Project Site to assess the Project's potential for significant impacts to scientifically important paleontological resources. The analysis was based on the results of a paleontological locality search and a review of existing information in the scientific literature regarding known fossils within geologic units mapped at the Project Site. The Open Space & Conservation Element of the City of Menifee General Plan contains a paleontological sensitivity map (Exhibit OSC-4), which identifies areas of high, low, and undetermined paleontological sensitivity within the City of Menifee. Implementation Action OSC-38 states that paleontological monitoring is required in areas identified as likely to contain paleontological resources, which is taken to mean areas mapped as having high paleontological sensitivity.

The Project Site is situated in the Peninsular Ranges, one of the eleven major geomorphic provinces in California (California Geological Survey 2002). In general, the Peninsular Ranges consist of northwest-southeast trending mountain ranges and faults (Norris and Webb 1976). These mountains are generally comprised of Mesozoic to Cenozoic plutonic and extrusive igneous and Cretaceous marine sedimentary rocks. The Peninsular Ranges province also contains sedimentary basins such as the Los Angeles Basin which have accumulated thick sequences of Cenozoic marine and terrestrial sedimentary rocks. Specifically, the Project Site is located in the Perris Valley, which is part of the Perris Block, a geophysical block with low topographic relief which is bounded to the west by the Elsinore Fault Zone and to the east by the San Jacinto Fault Zone (Morton and Miller 2006).

The Project is located in the *Romoland, California* United States Geological Survey 7.5-minute topographic quadrangle(s). The geology of the region surrounding the Project Site was mapped by Morton and Miller (2006), who identified a single geologic unit, Quaternary old alluvial fan deposits, underlying the Project Site.

Quaternary old alluvial fan deposits consist of reddish-brown, moderately to well-consolidated, silt, sand, and gravel, and are late to middle Pleistocene in age (Morton and Miller 2006). Pleistocene-aged alluvial deposits have produced numerous paleontological resources in western Riverside County, such as mammoths (*Mammuthus*), mastodon (*Mammut*), saber-toothed cat (*Smilodon*), ground sloth (*Paramylodon, Megalonyx*), horse (*Equus*), other mammals, reptiles, birds, fish, and invertebrates (Jefferson 2010; Paleobiology Database 2024). Due to this fossil-producing history, these sediments are assigned high paleontological sensitivity by the City of Menifee General Plan. The entire Project Site has been previously disturbed by previous mining activities, so it is assumed that sediments underlying the Project Site are disturbed (and therefore not paleontologically sensitive) to at least a depth of 5 feet and possibly deeper in some areas.

Rincon requested a records search from the Western Science Center on December 19, 2024. The Western Science Center has no known fossil localities within 1 mile of the Project Site (Stoneburg 2024). However, Stoneburg (2024) noted that similar geologic units are known to contain significant paleontological resources throughout southern California.

Ground-disturbing activities within previously undisturbed sediments with high paleontological sensitivity (i.e., sediments greater than 5-feet below the surface) could result in significant impacts to paleontological resources. Impacts would be significant if construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated

stratigraphic and paleontological data. This Project will require overall site grading and excavations for utility and stormwater drainage infrastructure. Overall site grading will be minimal compared to fill, but in some areas, it may exceed 5-feet. Trenching for utility lines and stormwater infrastructure may reach up to 20-feet below the current ground surface; therefore, this activity may significantly impact paleontological resources.

However, implementation of Mitigation Measure GEO-1 would reduce potential impacts to paleontological resources to less than significant level under CEQA and would maintain compliance with City of Menifee General Plan Implementation Action OSC-38.

Mitigation Measures

GEO-1 Paleontological Resources Monitoring and Mitigation

Qualified Professional Paleontologist. Prior to excavation, the project applicant shall retain a Qualified Professional Paleontologist, as defined by the Society of Vertebrate Paleontology (SVP 2010), who shall direct all mitigation measures related to paleontological resources.

Paleontological Worker Environmental Awareness Program. Prior to the start of construction, the Qualified Professional Paleontologist or their designee shall conduct a paleontological Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should construction personnel discover fossils.

Paleontological Monitoring and Salvage. Full-time paleontological monitoring shall be conducted during ground-disturbing construction activities within previously undisturbed sediments assigned high paleontological sensitivity (i.e., sediments greater than 5 feet below the current ground surface). Paleontological monitoring shall be conducted by a paleontological monitor with experience with collection and salvage of paleontological resources and who meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor.

The Qualified Professional Paleontologist may recommend that monitoring be reduced in frequency or ceased entirely based on geologic observations, such as the recognition that sediments deeper than 5 feet consist of disturbed and/or fill sediments. Such decisions shall be subject to review and approval by the City. In the event of a fossil discovery by the paleontological monitor or construction personnel, all construction activity within 50 feet of the find shall cease, and the Qualified Professional Paleontologist shall evaluate the find. If the fossil(s) is (are) not scientifically significant, then construction activity may resume. If it is determined that the fossil(s) is (are) scientifically significant, the following shall be completed:

- **Fossil Salvage.** The paleontological monitor shall salvage (excavate and recover) the fossil to protect it from damage/destruction. Typically, fossils can be safely salvaged quickly by a single paleontological monitor with minimal disruption to construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. Bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within paleontologically sensitive deposits. After the fossil(s) is (are) salvaged, construction activity may resume.
- **Fossil Preparation and Curation**. Fossils shall be identified to the lowest (most-specific) possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Professional Paleontologist.

Final Paleontological Mitigation Report. Upon completion of ground-disturbing activities (or laboratory preparation and curation of fossils, if necessary), the Qualified Professional Paleontologist shall prepare a final report describing the results of the paleontological monitoring efforts. The report shall include a summary of the field and laboratory methods employed; an overview of project geology; and, if fossils were discovered, an analysis of the fossils, including physical description, taxonomic identification, and scientific significance. The report shall be submitted to the City and, if fossil curation occurred, the designated scientific institution.

Significance After Mitigation

Implementation of Mitigation Measure GEO-1 would mitigate the Project's impacts to the above resources through the recovery, identification, and curation of previously unrecovered fossils, and all potential impacts would be less than significant with mitigation.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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8 Greenhouse Gas Emissions

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

Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of GHGs. GHGs contribute to the "greenhouse effect," which is a natural occurrence that helps regulate the temperature of the planet. The majority of radiation from the Sun hits the Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping back into space and re-radiate it in all directions. This process is essential to supporting life on Earth because it warms the planet by approximately 60° Fahrenheit. Emissions from human activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat, thereby contributing to an average increase in the Earth's temperature.

Greenhouse gases occur naturally and from human activities. Human activities that produce GHGs include the burning of fossil fuels (coal, oil and natural gas for heating and electricity, gasoline and diesel for transportation); methane from landfill wastes and raising livestock, deforestation activities; and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). Emissions of GHGs affect the atmosphere directly by changing its chemical composition while changes to the land surface indirectly affect the atmosphere by changing the way in which the Earth absorbs gases from the atmosphere. Potential impacts of climate change in California may include loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (California Natural Resources Agency 2019).

Significance Thresholds

Based on Appendix G of the CEQA Guidelines, impacts related to GHG emissions from the Proposed Project would be significant if the Project would:

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

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. As a result, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

To determine a project-specific threshold, guidance on GHG significance thresholds in the region from SCAQMD, the air district in which the Project Site is located, was used. The SCAQMD's GHG CEQA Significance Threshold Working Group considered a tiered approach to determine the significance of residential and commercial projects. The draft tiered approach is outlined in meeting minutes dated September 29, 2010 (SCAQMD 2010):

- **Tier 1.** If the project is exempt from further environmental analysis under existing statutory or categorical exemptions, there is a presumption of less than significant impacts with respect to climate change. If not, then the Tier 2 threshold should be considered.
- **Tier 2.** Consists of determining whether the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. The concept embodied in this tier is equivalent to the existing concept of consistency in CEQA Guidelines Section 15064(h)(3), 15125(d) or 15152(a). Under this Tier, if the Proposed Project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions. If there is not an adopted plan, then a Tier 3 approach would be appropriate.
- **Tier 3.** Establishes a screening significance threshold level to determine significance. The Working Group has provided a recommendation of 10,000 MT CO_2e per year for industrial projects and 3,000 MT CO_2e per year for nonindustrial projects.
- **Tier 4.** Establishes a service population threshold to determine significance. The Working Group has provided a recommendation of 4.8 MT CO_2e per year for land use projects.

Tier 1 would not apply to the project as it is not exempt from environmental analysis. For Tier 2, the City of Menifee does not have a qualified GHG reduction plan in its general plan or climate adaptation plan. As described above, when the tiered approach is applied to a Proposed Project, and the project is found not to comply with Tier 1 or Tier 2, the project's emissions are compared against a screening threshold, as described above, for Tier 3. The screening threshold formally adopted by SCAQMD is an "interim" screening threshold for stationary source industrial projects where the SCAQMD is the lead agency under CEQA. The threshold was termed "interim" because, at the time, SCAQMD anticipated that CARB would be adopting a statewide significance threshold that would inform and provide guidance to SCAQMD in its adoption of a final threshold. However, no statewide threshold was ever adopted, and the interim threshold remains in effect. For projects for which SCAQMD is not a lead agency, no screening thresholds have been formally adopted. However, the SCAQMD Working Group has recommended a threshold of 10,000 MT CO_2e per year for industrial projects and 3,000 MT CO_2e per year for residential and commercial projects. SCAQMD

determined that these thresholds would "capture" 90 percent of GHG emissions from these sectors, "capture" meaning that 90 percent of total emissions from all new projects would be subject to some type of CEQA analysis. Therefore, for a project-specific threshold, the City of Menifee has selected SCAQMD's 3,000 MT CO_2e per year threshold for nonindustrial projects as the applicable project-specific threshold, in accordance with Tier 3. The SCAQMD's 3,000 MT CO_2e per year threshold is frequently used by jurisdictions across Southern California to determine GHG emissions impacts from nonindustrial projects. In addition, the project is evaluated based on consistency with plans and policies adopted for the purposes of reducing GHG emissions and mitigating the effects of climate change. The most directly applicable adopted regulatory plans to reduce GHG emissions are the 2022 Scoping Plan, the 2024-2050 RTP/SCS, and the City of Menifee General Plan.

Methodology

Calculations of CO_2, CH_4, and N_2O emissions are provided to identify the magnitude of potential Project effects. The analysis focuses on CO_2, CH_4, and N_2O because these make up 98 percent of all GHG emissions by volume and are the GHG emissions the Project would emit in the largest quantities (IPCC 2014). Emissions of all GHGs are converted into their equivalent GWP in terms of CO_2 (i.e., CO_2e). Minimal amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total GHG emissions. GHG emissions associated with Project construction and operation were estimated using CalEEMod, version 2022.1, with the assumptions described in Section 3, *Air Quality,* in addition to the following:

- The Project's CalEEMod model uses CalEEMod default assumptions for water, solid waste, and area sources for the warehouse and office uses with a two percent exceedance of Title 24 standards.
- The CalEEMod model accounts for electricity generated onsite by the proposed 150 kW photovoltaic system.
- In accordance with SCAQMD's recommendation, GHG emissions from construction of the Proposed Project were amortized over a 30-year period and added to annual operational emissions to determine the Project's total annual GHG emissions (SCAQMD 2008).

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Based on the CalEEMod results, construction activity for the Project would generate an estimated 1,167 metric tons (MT) of CO_2e (as shown in Table 8) during construction. Amortized over a 30-year period (the assumed life of the Project), construction of the Proposed Project would generate approximately 39 MT CO_2e per year. Emissions from construction are amortized for the purpose of comparison with annual operational emissions over the estimated 30-year life of the Project.

Table 14 Estimated Construction GHG Emissions

Year	Project Emissions (MT/yr CO_2e)
2025	199
2026	847
2027	121
Total	1,167
Total Amortized over 30 Years	39

See Appendix A for CalEEMod worksheets.

Operational Emissions

Long-term emissions relate to area sources, energy use, solid waste, water use, and transportation, as shown in Table 15. As shown in the table, annual GHG emissions for the Project would be an estimated 2,740 MT CO_2e. Annual Project emissions would not exceed the SCAQMD threshold of 3,000 MT CO_2e. Therefore, impacts would be less than significant.

Table 15 Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (MT CO_2e)
Construction	39
Operational	
Area	7
Energy	556
Waste	96
Water	184
Refrigerants	<1
Mobile	1,858
Total	**2,740**
SCAQMD Threshold	**3,000**
Threshold Exceeded?	**No**

See Appendix A for CalEEMod worksheets.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

2022 Scoping Plan

The principal State GHG reduction plans and policies are AB 32, the California Global Warming Solutions Act of 2006, and the subsequent legislation, SB 32 and AB 1279. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. The goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. In 2022, the State passed AB 1279, which declares the State would achieve net-zero GHG emissions by 2045 and would reduce GHG emissions by 85 percent below 1990 levels by 2045. The latest iteration of the Scoping Plan is the 2022 Scoping Plan, which focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities. The 2022 Scoping Plan's strategies that apply to the Proposed Project include the following:

- Reducing fossil fuel use, energy demand and VMT.
- Maximizing recycling and diversion from landfills.

The Proposed Project would be consistent with these goals through Project design, which includes exceeding the latest Title 24 Green Building Code and Building Efficiency Energy Standards by two percent and installing a 150 kW photovoltaic solar system. In addition, the Proposed Project would allocate 15 EV charging stations and 51 EV capable parking spaces, and would be served by Southern California Edison, which is required to increase its renewable energy procurement in accordance with SB 100 targets. The Project is an infill development that would not convert natural lands and would contribute to the job and housing balance.

Several of the State's plans and policies would contribute to a reduction in mobile source emissions from the Project. These include the CARB's Advanced Clean Truck Regulation, Executive Order N-79-20, CARB's Mobile Source Strategy, CARB's Sustainable Freight Action Plan, and CARB's Emissions Reduction Plan for Ports and Goods Movement. CARB's Advanced Clean Truck Regulation requires truck manufacturers to transition from diesel trucks and vans to electric zero-emission trucks beginning in 2024. By 2045, every new truck sold in California is required to be zero-emission. The Advanced Clean Truck Regulation accelerates the transition of zero-emission medium-and heavy-duty vehicles from Class 2b to Class 8.

Executive Order N-79-20 establishes the goal for all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be zero-emission by 2035 and all medium and heavy-duty vehicles will be zero-emission by 2045. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new Zero-Emission Vehicles (ZEVs) "towards the target of 100 percent."

CARB's Mobile Source Strategy which includes increasing ZEV buses and trucks and their Sustainable Freight Action Plan which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks. This plan applies to all trucks accessing the Project Site and may include existing trucks or new trucks that are part of the statewide goods movement sector.

The Project would not obstruct or interfere with efforts to increase ZEVs or State efforts to improve system efficiency. The Project would also benefit from implementation of the State programs for ZEVs and goods movement efficiencies that reduce future GHG emissions from trucks. Therefore, the Proposed Project would be consistent with the State's long-term climate goals of carbon neutrality by 2045.

SCAG 2020-2045 RTP/SCS

The 2020-2045 RTP/SCS is forecast to help California reach its GHG reduction goals by reducing GHG emissions from passenger cars in the SCAG region by eight percent below 2005 levels by 2020 and 19 percent by 2035 in accordance with the most recent CARB targets adopted in March 2018. The 2020-2040 RTP/SCS includes ten goals with corresponding implementation strategies for focusing growth near destinations and mobility options, encouraging regional economic prosperity, leveraging technology innovations, and supporting implementation of sustainability policies. The Proposed Project is an infill development that is located in close proximity to existing truck routes and freeways and would not impact natural and working lands or restoration of habitats. In addition, the Proposed Project's proximity to residential communities and existing warehouse facilities could potentially reduce commute times to new job opportunities and travel distances for trucks. The Proposed Project would allocate 66 parking spaces to electric (51 EV-Capable spaces and 15 EV-Installed spaces), meaning infrastructure that would support the future installation of EV charging stations would be provided. Therefore, the Proposed Project would be consistent with the GHG emissions reduction strategies contained in the RTP/SCS.

City of Menifee General Plan

City of Menifee General Plan

Senate Bill 379 requires all cities to include climate adaptation and resiliency strategies in their General Plan Safety Element. The goals, policies, and objectives of this section are derived from a climate vulnerability assessment, which identifies the exposure risks; sensitive structures, functions, and populations; potential impacts and risks; and the City's adaptive capabilities. In addition, the City's General Plan Open Space and Conservation Element includes air quality goals and policies; as well emissions reduction consideration in the Land Use and Circulation Elements through policies that encourage local jobs and housing balance, improving the transportation network, and uses of neighborhood electric vehicles. Table 16 summarizes the Project's consistency with the City of Menifee General Plan goals and policies indirectly related to GHG emissions.

Table 16 Project Consistency with the City of Menifee General Plan

Policy	Consistency
Policy S-7.1: Continue to require environmental analysis for Proposed Projects which may produce harmful levels of greenhouse gas.	**Consistent.** GHG emissions generated by the Proposed Project would be significant if SCAQMD's 3,000 MT CO_2e per year threshold for industrial projects are exceeded. As shown in Impact GHG-1, the Project would not exceed SCAQMD's GHG threshold and would not produce harmful level of GHG.
Policy S-7.2: Ensure that the City's water supply is protected against drought conditions intensified by climate change.	**Consistent.** The Project would be consistent with the 2022 CALGreen standards and install water efficient appliances. The Project would install drought tolerant

Policy	Consistency
Policy S-7.9: Promote drought resistant landscaping to continue reducing water consumption and potential fuel sources. **Policy OCS-7.2:** Encourage water conservation as a means of preserving water resources	plants with low to medium water use that would be mediterranean and California climate friendly.
Policy OCS-4.1: Apply energy efficiency and conservation practices in land use, transportation demand management, and subdivision and building design.	**Consistent.** The Project must comply with the latest Title 24 standards, which promote energy conservation in new buildings. The Project would include 150 kW of onsite solar electricity generation and 66 EV-capable or EV-installed parking spaces. Therefore, the Project would align with the solar provisions for nonresidential structures as outlined in the 2022 Building Energy Efficiency Standards and CALGreen's electric vehicle charging requirements for new construction of nonresidential structures.

Source: City of Menifee 2012

Given the aforementioned plan consistency, impacts related to generation of GHG emissions and consistency with State and local GHG reduction plans due to the Proposed Project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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 0.25 mile of an existing or proposed school?	☐	☐	■	☐
d. Be located on a site that is included on a list of hazardous material 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 in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	■

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

The Proposed Project could result in a significant hazard to the public if the Proposed Project includes the routine transport, use, or disposal of hazardous materials or places housing near a facility which routinely transports, uses, or disposes of hazardous materials. The Proposed Project is located within a manufacturing zoned area that contains light industrial uses. The Proposed Project does not place housing near any hazardous materials facilities. The routine use, transport, or disposal of hazardous materials is primarily associated with industrial uses that require such materials for manufacturing operations or produce hazardous wastes as by-products of production applications.

During construction, there would be a minor level of transport, use, and disposal of hazardous materials and waste that are typical of construction projects. This would include fuels and lubricants for construction machinery, coating materials, etc. Routine construction control measures and best management practices for hazardous materials storage, application, waste disposal, accident prevention and clean-up, etc. would be sufficient to reduce potential impacts to a less than significant level.

Operation and maintenance of the Proposed Project would likely involve the use of common household materials such as cleaning and degreasing solvents, fertilizers, and pesticides. In addition, chemicals, such as chlorine, for the maintenance of the pools would also potentially be stored on site in minor quantities. These and other materials used in the regular maintenance of the building and landscaping would also be utilized in the secondary activities associated with the warehouse development. Use of these materials would be subject to compliance with existing regulations, standards, and guidelines established by the federal, state, and local agencies related to storage, use, and disposal of hazardous materials. The transport, use, and storage of hazardous materials during construction of the Project would be subject to all applicable state and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

There are no open leaking underground storage tank (LUST) cases on or near the Project Site (SWRCB 2025). Therefore, there would be no impact related to the release of hazardous materials into the environment as a result of the Proposed Project. A search of federal, state, and local agencies databases on reported USTs, hazardous waste generation, or hazardous material releases revealed no results of hazardous sites. Site reconnaissance did not reveal any pesticides, sumps, clarifiers, swales, or surface impoundments containing hazardous materials. No lead-based paint or asbestos containing materials were identified.

During construction, hazardous materials such as fuels, oils, and lubricants would be transported to the Project Site and used in construction vehicles and equipment. If not managed appropriately, these hazardous materials could be unintentionally released resulting in adverse effects to workers, the public and/or the environment. However, the potential for accidental releases would be minimized through adherence to existing regulatory requirements. Furthermore, the contractor and

construction crews for the Proposed Project would be required to comply with all applicable regulations governing the storage, handling, and disposal of hazardous materials and waste. Adherence to applicable hazardous materials and waste regulations would minimize the risk of the release of hazardous materials to the public and environmental to less than significant levels.

Similarly, compliance with applicable regulations involving hazardous materials and waste during operation, including Title 49 of the Code of Federal Regulations and Title 13 of the California Code of Regulations, would ensure that such materials are transported, used, stored, and disposed of in a manner that minimizes the potential for upset and accidental conditions resulting in the release of hazardous materials into the environment. However, the proposed use of the site as a commercial development would not include the storage of any substantial quantities of hazardous materials. Minor amounts of fuels, oils, or coolant may leak from vehicles but not in substantial quantities that would represent a significant threat to human health or the environment. With compliance with existing regulations, the Proposed Project would not 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. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

There are no existing or proposed schools within one-quarter mile of the Project Site. The closest school is Romoland Elementary School, located approximately 0.6 mile east of the Project Site. During construction of the Project, hazardous and potentially hazardous materials would be utilized for the transport and operation of vehicles and machinery. As discussed above, the transport, use, and storage of hazardous materials during the construction of the Project would be conducted in accordance with all applicable state and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22. Additionally, operation of the proposed residential Project would not involve the use or transport of large quantities of hazardous materials. Therefore, impacts related to hazardous emissions or materials affecting local schools would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on a site that is included on a list of hazardous material 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?

Government Code Section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List. The California Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. The analysis for this section included a review of the following resources to provide hazardous material release information:

- SWRCB GeoTracker database
- DTSC EnviroStor database

According to the GeoTracker and EnviroStor databases, there are no leaking underground storage tank (LUST) or other clean-up sites within 0.25 mile of the Project Site (DTSC 2025; SWRCB 2025). Therefore, the Project is not located on a site that is included on a list of hazardous material sites

compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment.

The Proposed Project is not located on a site listed on the state Cortese List, a compilation of various sites throughout the state that have been compromised due to soil or groundwater contamination from past uses (CalEPA 2025). Therefore, no impact would occur, and no mitigation is required.

NO IMPACT

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

There are no public airports or private airstrips within two miles of the Project Site (the Perris Valley Airport is located just over two miles to the northwest of the Project Site). The entire Project Site is located in a compatibility zone (Zone D) for the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan (ALUC). Within Compatibility Zone D, general plan amendments (as well as other discretionary actions, such as rezoning, subdivision approvals, use permits, etc.) that would convert land to residential use or increase the density of residential uses should be subject to careful consideration of overflight impacts. Other considerations in Zone D include the height of proposed buildings, antennas, or other structures.

Within Compatibility Zone E, commercial use is not limited or restricted, no special considerations are required for development, and no open space requirements are enforced. The Proposed Project would comply with the requirements of the ALUCP and would not result in a safety hazard or excessive noise. Therefore, no impact would occur.

NO IMPACT

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

The Proposed Project consists of the development of a 328,205-sqaure-foot warehouse. All project elements, including landscaping, would be sited with sufficient clearance from the proposed buildings so as not to interfere with emergency access to and evacuation from the Project Site. The Proposed Project is required to comply with the California Fire Code as adopted by the Menifee Municipal Code. Access is provided to the site through the two driveways located on Trumble Road. Construction activities may include temporary street or lane closures to Trumble Road; however, these impacts would be temporary and access to emergency evacuation roadways would not be blocked by construction. The Proposed Project does not propose permanent street or lane closures.

Operation of the Project would not require the development of additional streets or introduce new features that would interfere with or obstruct an adopted emergency response plan. Additionally, as discussed further in Section 17, *Transportation*, operation of the Project would not result in a significant increase in daily trips to the site and the Project Site is surrounded by major roadways, including Menifee Road, which has sufficient capacity to provide access to and from the Project Site during an emergency. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

As discussed in Section 20, *Wildfire*, the Project Site and surrounding area are not classified as being in a very high fire hazard severity zone (VHFHZ) (California Department of Forestry and Fire Protection [CalFire] 2025). Compliance with the California Fire Code and local regulations including the City of Menifee Municipal Code Chapter 8.20 would reduce potential impacts related to wildland fires. Therefore, impacts related to wildland fires would be less than significant.

NO IMPACT

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10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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 off-site;	☐	☐	■	☐
(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?	☐	☐	■	☐
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?	☐	☐	■	☐

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

A project normally would have an impact on surface water quality if discharges associated with the project would create pollution, contamination, or nuisance as defined in Water Code Section 13050, or that cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for a receiving water body. For the purpose of this specific issue, a significant impact could occur if the Project would discharge water that does not meet the quality standards of the agencies which regulate surface water quality and water discharge into stormwater drainage systems. Significant impacts could also occur if the Project does not comply with all applicable regulations regarding surface water quality as governed by the SWRCB. These regulations include preparation of a Water Quality Management Plan (WQMP) to reduce potential post-construction water quality impacts. The Preliminary WQMP is attached to this MND as Appendix E.

Construction

The Proposed Project would disturb approximately 17.19 acres of undeveloped land and would be subject to the NPDES program's Construction General Permit (General Permit). Construction-related activities would involve excavation, grading, and trenching which would temporarily increase the potential of wind and water erosion on the Project Site. Construction-related erosion would be addressed through compliance with the General Permit. Pursuant to the General Permit and Menifee Municipal Code Section 15.01.015, new development or development projects shall control stormwater runoff to prevent any deterioration of water quality that would impair subsequent or competing uses of the water. The Department of Public Works and Engineering would review and approve erosion control and sediment control BMPs contained in the Project applicant's submitted Stormwater Pollution Prevention Plan (SWPPP) and monitoring plan to be implemented to reduce the discharge of pollutants during construction. The Project applicant's SWPPP shall identify erosion control BMPs that would meet or exceed General Permit-required measures to control construction-related pollution. These identified BMPs would include stabilized construction entrances, sand bagging, designated concrete washout, tire wash racks, silt fencing, and curb cut/inlet protection.

Further, the Project proposes impervious surfaces throughout a large portion of the Project Site, which would stabilize soils and contain them on-site compared to the existing undeveloped condition. Compliance with NPDES and Menifee Municipal Code requirements would ensure that the Proposed Project's construction-related activities would not violate water quality or waste discharge requirements. As such, impacts would be less than significant.

Operation

The Project Site is currently undeveloped and as such, the Proposed Project would introduce impervious surfaces to the Project Site and would reduce the amount of water that percolates into the ground and potentially increase the amount of stormwater runoff. Urban stormwater runoff is covered under the NPDES MS4 Permit for stormwater and non-stormwater discharges from the MS4 within the Riverside County Flood Control and Water Conservation District (CAS618033, Order No. R8-2010-0033).

Nonetheless, according to the Preliminary WQMP, the following is proposed and expected to occur on-site:

- Impervious area on the site has been minimized to City standards.
- Due to the nature of the Project Site (large trucks), substitution of pavement for landscaping is not feasible. The Project does not propose overflow parking where substitution of pavement for landscaping would be optimal. Landscaping has been provided wherever applicable and to the maximum extent practicable.
- The entire Design Capture Volume (DCV) is handled by the proposed underground detention systems and proprietary biotreatment units. Permeable pavement is not needed to meet the DCV.

Additionally, runoff to adjacent areas is identified below as disclosed in the Preliminary WQMP, as described:

- Roof runoff is directed to the underground detention systems and proprietary biotreatment units for treatment.
- The site is not on a hillside.
- All stormwater runoff will be piped or sheet flow into the underground detention systems and proprietary biotreatment units; therefore, curb-cuts into landscaped areas are not utilized

Finally, pursuant to the General Permit and Menifee Municipal Code Section 15.01.015, new development or development projects shall control stormwater runoff to prevent any deterioration of water quality that would impair subsequent or competing uses of the water. Documentation on the effectiveness of BMP's implemented to reduce the discharge of pollutants to the MS4 is required when requested by the Director of Public Works. Based on the foregoing analysis, the Project would not violate any water quality standards or waste discharge requirements during long-term operation. Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The Project Site is located in the Menifee Hydrologic Subarea (HSA) within the Perris South Hydrologic Area of the San Jacinto Valley Hydraulic Unit (Menifee 2013). Water supply in the area is provided by Eastern Municipal Water District (EMWD). EMWD has four sources of water supply: imported water from the Metropolitan Water District of Southern California (MWD), local groundwater, and recycled water (Menifee 2013a). According to the 2020 Urban Water Management Plan (UWMP), EMWD expects to be able to provide reliable water supplies for an average year, single dry year, and multiple dry years for its existing and planned supplies (EMWD 2021). As discussed further in Section 19, *Utilities and Service Systems,* EMWD would have sufficient water supply to provide for the Proposed Project's water use. Project construction may require water for dust suppression in order to comply with the SCAQMD recommendations regarding dust suppression during construction activities. Construction activities would be temporary in nature, lasting for approximately 13 months. Therefore, no substantial increase in demand on groundwater supplies would occur, and adequate water supplies would be available to meet the needs of the Project for dust suppression purposes.

Although the Proposed Project would result in the addition of impervious surfaces on the Project Site, the Proposed Project would also include landscaping and drain catch basins which would promote infiltration and groundwater recharge, reducing the amount of surface runoff. According to the General Plan EIR, there are no percolation basins or other areas in the City used for intentional recharge of groundwater basins (Menifee 2013).

According to Appendix F, Preliminary Hydrology Study, groundwater was not encountered in any of their exploratory borings or trenches excavated to a maximum depth of 26 feet. The California Department of Water Resources, Water Data Library indicates that the groundwater depth for a well located approximately 0.75-mile to the southeast is greater than 80 feet below ground surface. Based on this information, groundwater is not anticipated to be a factor during site grading.

Therefore, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

Under existing conditions, Project runoff flows towards the southeast to the RCFCWCD Salt Creek Heritage Lake Storm Drain System and Detention Basin. The Project would develop a warehouse, which would change the site's existing ground contours and alter the existing drainage patterns within the Project Site.

As described in the Preliminary Hydrology Study (Appendix F), the Project Site is tabled to an existing 6-foot by 5-foot Caltrans concrete box culvert (RCB) that runs underneath the Interstate 215 Freeway. There is an existing public storm drain, Line "A", that runs southerly parallel to Trumble Road and continues westerly in Illinois Avenue. This storm drain system, designed by Albert A. Webb Associates (City File No. P8-921), discharges into the existing RCB. It appears the site is not tabled to discharge into the existing Line "A". The existing pipe is also full, therefore, any additional flow added to the pipe will cause negative downstream hydraulic impacts.

The Project site will instead drain to the existing box culvert via a proposed 30-inch RCP public storm drain system. The onsite storm drain system will "bubble out" into the public storm drain system. Once sufficient head is lost, a proposed pump will dry the pipe. The storm drain will convey flows southerly in Trumble Road then westerly through Illinois Avenue, running parallel to the existing Line "A". A proposed headwall will allow for both Line "A" and the proposed RCP to connect to the RCB.

Because stormwater flows generated on the Project Site would continue to be conveyed to the existing and planned storm drains, the Project would not substantially alter the existing drainage pattern of the local area that could potentially create erosion or siltation.

Additionally, as listed under Response 10(a), the Proposed Project would comply with the City's urban runoff requirements as stated in the Menifee Municipal Code and the NPDES permit, which would reduce the quantity and level of pollutants from runoff leaving the Project Site. Therefore, potential impacts related to erosion and siltation would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

As described under Response 10 (c)(i), proposed grading and construction activities on the Project Site would alter the site's existing drainage patterns but would not substantially alter the drainage pattern of the surrounding area. In particular, the drainage system is designed to flood the Truck court in the 100-year storm plan. The specific flood zone designation of any potential truck court location is crucial due to the potential impact of flooding on operations and overall safety. As mentioned above, the Preliminary Hydrology Study concluded that with the proposed infiltration system, the peak stormwater runoff flows discharged from the Project Site would be similar to existing conditions (Thienes Engineering, Inc. 2024). Therefore, implementation of the Project would not substantially increase the rate or amount of surface water runoff discharged from the site in a manner that would result in flooding on- or off-site. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would 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?

As described under Response 10 (c)(i), proposed grading and construction activities on the Project Site would alter the site's existing drainage patterns but would not substantially alter the drainage pattern of the local area. Furthermore, the Project's storm drain system would be sized and designed in accordance with the RCFCWCD standards to ensure that Project flows would be discharged from the site at a volume and rate that can be accommodated by existing and planned downstream storm drain facilities. Therefore, the Project would not create or contribute runoff which would exceed the capacity of any existing or planned stormwater drainage system and impacts would be less than significant.

As discussed under Response 10 (a), the Proposed Project would be required to comply with the City's urban runoff requirements as stated in the Menifee Municipal Code and with the requirements of NPDES and the SWPPP, which identify BMPs to be incorporated into the Project to ensure construction and operational activities of the Project would not result in substantial amounts of polluted runoff. Therefore, with mandatory compliance with the Menifee Municipal Code, NPDES and LID Report, the Project would not create or contribute substantial additional sources of polluted runoff, and impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

According to flood maps prepared by the Federal Emergency Management Agency (FEMA), the Project Site is not located in a flood hazard zone (FEMA 2025). The Project Site is not located in an area subject to inundation by the 1-percent-annual-chance flood event. The nearest dam is the Perris Dam, located approximately ten miles to the north. According to the City's General Plan Flood

Hazards Map and Dam Failure Maps, the Project Site is not located within a flood hazards area or area of dam failure inundation pathway (Menifee 2013c). Therefore, the Project Site is not expected to be inundated by flood flows and the Project would not impede flood flows. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

According to flood maps prepared by FEMA, the Project Site is not located in a flood hazard zone (FEMA 2024). As just mentioned, the Project Site is not located in an area subject to inundation by the 1-percent-annual-chance flood event. The nearest dam is the Perris Dam, located approximately ten miles to the north. According to the City's General Plan Flood Hazards Map, the Project Site is not located within a flood hazards area (Menifee 2013c).

Seismic events can induce oscillations, called seiches, of the surface of an inland body of water that vary in period from a few minutes to several hours. Tsunamis are large sea waves produced by submarine earthquakes or volcanic eruptions. The Project Site is not subject to tsunami due to its elevation and distance (over 40 miles) from the ocean. There is low possibility of a seiche from these reservoirs affecting the Project Site given the Project's location to the nearest reservoir (approximately ten miles). Therefore, no impact would occur related to seiches and tsunamis. As the Project Site is located outside of a flood hazard zone, and there is no risk of seiches and tsunami, the Proposed Project would not have the potential to release pollutants due to Project inundation and no impact would occur.

NO IMPACT

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

The Project Site overlies the West San Jacinto Groundwater Basin, which is designated as a high priority basin by the California Department of Water Resources (DWR) pursuant to Sustainable Groundwater Management Act (SGMA), and the Groundwater Sustainability Agency (GSA) adopted a Groundwater Sustainability Plan (GSP) in 2023. As discussed under Response 10(b), the Project would not substantially decrease groundwater supplies nor interfere substantially with groundwater recharge and therefore is not expected to conflict with or obstruct a sustainable groundwater management plan. No component of the Project would obstruct with or prevent implementation of the management plan for the West San Jacinto Groundwater Basin. Therefore, the Project's construction and operation would not conflict with any sustainable management plan. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	■
a. 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?	☐	☐	■	☐

a. Would the project physically divide an established community?

The Proposed Project is within an area of Menifee comprised largely of light industrial uses. Light industrial uses are located to the west, north, and east of the Project Site. Single-family residential units are located immediately south of the Project Site. Additional residential land uses exist east of the Project Site, and across Highway 74 to the north. The Proposed Project is consistent and compatible with the surrounding land uses and would not divide an established community. The Proposed Project is located entirely within the property and does not propose a structure, roadway, or flood control channel which would divide an established community. Therefore, no impact would occur, and no mitigation is required.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Project Site is designated EDC in the City's General Plan and zoned Economic Development Corridor – Northern Gateway (EDC-NG). The Proposed Project does not include changes to either designation or is consistent with the City's General Plan. In addition, as described in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, the Proposed Project would be consistent with the goals and policies of the AQMP and SCAG's 2020-2045 RTP/SCS. Therefore, the Proposed Project would not conflict with land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect, and impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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?	☐	☐	■	☐

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

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

According to the General Plan Draft EIR, no known significant mineral resources have been designated in the City of Menifee (Menifee 2013). Historically, operation of the Project Site has included mining activities and soil hauling for import and export purposes. The Project Site was historically used for sand and gravel mining for use in local construction projects. However, such historical mining was never permitted by either the City of Menifee, or by the County of Riverside. All such mining activities have ceased. Under the Proposed Project, no mining or soil import activities would occur. Since the historical mining at the Project Site was never permitted, and the site was never delineated on a local general plan, specific plan, or other local land use plan, the site is not considered to be a locally important mineral resource recovery site. Therefore, Proposed Project impacts relating to mineral resources would be less than significant, and no mitigation is required.

LESS THAN SIGNIFICANT IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Noise Overview

Sound is a vibration that transmits through a medium (such as a gas, liquid, or solid) created by a moving or vibrating source, which is capable of being detected by the hearing organs. Sound in the context of environmental analysis consists of sound that transmits through the open air from a source to a receiver. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds.

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 hertz (Hz) and less sensitive to frequencies around and below 100 Hz (Kinsler, et al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as the doubling of vehicle traffic volumes, results in a noise level increase of 3 dB, whereas dividing the energy in half results in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy, i.e., the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources, each containing the same sound energy, do not “sound twice as loud” as one source. It is widely accepted that the average healthy human ear can detect changes (either increases or decreases) of 3 dBA, which is

recognized as being barely perceptible to most people. Similarly, a change of 5 dBA is readily perceptible and a change of 10 dBA sounds twice (or half) as loud (Crocker 2007).

Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs, and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used in this analysis are the equivalent continuous noise level (L_{eq}) and the maximum noise level (L_{max}). The L_{eq} is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time. Typically, L_{eq} is equivalent to a one-hour period, even when measured for shorter durations as the noise level of a 10- to 30-minute period would be the same as the hour if the noise source is relatively steady. L_{max} is the highest Root Mean Squared (RMS) sound pressure level within the sampling period.

Propagation

Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dBA for each doubling of the distance away from the source. Other sources of noise, such as a road or railroad, are not a single, stationary point source of sound but rather, emanate noise from a line ("line" source. The drop-off rate for a line source is 3 dBA for each doubling of distance away from the source.

The propagation of noise is also affected by the absorption characteristics of the ground: a hard site, such as a parking lot or smooth body of water, provides no absorption/attenuation and the changes in noise levels with distance result simply from the geometric spreading of the source (i.e., 3 or 6 dBA reduction per doubling of distance for a point source or line source, respectively). Conversely, a soft site, such as soft dirt, grass, or scattered bushes and trees, may provide additional absorption/attenuation, potentially reducing noise levels an additional 1.5 dBA per doubling of distance away from the source (Caltrans 2013).

Noise levels may also be reduced by intervening structures. The amount of reduction provided by the "shielding" of these features depends on the size of the structure/s, the location of the structure/s relative to the noise source and receivers, and the frequency content of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight between a noise source and receiver will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011).

Vibration Overview

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. Vibration levels are usually expressed as a single-number measure of vibration magnitude in terms of velocity or acceleration, which describes the severity of the vibration without the frequency variable. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in

inches per second. Since it is related to the stresses experienced by buildings, PPV is often used in monitoring and controlling construction vibration to prevent damage to nearby structures.

Although PPV is appropriate for evaluating the potential of building damage, it is not suitable for evaluating human response. It takes some time for the human body to respond to vibrations. In a sense, the human body responds to an average vibration amplitude (Federal Transit Administration [FTA] 2018). Because vibration waves are oscillatory, the net average of a vibration signal is zero. Thus, the RMS amplitude is used to describe the "smoothed" vibration amplitude (FTA 2018). The RMS of a signal is the square root of the average of the squared amplitude of the signal, usually measured in inches per second. The average is typically calculated over a one-second period. The RMS amplitude is always less than the PPV and is always positive. Decibel notation is used to compress the range of numbers required to describe vibration. The abbreviation "VdB" is used in this analysis for "vibration decibels" to reduce the potential for confusion with sound decibels.

Sensitive Receptors

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The City of Menifee General Plan Noise Element defines noise-sensitive land uses as "schools, hospitals, rest homes, long term care facilities, mental care facilities, residential uses, libraries, passive recreation uses, places of worship, and other land uses where an excessive amount of noise would interfere with normal activities" (City of Menifee 2012). The closest sensitive receptors in the vicinity of the project site include residences located approximately 530 feet to the northeast and 400 feet to the east, the Set Free Ministries church located 1,750 feet to the southeast, and adjacent residences located to the south and southwest of the nearest project boundary.

Project Noise Setting

The primary noise source in the vicinity of the Project Site is vehicular traffic along Trumble Road and SR-74, as well as commuter trains traveling along the nearby portion of the Metrolink rail system that runs along the northeastern project site boundary. To characterize ambient noise levels at and near the Project Site, two short-term, 15-minute sound level measurements were conducted on May 7, 2025, and two long-term, 24-hour measurements were conducted on May 7 through 8, 2025. A SoftdB Piccolo-II, ANSI Type 2 integrating sound level meter was used to conduct the measurements. The sound level meter was field-calibrated before and after the measurements. Short-term measurement 1 (ST-1) was conducted off-site along Watson Road and approximately 100 feet from the centerline of SR 74; ST-2 was conducted along Trumble Road at the northwestern corner of the Project Site. Long-term measurement 1 (LT-1) was conducted near the single-family residences located at the southwest corner of the project site; LT-2 was conducted along the northeastern portion of the Project Site. Short-term noise measurement results are shown in Table 17. Long-term noise measurement results for LT-1 and LT-2 are shown in Table 18 and Table 19, respectively.

Table 17 Short-Term Noise Measurement Results

Measurement Name	Measurement Location	Sample Times	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)
ST-1	Along Watson Road and approximately 100 feet from the centerline of SR 74	11:50 a.m. – 12:05 p.m.	63.9	48.0	74.7	66.9	62.5	56.3
ST-2	Along Trumble Road at the northwestern corner of the project site	11:29 – 11:44 a.m.	59.9	50.8	73.9	62.4	54.5	52.9

dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level; L_{min} = minimum sound level; L_{max} = maximum sound level; L_{10} = sound level exceeded for 10% of the measurement period; L_{50} = sound level exceeded for 50% of the measurement period; L_{90} = sound level exceeded for 90% of the measurement period

Approximate noise measurement locations shown on Figure 3. See Appendix G for noise measurement data.

Table 18 Long-Term Noise Measurement Results (LT-1)

Sample Time	dBA L_{eq}	Sample Time	dBA L_{eq}
LT-1 – Southwest Corner of Project Site, May 7–8, 2025			
1:00 p.m.	49.9	1:00 a.m.	47.1
2:00 p.m.	51.8	2:00 a.m.	45.9
3:00 p.m.	50.3	3:00 a.m.	50.3
4:00 p.m.	52.6	4:00 a.m.	54.2
5:00 p.m.	56.6	5:00 a.m.	56.2
6:00 p.m.	52.5	6:00 a.m.	55.2
7:00 p.m.	52.5	7:00 a.m.	51.2
8:00 p.m.	61.1	8:00 a.m.	49.8
9:00 p.m.	50.1	9:00 a.m.	51.9
10:00 p.m.	50.0	10:00 a.m.	51.3
11:00 p.m.	50.1	11:00 a.m.	51.8
12:00 a.m.	48.5	12:00 p.m.	49.1
24-Hour Noise Level (dBA CNEL)			**59.3**

dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level

Approximate noise measurement locations shown on Figure 3. See Appendix G for graphical noise measurement data.

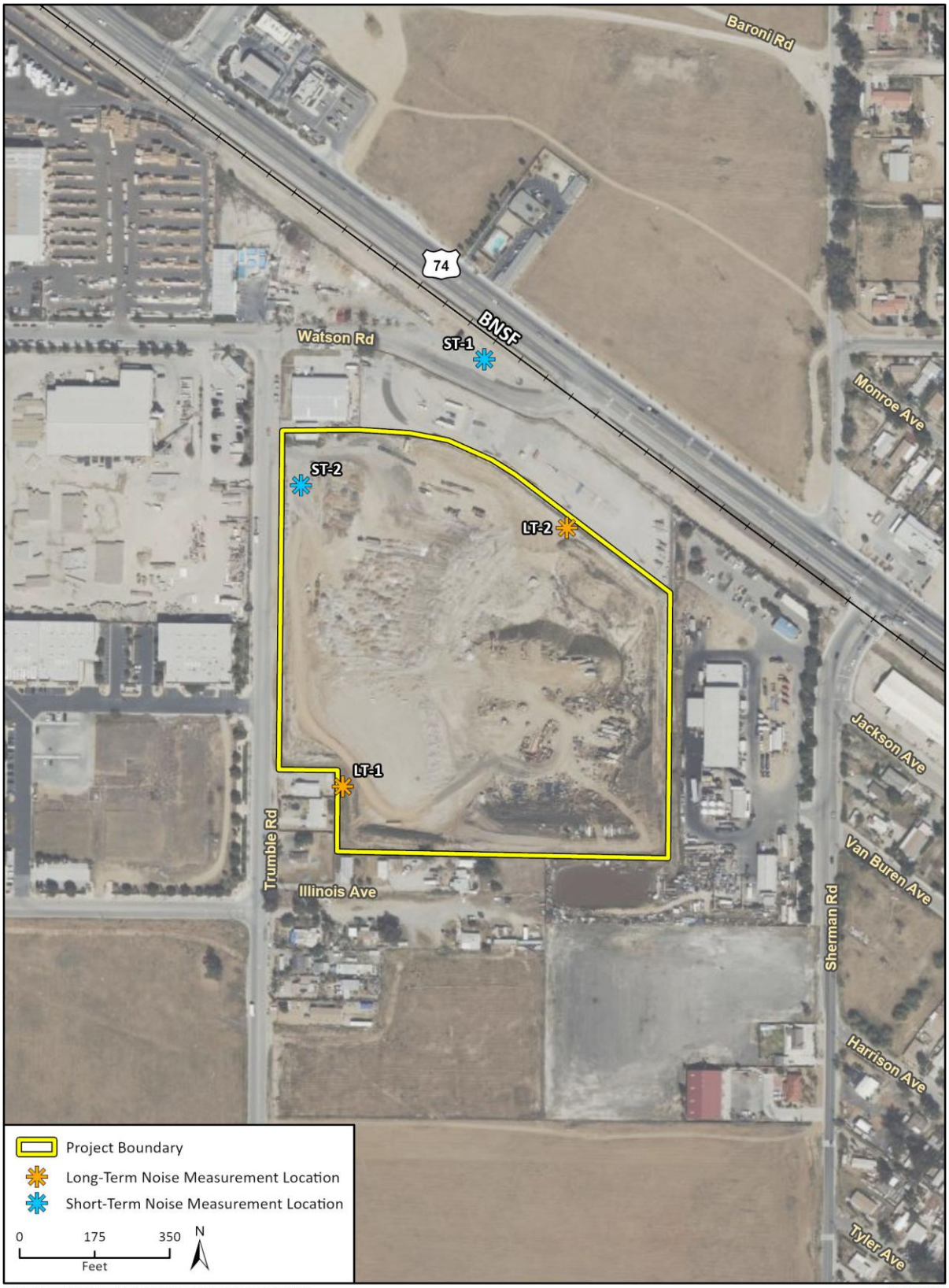
Table 19 Long-Term Noise Measurement Results (LT-2)

Sample Time	dBA L_{eq}	Sample Time	dBA L_{eq}
LT-2 – Northeast Corner of Project Site, May 7–8, 2025			
12:00 p.m.	57.6	12:00 a.m.	50.5
1:00 p.m.	55.3	1:00 a.m.	49.8
2:00 p.m.	53.7	2:00 a.m.	50.9
3:00 p.m.	53.7	3:00 a.m.	54.3
4:00 p.m.	55.7	4:00 a.m.	56.8
5:00 p.m.	56.1	5:00 a.m.	59.5
6:00 p.m.	56.5	6:00 a.m.	58.4
7:00 p.m.	58.4	7:00 a.m.	55.6
8:00 p.m.	55.6	8:00 a.m.	55.7
9:00 p.m.	54.1	9:00 a.m.	55.9
10:00 p.m.	52.3	10:00 a.m.	55.6
11:00 p.m.	52.2	11:00 a.m.	55.8
24-Hour Noise Level (dBA CNEL)			**61.8**

dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level

Approximate noise measurement locations shown on Figure 3. See Appendix G for graphical noise measurement data.

Figure 3 Approximate Noise Measurement Locations



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24-16157 EPS
Fig X Noise Measurement Locations

Regulatory Setting

City of Menifee General Plan Noise Element

The Noise Element of the Menifee General Plan includes goals and policies aimed at the control and abatement of environmental noise and protection of citizens from excessive exposure to noise (City of Menifee 2012). The Noise Element specifies the maximum allowable unmitigated exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports and railroads. In addition, the Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. To protect City residents from excessive noise, the Noise Element contains the following goals related to the Project:

Goal N-1: Noise-sensitive land uses are protected from excessive noise and vibration exposure.

Policy N-1.2 Require new projects to comply with the noise standards of local, regional, and state building code regulations, including but not limited to the City's Municipal Code, Title 24 of the California Code of Regulations, the California Green Building Code, and subdivision and development codes.

Policy N-1.3 Require noise abatement measures to enforce compliance with any applicable regulatory mechanisms, including building codes and subdivision and zoning regulations, and ensure that the recommended mitigation measures are implemented.

Policy N-1.7 Mitigate exterior and interior noises to the levels listed in Table 20 below to the extent feasible, for stationary sources adjacent to sensitive receptors.

Table 20 Stationary Noise Source Standards

Land Use	Time of Day	Interior Standards	Exterior Standards
Residential	10:00 p.m. to 7:00 a.m.	40 dBA L_{eq} (10 minute)	45 dBA L_{eq} (10 minute)
	7:00 a.m. to 10:00 p.m.	55 dBA L_{eq} (10 minute)	65 dBA L_{eq} (10 minute)

Source: City of Menifee General Plan Noise Element, Table N-1 (City of Menifee 2012).

Policy N-1.9 Limit the development of new noise-producing uses adjacent to noise-sensitive receptors and require that new noise-producing land be designed with adequate noise abatement measures.

Policy N-1.13 Require new development to minimize vibration impacts to adjacent uses during demolition and construction.

Goal N-2: Minimal noise spillover from noise-generating uses, such as agriculture, commercial, and industrial uses into adjoining noise-sensitive uses.

Policy N-2.1 Require that new developments abutting residentially designated properties that operate stationary noise sources such as industrial, commercial, entertainment, institutional uses, hospitals, or large hotels, be designed to minimize noise impacts generated by loading areas, parking lots, trash enclosures, mechanical equipment, and any other noise-generating features to the extent feasible.

Policy N-2.2 Require commercial or industrial truck delivery hours to be limited when adjacent to noise-sensitive land uses unless there is no feasible alternative or there are overriding transportation benefits.

City of Menifee Development Code

The City of Menifee Development Code (City of Menifee 2023) establishes standards for construction noise, operational noise, and vibration produced within the City.

Section 9.210.060(C) of the City of Menifee Development Code establishes noise control regulations within the City for construction. Specifically, the following are exempt from the City's noise standards:

- Private construction projects, with or without a Building Permit, located one-quarter of a mile from an inhabited dwelling.
- Private construction projects, with or without a building permit, located within one-quarter of a mile from an inhabited dwelling, provided that construction only occurs Mondays through Saturdays between the hours 6:30 a.m. to 7:00 p.m. Furthermore, construction is prohibited on Sundays or nationally recognized holidays unless approval is obtained from the City Building Official or City Engineer.

Section 9.210.060(D) of the Menifee Development Code reiterates the noise standards established in the City's General Plan Noise Element, stating that no person shall create any sound, or allow the creation of any sound, on any property that causes the exterior and interior sound level on any other occupied property to exceed the sound level standards set forth in Table 20.

Section 9.210.070 of the Menifee Development Code provides exemptions to the Code for certain vibration sources, specifying that "[v]ibration caused by motor vehicles, trains, and temporary construction is exempted from this standard" (City of Menifee 2023).

Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual

The City of Menifee does not have established quantitative limits on construction noise and vibration and exempts these noise sources if they occur within allowable days and hours. However, to present a comprehensive environmental review of potential noise and vibration impacts during construction of the proposed project, the criteria recommended by the Federal Transit Administration (FTA) in the *Transit Noise and Vibration Impact Assessment Manual* were used to evaluate noise and vibration levels during construction of the project. This document provides criteria for assessing construction noise impacts based on the potential for adverse community reaction according to affected land use type and vibration impacts based on preventing minor architectural (i.e., non-structural) damage to nearby structures. Construction noise and vibration limits are shown in Table 21 and Table 22, respectively.

Table 21 FTA Construction Noise Criteria

	L_{eq}, equip (8-hour), dBA	
Land Use	**Day (7:00 a.m. to 10:00 p.m.)**	**Night (10:00 p.m. to 7:00 a.m.)**
Residential	80	70
Commercial	85	85
Industrial	90	90

dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level

Source: FTA 2018

Table 22 FTA Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Nonengineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

PPV = peak particle velocity; in/sec = inches per second

Source: FTA 2018

Methodology

Construction Noise

Temporary noise levels caused by construction activity would be a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of noise-generating activities. For a construction noise assessment, construction equipment can be considered to operate in two modes: stationary and mobile. As a rule, stationary equipment operates in a single location for one or more days at a time, with either fixed-power operation (e.g., pumps, generators, and compressors) or variable-power operation (e.g., pile drivers, rock drills, and pavement breakers). Conversely, mobile equipment moves around the construction site with power applied in cyclic fashion, such as bulldozers, graders, and loaders (FTA 2018). Noise impacts from stationary equipment are assessed from the center of the equipment, while noise impacts from mobile construction equipment are assessed from the center of the equipment activity area (e.g., construction site). Due to the complex and mobile nature of construction activity within a project site, the FTA *Transit Noise and Vibration Impact Assessment Manual* document recommends evaluating construction noise impacts from all equipment at the center of the construction site, stating that the distance variable in its recommended construction noise calculation "assumes that all equipment operates at the center of the project" (FTA 2018). For purposes of this analysis, the center of the project site was assumed to be located at the approximate center of the proposed warehouse building.

Construction noise was estimated using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) (FWHA 2006). Typical construction projects have long-term noise averages that are lower than louder short-term noise events due to equipment moving around the site, work breaks, and idle time. Each phase of construction has a specific equipment mix depending on the work to be carried out during that phase. Accordingly, each phase also has its own noise characteristics; some will have higher continuous noise levels than others, while others may have more intermittent, high-impact noise levels. The maximum hourly L_{eq} of each phase is determined by combining the L_{eq} contributions from each piece of equipment used in that phase (FTA 2018). Project construction would include site preparation, grading, building construction, paving, and architectural coating phases. It is assumed that diesel engines would power all construction equipment. Noise levels generated during each phase of construction were estimated based on the default equipment list generated by the California Emissions Estimator Model (CalEEMod) for a project of this type and size as part of the *Air Quality and Greenhouse Gas Emissions* analysis. For a conservative evaluation of noise impacts, it was assumed that all equipment during each phase would be operating simultaneously.

Operational Noise

ONSITE STATIONARY NOISE SOURCES

Implementation of the Project would introduce additional onsite stationary sources of noise during operation, which would primarily be rooftop heating, ventilation, and air conditioning (HVAC) equipment (i.e., packaged heat pump units) and loading docks. There would be 13 rooftop packaged heat pumps located on the rooftop of the proposed building. Heat pumps would be Trane WSJ300 units, which have a sound power level of 93 dBA according to manufacturer specifications (included as Appendix G). Heat pumps were assumed to operate continuously 24 hours a day for a conservative estimate of potential noise impacts.

The Project would include 33 loading docks located along the eastern building facade. Reference noise levels for loading docks were based on noise measurements conducted of truck unloading/docking activity, which produces a sound pressure level of 63 dBA L_{eq} at 50 feet away (Michael Baker International 2018). Approximately half (17) of the 33 loading docks were conservatively modeled to be operating simultaneously and were modeled under the scenario that every other loading dock would be operating at a given time. It is assumed that loading dock activity would only occur during daytime hours (i.e., between 7:00 a.m. and 10:00 p.m.).

Operational noise generated by the Project was modeled and calculated using SoundPLAN, Version 9.0, a three-dimensional noise modeling program that incorporates noise propagation algorithms and reference sound levels published by various government agencies and the scientific community. Noise sources, receivers, structures, and site features are input using three-dimensional coordinates and noise levels are calculated at selected receivers or throughout a user-defined study area.

Rooftop HVAC equipment and loading dock areas were modeled as “point” sources, which have a characteristic noise attenuation of 6 dBA per doubling of distance away from the source.

OFFSITE MOBILE NOISE SOURCES (TRAFFIC)

During operation, the Project would introduce additional vehicle trips on nearby roadways (primarily Trumble Road, Ethanac Road, I-215, and SR 74) due to worker and delivery trips to and from the site. The relative noise increases on these roadways associated with the Project were determined by comparing the existing daily vehicle trips with the expected number of daily vehicle trips during project operation. It was conservatively assumed that all trips would occur on each analyzed roadway. Existing daily vehicle trip information for Trumble Road and Ethanac Road is based on data from Replica, while information for I-215 and SR 74 is based on data from Caltrans. The Project is expected to generate 561 total vehicle trips on these roadways based on the Traffic Study prepared for the Project (Translutions, Inc. 2025). A comparison of existing and Project-generated daily vehicle trip volumes used in this analysis are presented in Table 23.

Table 23 Comparison of Existing and Project-Generated Daily Vehicle Trips

Roadway	Segment	Existing Daily Vehicle Trips[1,2]	Project Operational Trips[3]	Existing + Project Operational Trips
Trumble Road	Between Illinois Avenue and SR 74	1,425	561	1,986
Ethanac Road	Between Trumble Road and Sherman Road	17,130		17,691
I-215	Between Ethanac Road and SR 74	198,00		198,561

SR 74	Between I-215 and Ethanac Road	36,000	36,561

[1] Daily trips for Trumble Road and Ethanac Road based on data from Replica.

[2] Annual average daily traffic (AADT) data for I-215 and SR 74 based on data from Caltrans.

[3] Daily project operational trips from Traffic Study prepared for the project.

Source: Replica 2024; Caltrans 2022; Translutions, Inc. 2025.

To assess the increase in ambient noise levels at nearby sensitive receptors along these roadways, traffic noise increases were determined using the following equation:

$$Traffic\ Noise\ Increase = 10 * LOG\ (\frac{Future\ Traffic\ Volumes}{Existing\ Traffic\ Volumes})$$

A project will normally cause a significant traffic noise impact if project-generated traffic volumes were to increase the ambient noise level above a certain threshold for adjoining areas. Because the City does not establish quantitative limits for assessing traffic noise impacts, a threshold 3 dBA was used, which is considered the minimum change in noise level perceptible to the average human ear (Crocker 2007). Therefore, off-site mobile noise impacts (i.e., traffic noise impacts) associated with the Project would be considered significant if Project-generated traffic were to increase noise levels on nearby roadways by 3 dBA or more.

Vibration

The Proposed Project would not include any substantial vibration sources associated with operation. Therefore, construction activities represent the greatest potential to generate groundborne vibration affecting nearby structures. The greatest sources of vibration expected during construction would include large earthmoving equipment (such as graders, dozers, and backhoes) and paving equipment (such as a vibratory roller). Typical vibration levels produced by these equipment types are shown in Table 24. Vibration levels generated at nearby structures were calculated based on these reference vibration levels and distances these equipment types would be used relative to nearby structures.

Table 24 Typical Vibration Levels Produced by Construction Equipment

Equipment	Approximate Vibration Level (in/sec PPV) at 25 feet
Vibratory Roller	0.210
Large[1] Earthmoving Equipment (e.g., Grader, Dozer, Excavator, Backhoe, etc.)	0.089

in/sec = inches per second; PPV = peak particle velocity

[1] "Large" equipment refers to equipment rated at 100 horsepower or greater.

Source: FTA 2018.

Impact Analysis

a. Would the project result in 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?

Construction Noise

Following the methodology discussed above, construction noise levels were calculated at nearby sensitive receptors for all phases of construction. Table 25 shows the estimated noise levels at nearby sensitive receptors during each phase of construction.

Table 25 Estimated Noise Levels at Sensitive Receptors by Construction Phase

	dBA L_{eq} (8-hour)					
Construction Phase	**RCNM Reference Noise Level**	**Residences to the southwest**	**Residences to the south**	**Residences to the east**	**Residences to the northeast**	**Set Free Ministries Church to the southeast**
Distance (ft)	*50*	*500*	*645*	*940*	*1,000*	*2,400*
Site Preparation[1]	86	66	64	61	60	53
Grading[2]	87	67	65	62	61	54
Building Construction[3]	85	65	63	60	59	52
Paving[4]	87	67	65	62	61	53
Architectural Coating[5]	76	56	54	51	50	42

dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level; RCNM = Roadway Construction Noise Model

[1] Site Preparation phase was evaluated assuming simultaneous operation of two dozers, one tractor, one backhoe, and one front end loader.

[2] Grading phase was evaluated assuming simultaneous operation of one excavator, one grader, one dozer, one scraper, and one backhoe.

[3] Building Construction phase was evaluated assuming simultaneous operation of one crane, one generator, one forklift, one tractor, and one backhoe.

[4] Paving phase was evaluated assuming simultaneous operation of two pavers, one pavement scarifier, and two rollers.

[5] Architectural Coating phase was evaluated assuming operation of one air compressor.

See Appendix G for construction noise modeling outputs.

As shown in Table 25, construction noise levels would not exceed 80 dBA L_{eq} (8-hr) at the nearest sensitive receptors. Additionally, per information provided by the Project applicant, construction would occur between 6:30 a.m. and 7:00 p.m. on Mondays through Saturdays and would therefore not conflict with the City's Development Code regulations. Therefore, temporary noise impacts associated with construction of the Project would be less than significant.

Operational Noise

ONSITE STATIONARY NOISE SOURCES

Following the methodology discussed above, noise levels generated by operation of the Proposed Project modeled using SoundPLAN. Operational noise levels associated with each onsite stationary noise source, as well as combined operation of onsite stationary noise sources, are discussed in the following sections.

Loading Dock Activity

Operational noise levels associated with the Project's loading dock activity at nearby sensitive receptors are summarized in Table 26. Noise contours associated with operation of loading docks are shown in Figure 4. As shown in Table 26 and Figure 4, noise levels generated by loading dock activity would not exceed the City's daytime noise threshold of 65 dBA at the nearest residential receptors and noise impacts associated with the Project's loading dock activity would be less than significant.

Table 26 Summary of Operational Noise Levels at Nearby Sensitive Receptors (Loading Dock Activity)

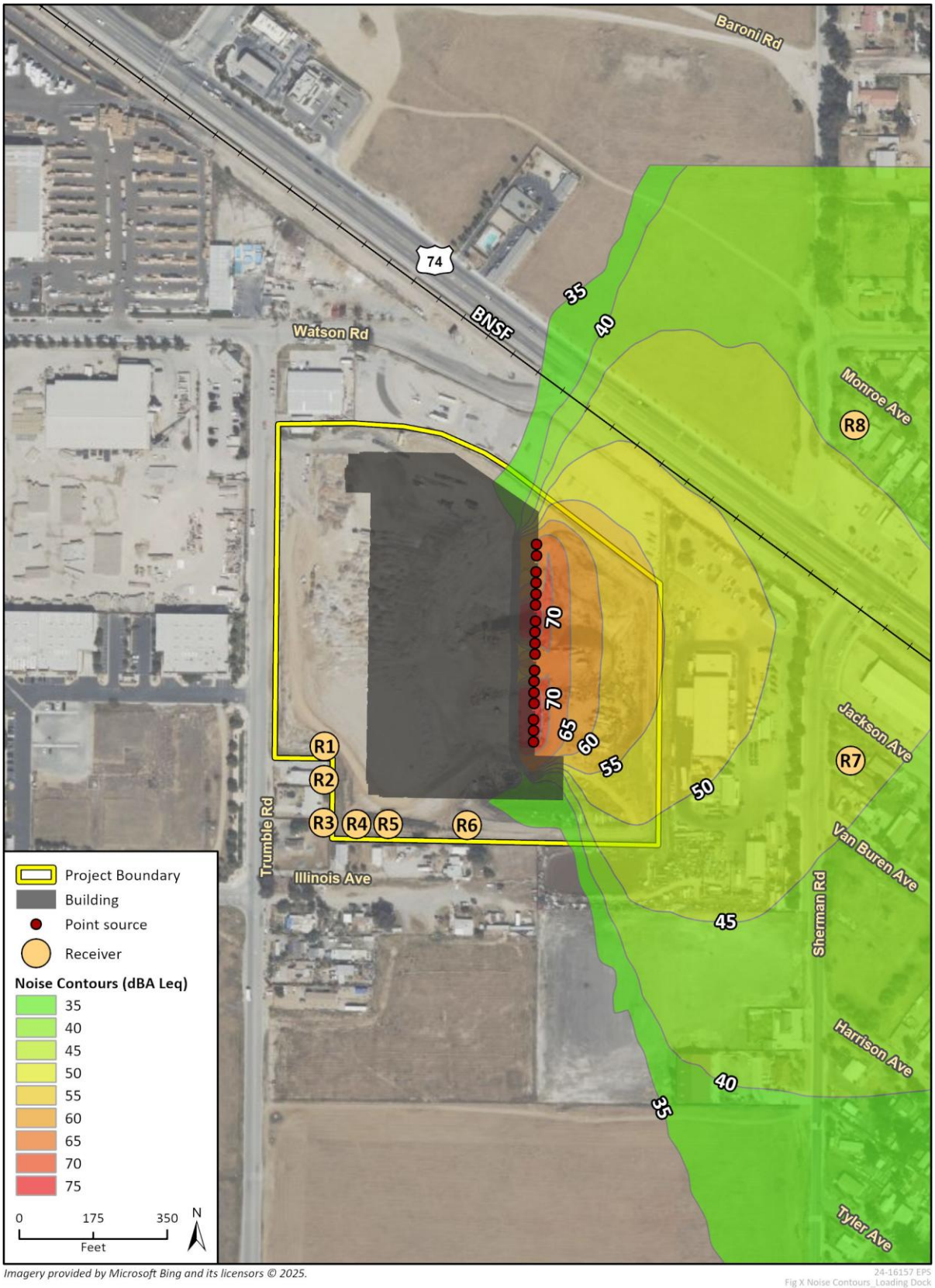
Receiver Name	Receiver Description	Modeled Noise Level (dBA L_{eq})	Applicable Noise Threshold (dBA)[1]	Exceeds Daytime Noise Threshold?
R1	Single-family residence along Trumble Road located along western project site boundary	29	65	No
R2	Single-family residence along Trumble Road located along western project site boundary	29	65	No
R3	Single-family residence along Trumble Road located at southwestern corner of project site boundary	29	65	No
R4	Single-family residence along Illinois Ave located along southern project site boundary	30	65	No
R5	Single-family residence along Illinois Ave located along southern project site boundary	31	65	No
R6	Single-family residence along Illinois Ave located along southern project site boundary	35	65	No
R7	Single-family residence located at intersection of Van Buren Ave and Sherman Rd, east of project site	48	65	No
R8	Nearest single-family residence along Monroe Ave, located northeast of project site and across from SR 74	46	65	No

dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level

[1] Pursuant to the City of Menifee General Plan Noise Element noise standards, the applicable daytime (7:00 a.m. to 10:00 p.m.) noise threshold is 65 dBA at residential properties.

[2] Noise contours associated with loading dock activity are shown in Figure 4.

Figure 4 Operational Noise Contours (Loading Dock Activity)



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24-16157 EPS
Fig X Noise Contours_Loading Dock

HVAC Equipment

Operational noise levels associated with the project's HVAC equipment at nearby sensitive receptors are summarized in Table 27. Noise contours associated with operation of HVAC equipment are shown in Figure 5. As shown in Table 27 and Figure 5, noise levels generated by HVAC equipment would not exceed the City's daytime or nighttime noise thresholds of 65 and 45 dBA, respectively, at the nearest residential receptors and noise impacts associated with the Project's HVAC equipment would be less than significant.

Table 27 Summary of Operational Noise Levels at Nearby Sensitive Receptors (HVAC Equipment)

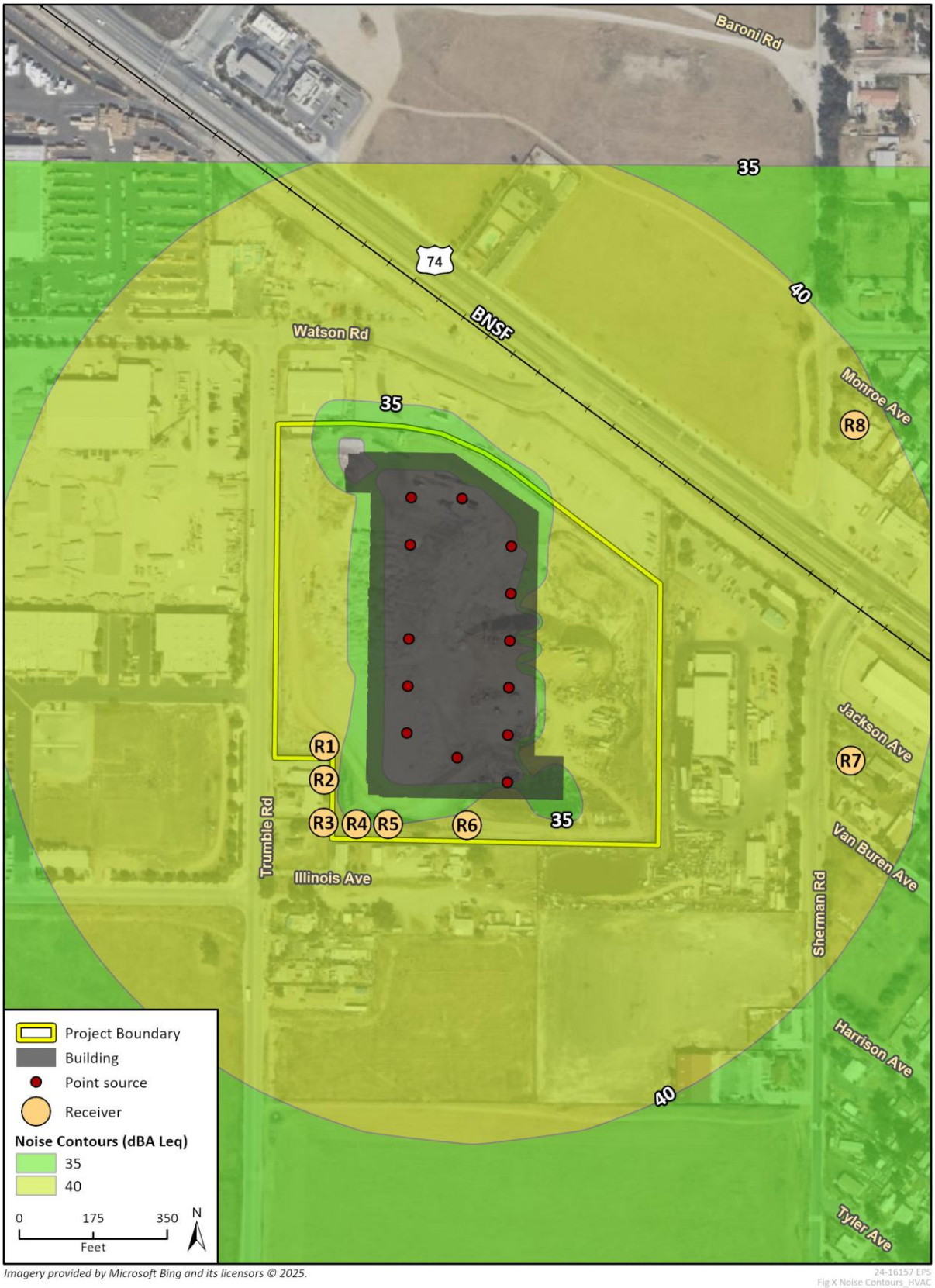
Receiver Name	Receiver Description	Modeled Noise Level (dBA L_{eq})	Daytime Noise Threshold (dBA)[1]	Nighttime Noise Threshold (dBA)	Exceeds Daytime Noise Threshold?	Exceeds Nighttime Noise Threshold
R1	Single-family residence along Trumble Road located along western project site boundary	42	65	45	No	No
R2	Single-family residence along Trumble Road located along western project site boundary	42	65	45	No	No
R3	Single-family residence along Trumble Road located at southwestern corner of project site boundary	42	65	45	No	No
R4	Single-family residence along Illinois Ave located along southern project site boundary	40	65	45	No	No
R5	Single-family residence along Illinois Ave located along southern project site boundary	40	65	45	No	No
R6	Single-family residence along Illinois Ave located along southern project site boundary	42	65	45	No	No
R7	Single-family residence located at intersection of Van Buren Ave and Sherman Rd, east of project site	42	65	45	No	No
R8	Nearest single-family residence along Monroe Ave, located northeast of project site and across from SR 74	41	65	45	No	No

dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level

[1] Pursuant to the City of Menifee General Plan Noise Element noise standards, the applicable daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise thresholds are 65 and 45 dBA, respectively, at residential properties.

[2] Noise contours associated with HVAC equipment are shown in Figure 5.

Figure 5 Operational Noise Contours (HVAC Equipment)



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24-16157 EPS
Fig X Noise Contours_HVAC

Combined Onsite Stationary Noise

The Project's onsite stationary noise sources may operate simultaneously and combine to generate increased noise levels at nearby sensitive receptors. To account for this, the combined noise levels generated by loading activity and operation of HVAC equipment were calculated at nearby sensitive receptors. Loading dock activity would occur only during daytime hours, while HVAC equipment may operate during both daytime and nighttime hours. Therefore, combined noise levels associated with these sources would only occur during daytime hours. Combined noise levels associated with the Project's onsite stationary noise sources are summarized in Table 28 and combined noise contours are shown in Figure 6. As shown in Table 28 and Figure 6, combined noise levels associated with the Project's onsite stationary noise sources (i.e., loading dock activity and HVAC equipment) would not exceed the City's daytime noise limit of 65 dBA. Therefore, combined operational noise impacts associated with the Project's onsite stationary equipment would be less than significant.

Table 28 Summary of Combined Daytime Operational Noise Levels (Loading Dock Activity and HVAC Equipment)

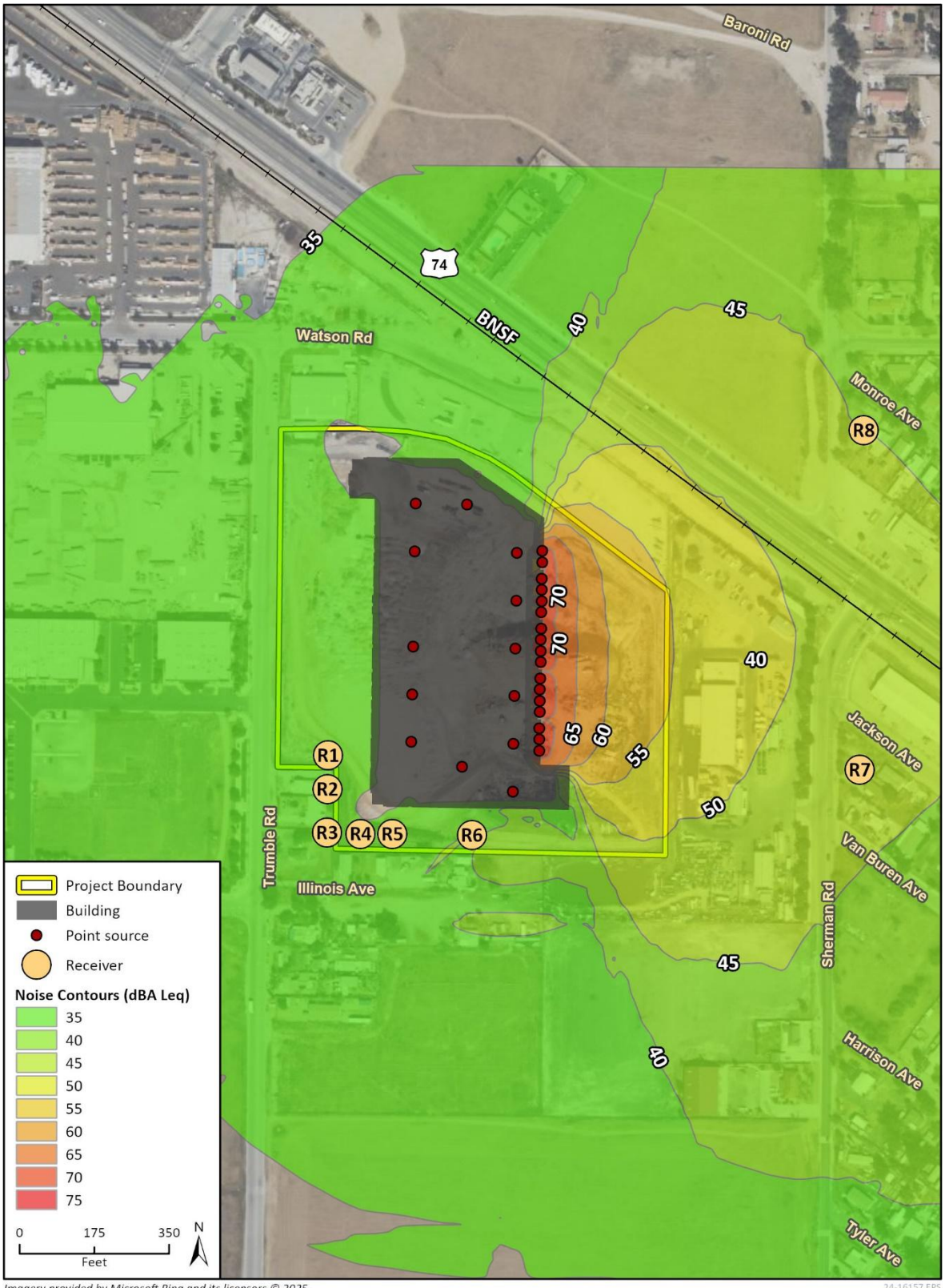
Receiver Name	Receiver Description	Modeled Noise Level (dBA L_{eq})	Applicable Noise Threshold (dBA)[1]	Exceeds Noise Threshold?
R1	Single-family residence along Trumble Road located along western project site boundary	42	65	No
R2	Single-family residence along Trumble Road located along western project site boundary	42	65	No
R3	Single-family residence along Trumble Road located at southwestern corner of project site boundary	42	65	No
R4	Single-family residence along Illinois Ave located along southern project site boundary	40	65	No
R5	Single-family residence along Illinois Ave located along southern project site boundary	41	65	No
R6	Single-family residence along Illinois Ave located along southern project site boundary	43	65	No
R7	Single-family residence located at intersection of Van Buren Ave and Sherman Rd, east of project site	49	65	No
R8	Nearest single-family residence along Monroe Ave, located northeast of project site and across from SR 74	47	65	No

dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level

[1] Pursuant to the City of Menifee General Plan Noise Element noise standards, the applicable daytime (7:00 a.m. to 10:00 p.m.) noise threshold is 65 dBA at residential properties.

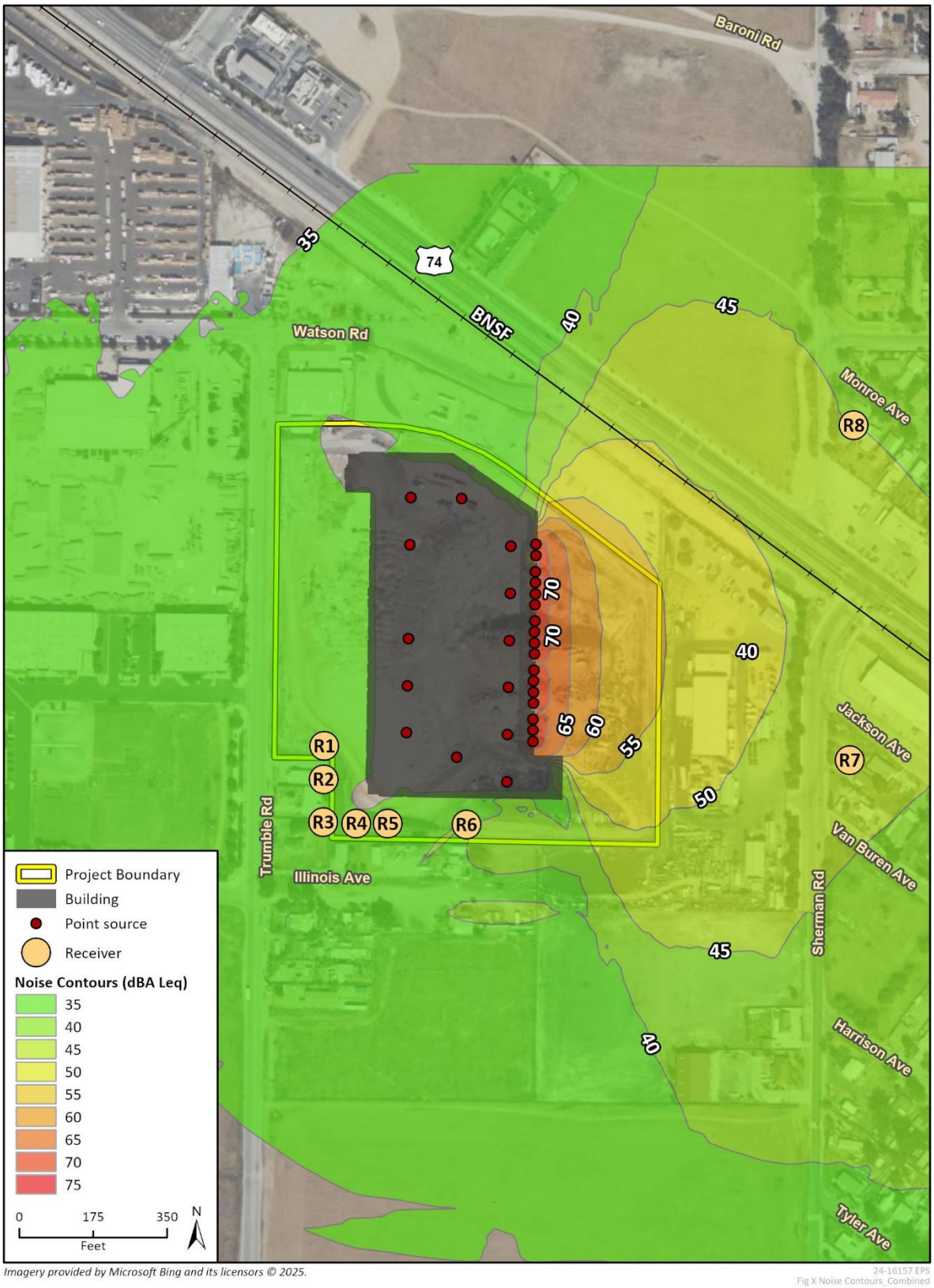
[2] Combined noise contours associated with loading dock activity and HVAC equipment are shown in Figure 6.

Figure 6 Combined Daytime Operational Noise Contours (Loading Dock Activity and HVAC Equipment)



OFFSITE MOBILE NOISE SOURCES (TRAFFIC)

Following the methodology discussed in the *Figure 6 Combined Daytime Operational Noise Contours* (Loading Dock Activity and HVAC Equipment)



Offsite Mobile Noise Sources (Traffic) section, noise increases associated with Project-generated vehicle traffic on nearby roadways were estimated. The Project is expected to generate an

additional 561 total daily vehicle trips on nearby roadways (assumed to occur primarily on Trumble Road, Ethanac Road, I-215, and SR 74). An increase of 861 daily vehicle trips on these roadways would result in noise increases of 2.1 dBA on Trumble Road, 0.2 dBA on Ethanac Road, less than 0.1 dBA on I-215, and 0.1 dBA on SR 74. Therefore, offsite traffic noise increases associated with the Project would not create a perceptible change in noise level of 3 dBA or more above the ambient noise level along these roadways, and offsite traffic noise impacts associated with the Project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Construction

Construction activities known to generate excessive groundborne vibration, such as pile driving and blasting, would not be conducted during construction of the project. Therefore, the greatest sources of vibration during project construction activities would be large earthmoving equipment (such as a grader, dozer, excavator, or backhoe) and a static roller. Based on the provided site plan, large earthmoving equipment may be used as close as within 20 feet from the nearest offsite structures (single-family residences located along Illinois Avenue, south of the project site). This type of equipment generates a vibration level of approximately 0.089 in/sec PPV at a reference distance of 25 feet (FTA 2018). At a distance of 20 feet, this type of equipment would generate vibration levels up to approximately 0.124 in/sec PPV,[3] which would not exceed the FTA's recommended threshold of 0.2 dBA in/sec PPV at residential structures. A static roller may be used as close as approximately 20 feet from the nearest offsite structures (single-family residences located along Illinois Avenue, south of the project site). This type of equipment generates a vibration level of approximately 0.05 in/sec PPV at a reference distance of 25 feet (IR McIver 2012). At a distance of 20 feet, this type of equipment would generate vibration levels up to approximately 0.07 in/sec PPV, which would also not exceed the FTA's recommended threshold of 0.2 in/sec PPV at residential structures. Therefore, vibration impacts associated with construction of the project would be less than significant.

Operation

Operation of the Project would not include any substantial sources of vibration. No vibration impacts during operation of the Project would occur.

LESS THAN SIGNIFICANT IMPACT

[3] PPVEquipment = PPVRef (25/D)^n (in/sec), PPVRef = reference PPV at 25 feet, D = distance ,and n = 1.1

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?

The closest public or public use airport to the project site is the Perris Valley Airport (Federal Aviation Administration [FAA] location identifier [LID] L65), located approximately two miles northwest of the Project Site. The Project Site is not located within the noise contours of the airport (Riverside County Airport Land Use Commission 2004). Therefore, workers in the Project vicinity would not be exposed to excessive aviation-related noise impacts and no impact would occur.

NO IMPACT

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14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

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

As mentioned earlier, the Proposed Project would involve the construction of a warehouse. During operation, the Proposed Project would employ roughly 277 persons. However, these employed persons would likely be drawn from existing local workforce. The Proposed Project would be consistent with the growth assumptions estimated by SCAG for the City of Menifee. The Proposed Project would not induce population growth neither directly nor indirectly. Therefore, no impacts would occur.

NO IMPACT

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

The Project Site is a vacant, undeveloped lot, and no residences are present on the Project Site. Construction of the Proposed Project would therefore not displace any housing or people. No impact would occur.

NO IMPACT

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15 Public Services

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

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The Riverside County Fire Department provides fire protection and emergency medical response services in the City of Menifee. Station No. 7 is located approximately 3.4 miles south of the proposed Project Site at 28349 Bradley Road. The Riverside County Fire Department in cooperation with the California Department of Forestry and Fire Protection serves approximately 1.9 million residents over 7,200 square miles (Riverside County 2021). According to the Riverside County Fire Department Annual Report 2020, Station No. 7 responded to 6,585 service calls (Riverside County 2021). The Project would not have a significant impact on fire response times, because the Project is located within the existing service area of the Riverside County Fire Department.

Furthermore, the Project would be required to incorporate safety and security features, including fire sprinklers, alarm systems, and adequate access for emergency vehicles. Compliance with these requirements would lessen the demand for fire protection services at the Project Site, as compliance with these requirements can prevent fires from spreading and would help facilitate early responses and access to the site of the fire. No new or expanded fire protection facilities

would be required as a result of this Project. Impacts related to expansion of fire protection services would be less than significant, and no mitigation is required.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The City of Menifee Police Department employs 122 staff (Menifee 2024). The Menifee Police Department is located at 29714 Haun Road in Menifee, approximately 6.5 miles south of the proposed Project Site. No new or expanded police facilities would need to be constructed as a result of this Project. The nature of the Proposed Project would not result in increased demand for police services as it is located within the existing service area. No new or expanded police facilities would need to be constructed as a result of this Project. Impacts related to police protection services would be less than significant, and no mitigation is required.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The Proposed Project is located within the Romoland School District and Perris Union High School District. The nature of the Proposed Project would not generate additional demand on school facilities. Therefore, no impact would occur.

NO IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Demand for park and recreational facilities typically result from residential development. The Proposed Project is the construction of a warehouse. The nature of the Proposed Project would not generate additional need for recreational facilities. Therefore, no impact would occur.

NO IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Demand for public services such as libraries or hospitals typically result from residential development. The Proposed Project involves the construction of a warehouse and related uses. The nature of the Proposed Project would not generate additional need for public service facilities. Therefore, no impact would occur.

NO IMPACT

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	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?	☐	☐	☐	■
a. 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?	☐	☐	☐	■

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?

The Proposed Project does not include residential development that would create demand for park and recreational facilities. The Proposed Project involves the construction of a warehouse, which would likely employ the existing local workforce. Therefore, no impacts would occur.

NO IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	■	☐	☐
b. 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 use (e.g., farm equipment)?	☐	☐	■	☐
d. Result in inadequate emergency access?	☐	☐	☐	■

A Traffic Study (Appendix H) and vehicle miles travelled (VMT) screening (Appendix I) analysis were prepared in June of 2025, by Translutions, Inc., and incorporated by reference herein. The analysis below is partially based on the Traffic Study analysis and the CalEEMod results determined in the Air Quality and Greenhouse Gas Report (Appendix A).

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

The City follows the *City of Menifee Engineering Department LOS Traffic Study Guidelines* (October 2020) for level of service analyses. The operational analysis includes a quantitative evaluation of the Project's access and circulation operations. The study area, analysis scenarios, and analysis methodologies are based on the guidelines and on discussion with City staff. The approved scoping agreement, which is the basis of the Traffic Study, is included in Appendix A to the Traffic Study.

The information below is a short summary of the Traffic Study for the Proposed Project.

Construction

Construction of the Proposed Project would generate traffic for deliveries of equipment and materials to the Project Site as well as construction worker and vendor traffic. Construction-related vehicles would travel to and access the Project Site via Trumble Road. Construction vehicles and equipment would be staged on the Project Site and are not expected to affect the performance of the City's circulation system.

Construction traffic would be temporary, and the movement of construction equipment would be limited to the Project Site. Construction of the Proposed Project would not involve any vehicle or

equipment staging on Antelope Road and the Project would not require any long-term lane closures on Antelope Road, as construction staging is not permitted in the public right-of-way. No public transit stops are located within the vicinity of the Project Site; thus, the Proposed Project would not impair public transit operations. In addition, Project construction and operation would not require temporary closures or alterations to the sidewalk or bike lanes on Menifee Road. Therefore, construction activities would not substantially interfere with the City's circulation system.

Operation

Based on the trip generation and trip distribution of the Proposed Project, and based on discussion with City staff, the Traffic Report analyzes the following intersections and roadway segments for traffic operations:

Study Intersections

- Trumble Road / Watson Road
- Trumble Road / Driveway 1
- Trumble Road / Driveway 2
- Trumble Road / Illinois Avenue
- Trumble Road / Ethanac Road
- Trumble Road / SR-74

Roadway Segments

- Trumble Road from Watson Road to Driveway 1
- Trumble Road from Driveway 1 to Driveway 2
- Trumble Road from Driveway 2 to Illinois Avenue
- Trumble Road from Illinois Avenue to Ethanac Road

Existing Conditions

As shown in Traffic Report, an intersection level of service (LOS) analysis was conducted for existing conditions to determine current circulation system performance. As detailed in the Traffic Study, all existing study area intersections are currently operating at acceptable levels. Additionally, as shown in the Traffic Study, the study area roadway segments are currently operating at a satisfactory level of service.

Existing Plus Project Conditions

According to the Traffic Study, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours. Also, the study area roadway segments are forecast to operate at a satisfactory level of service.

Opening Year Without Project Conditions

According to the Traffic Study, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours during the opening year. Also, the study area roadway segments are forecast to operate at a satisfactory level of service.

Opening Year With Project Conditions

According to the Traffic Study, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours. Also, the study area roadway segments are forecast to operate at a satisfactory level of service with Proposed Project conditions.

Opening Year Cumulative Without Project Conditions

According to the Traffic Study, and for the opening year cumulative without the Proposed Project, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours with the exception of the following intersection:

- Trumble Road and Ethanac Road (a.m. and p.m. peak hours)

The study area roadway segments are forecast to operate at a satisfactory level of service.

Opening Year Cumulative with Project Conditions

According to the Traffic Study, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours with the exception of the below:

- Trumble Road and Ethanac Road (a.m. and p.m. peak hours). This intersection also operates at an unsatisfactory level of service under opening year cumulative no Project conditions. This intersection is shared by the Cities of Menifee and Perris. According to the City of Perris' Guidelines "A cumulative impact is considered an indirect traffic impact when a study intersection is forecast to operate at an unacceptable Level of Service with the addition of cumulative/background traffic and the Project contributes 50 or more a.m. or p.m. peak hour Project trips and causes the intersection delay to increase by 2 seconds or more." Since the trips added by the Project at this intersection are more than 50 during both a.m. and p.m. peak hours and the delay added by the Project is more than 2 seconds, the impact at this intersection is considered to be an indirect impact.

Also, the study area roadway segments are forecast to operate at a satisfactory level of service.

Horizon Year Without Project Conditions

According to the Traffic Study, and for the horizon year without the Proposed Project, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours with the exception of the following:

- Trumble Road and Ethanac Road (a.m. and p.m. peak hours).
- Watson Road and SR-74 (a.m. and p.m. peak hours).

The study area roadway segments are forecast to operate at a satisfactory level of service.

Horizon Year With Project Conditions

According to the Traffic Study, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours with the exception of the below:

- Trumble Road and Ethanac Road (a.m. and p.m. peak hours). This intersection also operates at an unsatisfactory level of service under horizon year no Project conditions. This intersection is shared by the Cities of Menifee and Perris. According to the City of Perris' Guidelines "A cumulative impact is considered an indirect traffic impact when a study

intersection is forecast to operate at an unacceptable Level of Service with the addition of cumulative/background traffic and the Project contributes 50 or more a.m. or p.m. peak hour Project trips and causes the intersection delay to increase by 2 seconds or more." Since the trips added by the Project at this intersection are more than 50 during both a.m. and p.m. peak hours and the delay added by the Project is more than 2 seconds, the impact at this intersection is considered to be an indirect impact. The Project's fair share is 2.71%.

- Watson Road and SR-74 (a.m. and p.m. peak hours). This intersection also operates at an unsatisfactory level of service under horizon year no Project conditions. According to the City of Menifee's Guidelines "If the Pre-Project condition is LOS E or F, and the Project adds 50 or more peak hour trips to the intersection or roadway segment, the impact would be considered a "cumulative" Project impact in which the Project would be required to contribute a fair share payment toward reducing the impact." Since the trips added by the Project at this intersection are less than 50 during both a.m. and p.m. peak hours, the impact at this intersection is not considered to be a cumulative impact.

Also, the study area roadway segments are forecast to operate at a satisfactory level of service.

Mitigation Measures

Opening Year Cumulative Conditions Circulation Improvements

Under opening year cumulative conditions, the following mitigation measure to intersection configuration is recommended to reduce potential impacts:

MM TRA-1 Intersection 5: Trumble Road and Ethanac Road

The Applicant shall pay its fair share obligation towards adding one eastbound through lane, one westbound through lane, one dedicated westbound right turn lane, one northbound left turn lane, one dedicated northbound right turn lane, and one dedicated southbound right turn lane. As stated earlier, since the trips added by the project at this intersection are more than 50 during the peak hours and the delay added by the Project is more than two seconds, the impact at this intersection is considered to be an indirect impact before implementation of the aforementioned through lanes. In particular, the project's fair share is 2.71%.

Horizon Year Conditions Circulation Improvements

Under opening year cumulative conditions, the following mitigation measure to intersection configuration is recommended to reduce potential impacts:

MM TRA-2 Intersection 6: Watson Road and Highway 74

The Applicant pay its fair share towards implementation of a traffic signal at the Watson Road and Highway 74 intersection. However, since the trips added by the Project at this intersection are less than 50 during both a.m. and p.m. peak hours, the impact at this intersection is not considered to be a cumulative impact. Nonetheless, in order to reduce impacts from the project to a less than significant level, the Project's fair share cost towards development of that signal shall be 0.93%.

Significance After Mitigation

As mentioned above, the Proposed Project is forecast to generate 65 trips during the a.m. peak hour, 74 trips during the p.m. peak hour, and 861 daily trips. Access to the Project will be provided via two

driveways on Trumble Road. Under existing and opening year (2026) conditions, all intersections are forecast to operate at satisfactory levels of service. Under opening year cumulative (2026) conditions, the intersection of Trumble Road/Ethanac Road is forecast to operate at an unsatisfactory level of service under both without and with Project conditions. Under horizon year (2050) conditions, the intersections of Trumble Road/Ethanac Road and Watson Road/SR-74 are forecast to operate at an unsatisfactory level of service under both without and with Project conditions. With the implementation of the circulation improvements identified as mitigation measures, all intersections are forecast to operate at satisfactory levels of service

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

CEQA Guidelines Section 15064.3(b) identifies appropriate criteria for evaluating transportation impacts. It states that land use projects with vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact, and that projects that decrease VMT compared to existing conditions should be presumed to have a less than significant transportation impact. According to the Translutions VMT screening, the Proposed Project was evaluated using the WRCOG VMT screening tool and found to be located within Traffic Analysis Zone (TAZ) 1098. The Project's baseline (2018) VMT per service population was calculated to be 32.96, which is below the County of Riverside General Plan buildout threshold of 33.6 VMT per service population. Therefore, the Project qualifies for screening under the Low VMT Area criterion. Although the Project exceeds the square footage threshold for the Project Type Screening (328,205 square feet versus the 63,000 square feet warehousing threshold), it still screens out of a full VMT analysis based on its location in a low VMT area. Therefore, the Proposed Project's impacts to VMT compared to existing conditions and the impacts to CEQA Guidelines section 15064.3, subdivision (b) would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Final Project Site plans would be subject to City review and approval which would ensure that Project driveway intersections and internal circulation are safe, with adequate sight distance, driveway widths and stop signs where necessary for entering and exiting the site. The final plans will also identify access routes to/from the Project Site and potential turning movement restrictions for City review and approval, as outlined in Appendix H. This would prevent any potential Project impacts caused by a design feature. The Proposed Project is the construction of a 328,205 square foot warehouse and would not create hazards due to incompatible uses and would be consistent with surrounding land uses. No new long-term (i.e., operational) driveways or roadway improvements are proposed under the Proposed Project. Impacts would be less than significant, and no mitigation is required.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in inadequate emergency access?

The Proposed Project is required to comply with Fire Department requirements for adequate access. As stated in the Traffic Study, Project Site access and circulation would provide adequate access, turning radius, and driveway width and spacing for emergency vehicles, consistent with the

Fire Department's requirements. Emergency access to the Project Site would be maintained during construction. No impact would occur regarding emergency access and no mitigation is required.

NO IMPACT

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. 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)?	☐	■	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	■	☐	☐

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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?

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is

traditionally and culturally affiliated with the geographic area of the Proposed Project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Request for AB52 tribal consultation sent out 8/01/2022 to local tribes in the area (Pechanga Band of Indians, Agua Caliente, Rincon Band of Luiseno Indians, and Soboba). Pechanga officially requested tribal consultation for the project. The cultural report was sent to Pechanga and Soboba on 1/09/2025 along with the standard city cultural conditions of approval. The City met with Soboba on 1/28/2025 as part of ongoing quarterly meetings and Soboba agreed with implementing the agreed upon conditions of approval and had no further comments on the project. The City met with Pechanga on 5/15/2025 as a part of the ongoing quarterly meetings; the tribe agreed to implementing two conditions; 1) inadvertent finds and 2) discovery of human remains. Pechanga was previously on-site monitoring the filling of the pit and agreed to close out consultation on 5/16/2025 with the implementation of the aforementioned two conditions.

Nevertheless, there is a possibility of intact tribal cultural resources that exist at the depth of grading. Due to this uncertainty, Mitigation Measures CUL-1 through CUL2 have been incorporated (see Section 5, Cultural Resources, above) to address any previously undiscovered archaeological resources relating to TCRs encountered during Project implementation.

Mitigation Measures

Mitigation Measures CUL-1 ad 2 listed above in this MND are also applicable here.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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?	☐	☐	■	☐

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

c. Would the project 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?

EMWD provides water service to the City of Menifee, including the Proposed Project. EMWD has four sources of water supply: imported water from the Metropolitan Water District of Southern California (MWD), local groundwater, and recycled water (EMWD 2021). In normal year, single dry year, and multiple dry year scenarios presented by the 2020 EMWD Urban Water Management Plan, supply would meet demand under the normal year, single dry year, and multiple dry year scenarios (EMWD 2021). EMWD is able to respond to supply shortages through implementation of its Water Shortage Contingency Plan (WSCP). Based on the CalEEMod assumptions, the Proposed Project's estimated water demand is approximately 76,448,185 gallons per year (234.77 acre feet per year [AFY]). According to the UWMP projections, 2045 water demand in the city is anticipated to be 251,500 AFY and 2045 supply is 251,500 AFY under normal year conditions. Therefore, the Proposed Project's water demand would represent less than 0.001 percent of the City's anticipated water demand in 2045. Impacts related to water supply would be less than significant.

Wastewater generated at the Project Site would be collected at the Sun City Regional Water Reclamation Facility (RWRF) and treated at the Perris Valley RWRF. The Proposed Project would generate minimal wastewater to be conveyed to the Perris Valley RWRF and would be well within the existing remaining treatment capacity of the Perris Valley RWRF.

The water and sewer system in Menifee is owned and operated by EMWD. Connections to local water and sewer mains associated with the Proposed Project would involve temporary and less than significant construction impacts that would occur in conjunction with other on-site improvements. No additional improvements are needed to either sewer lines or treatment facilities to serve the Proposed Project. Standard connection fees would address any incremental impacts of the Proposed Project. Therefore, the Project would be less than significant.

Electrical service to the Project Site is provided by SCE, which maintains substations and transmission lines throughout southern California, including the Valley Substation approximately 2.5 miles southeast of the Project Site on Menifee Road. SCE provides natural gas service to the Project Site. As discussed in Section 6, *Energy*, the Project would involve an increase in electricity and natural gas demand to serve the Project; however, this demand increase would not be a wasteful use of energy and is not anticipated to require additional electricity substations or natural gas storage/transmission facilities. Impacts with respect to new or expanded electric power or natural gas facilities would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

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

Assembly Bill 341 (AB 341) set a statewide goal for a 75 percent reduction in waste disposal by the year 2020 and established mandatory recycling for commercial businesses. The City is required to comply with this law and report their progress towards achieving the 75 percent reduction goal to the Department of Resources Recycling and Recovery (CalRecycle). The City's Public Works Department supplies residents, businesses, and institutions with waste carts for recyclables and green waste through their contract with the private waste hauler, Waste Management. The City of Menifee primarily utilizes three landfills: Badlands Sanitary Landfill, El Sobrante Landfill, and Lamb

Canyon Sanitary Landfill (CalRecycle 2024). Badlands Sanitary Landfill has a maximum daily capacity of 5,000 tons per day and a maximum capacity of 82,300,000 cubic yards. The remaining capacity is 7,800,000 cubic yards and it is scheduled to cease operation in January 2059. El Sobrante Sanitary Landfill has a maximum daily capacity of 16,054 tons per day and a maximum capacity of 209,910,000 cubic yards. The remaining capacity is 143,977,170 cubic yards and it is scheduled to cease operation in January 2051. Lamb Canyon Landfill has a maximum daily capacity of 5,000 tons per day and a maximum capacity of 39,681,513 cubic yards. The remaining capacity is 19,242,950 cubic yards and it is scheduled to cease operation in April 2032.

According to CalEEMod (Appendix A), the Project would generate roughly 308 tons of solid waste per year (0.84 tons per day). The landfills serving the Project Site had a combined annual daily capacity of 26,054 tons per day and a combined maximum capacity of 331,891,513 cubic yards (CalRecycle 2025). The Project's daily solid waste generation would account for less than 0.01 percent of the Project's landfills' daily maximum capacity. Thus, the Project's solid waste generation would be minimal and would not generate solid waste in excess of the capacity of local infrastructure.

The Project would comply with federal, state, and local statutes and regulations related to solid waste and recycling, such as AB 341, through participation in existing City waste diversion programs. Therefore, there would be a minimal increase in solid waste generation and there would be a less-than-significant impact to solid waste and waste facilities.

LESS THAN SIGNIFICANT IMPACT

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
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 downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	■	☐

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

A Fire Hazard Severity Zone (FHSZ) is a mapped area that designates zones (based on factors such as fuel, slope, and fire weather) with varying degrees of fire hazard (i.e., moderate, high, and very high). While FHSZs do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern. FHSZs are meant to help limit wildfire damage to structures through planning, prevention, and mitigation activities/requirements that reduce risk. The FHSZs serve several purposes: they are used to designate areas where California's wildland urban interface building codes apply to new buildings, they can be a factor in real estate disclosure, and they can help local governments consider fire hazard severity in the safety elements of their general plans.

According to the California FHSZ Viewer, the Project Site is not located in a VHFHSZ or state responsibility area (SRA) and the nearest VHFHSZ within an SRA is located approximately 2 miles northeast of the Project Site (CALFIRE 2025). According to the Menifee General Plan's Safety Element, the Project Site is not within a High Fire Hazard Area in a local responsibility area (LRA) (Menifee 2013c).

The Project involves the construction of a warehouse that would incrementally increase demand for fire protection services. As discussed in Section 15, *Public Services*, the Project Site is in a semi-urbanized area already served by the Riverside County Fire Department and would not have a significant impact on fire response times nor create a substantially greater need for additional fire protection services above current capacity.

As stated above, the nearest fire station is Station No. 7 located approximately 3.4 miles south of the Project Site and would provide emergency and evacuation services in the event of a fire. Furthermore, all buildings would be constructed to meet the current building code fire safety requirements, including the 2022 CBC, the California Fire Code and the regulations pertaining to fire protection within Menifee Municipal Code Chapter 8.20. Construction of the Proposed Project would maintain emergency access to the site and on area roadways and would not include any components, such as roadway closures, which would interfere with an emergency response plan or evacuation route. Therefore, the Proposed Project would have a less-than-significant impact related to wildfires.

LESS-THAN-SIGNIFICANT IMPACT

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

As discussed under Response 20(a), the Project Site is not located in a VHFHSZ or within an SRA and the nearest VHFHSZ within an SRA is located approximately two miles northeast of the Project Site (CALFIRE 2025). The Project Site is not located within a local responsibility area (LRA) identified as Very High Fire Severity Zone but would comply with Chapter 7A of the California Building Code and Chapter 49 of the California Fire Code. The Project is also required to comply with Title 14 from the California Board of Forestry and Fire Protection.

In particular, the Proposed Project would involve construction of a warehouse on a vacant, undeveloped site in a semi-urbanized area. The Proposed Project does not include any components that would exacerbate wildfire risk and risks to Project occupants would be mitigated through conformance with the California Fire Code, 2022 CBC, and California Health and Safety Code, which establish provisions for fire safety related to construction, maintenance and design of buildings, and land uses. The terrain of the Project Site is relatively flat as well, which minimizes the risk of post-fire slope instability, landslides, or significant erosion-related hazards.

Compliance with building and design regulations, which would be reviewed and approved during the Plan Check process, would reduce the wildfire risk impacts to a less-than-significant level.

LESS-THAN-SIGNIFICANT IMPACT

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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?

As mentioned above, according to the California FHSZ Viewer, the Project Site is not located in a VHFHSZ or SRA and the nearest VHFHSZ within an SRA is located approximately 2 miles northeast of the Project Site (CALFIRE 2025). The Project Site is undeveloped but is within a semi-urbanized area served by existing infrastructure, including roads and utilities. As discussed in Section 15, *Public Services*, the Project Site is in a semi-urbanized area already served by the Riverside County Fire Department and would not have a significant impact on fire response times nor create a substantially greater need for additional fire protection services above current capacity. The nearest fire station is Station No. 7 located approximately 3.4 miles south of the Project Site and would provide emergency and evacuation services in the event of a fire. The Project would be served by Trumble Road as the primary access road and the existing utilities in the Project area and would not require the installation or maintenance of associated infrastructure within FHSZs that may exacerbate fire risk. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
b. 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. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	■	☐

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The Project would not substantially impact any scenic vistas, scenic resources, or the visual character of the area, as discussed in Section 1, *Aesthetics*, and would not result in excessive light or glare. The Project Site is located within an area of Menifee which includes industrial land to the north and east, commercial land to the west, and residential land to the south. Moreover, the Proposed Project may impact nesting birds. Compliance with state and local laws and Mitigation Measures BIO-1 through BIO-3 would result in a less than significant impact to biological resources.

Adverse impacts to historic, paleontological resources or human remains would be less than significant with compliance with state and local laws, and implementation of mitigation measures. Mitigation Measures CUL-1 and GEO-1 would be implemented in the event any important archaeological or paleontological resources are discovered during grading. This Project Site is not known to have any association with an important example of California's history or prehistory. The environmental analysis provided in Section 3*, Air Quality*, concludes that impacts related to emissions of criteria pollutants and other air quality impacts would be less than significant. Section 7, *Geology and Soils*, and Section 9, *Hazards and Hazardous Materials*, conclude that impacts related to GHG emissions, hydrology, and water quality would be less than significant. Based on the preceding analysis of potential impacts in the responses to items 1 thru 20, no evidence is presented that the Proposed Project would degrade the quality of the environment. Impacts related to degradation of the environment and cultural resources would be less than significant with mitigation incorporation.

Mitigation Measures

Mitigation Measures BIO-1 through BIO-3, CUL-1, GEO-1, and TRA-1 and TRA-2 are applicable.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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)?

As discussed throughout this IS-MND, implementation of the Proposed Project has the potential to result in effects to the environment that are individually limited but cumulatively considerable. In all instances where the Project has the potential to contribute to a cumulatively considerable impact to the environment, mitigation measures have been imposed to reduce potential effects to less-than-significant levels.

Aesthetics

New development on the Project Site and in the surrounding area would change the existing character of the Project's viewshed; however, all development in the immediate vicinity of the Project would be required to comply with the development regulations and design standards contained in the Menifee Municipal Code, which would ensure that minimum standards related to visual character and quality are met to preclude adverse aesthetic effects (e.g., size, scale, building materials, lighting). Accordingly, the Project's aesthetic impacts would not be cumulatively considerable.

Agriculture and Forestry Resources

The Project would have no impact on agricultural resources. Therefore, there is no potential for the Project to contribute to a cumulatively considerable impact under this topic.

Air Quality

Based on SCAQMD guidance, any direct exceedance of a regional or localized threshold also is considered to be a cumulatively considerable effect, while air pollutant emissions below applicable regional and/or localized thresholds are not considered cumulatively considerable. As discussed in the preceding analysis, the Project would not exceed SCAQMD's regional threshold for criteria pollutants during construction or operation of the Project. Therefore, Project-related construction and operation emissions are not cumulatively considerable.

Biological Resources

If the Proposed Project and other planned residential Projects in nearby neighborhoods are constructed during the bird nesting season, these projects could result in cumulative impacts to special status bird species and nesting birds within the vicinity of Project Site. However, all projects, including the Proposed Project, would be required to adhere to the provisions of the MBTA related to the protection of nesting birds. In addition, all projects would be required to comply with the biological resources policies and standards of the City's Municipal Code which would minimize the potential for these projects to result in cumulative impacts to special status species, wetlands, wildlife movement, and biological resources protected by local policies and ordinances. Furthermore, the Proposed Project was found to have less than significant impacts related to sensitive natural communities, riparian habitat, and adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plan and therefore would not combine with other projects to result in cumulative impacts to these resources.

Cultural Resources

Implementation of the Project has the potential to impact masked/buried archaeological resources on the Project Site and, therefore, would result in a significant cumulative impact in the event any of such resources were found on-site during construction. Mitigation Measure CUL-1 would require that if archaeological resources are discovered, work must stop, a qualified archaeologist must evaluate the find, and if significant, a data recovery plan must be implemented in coordination with a Native American representative, as appropriate. With implementation of Mitigation Measure CUL-1, potential cumulative impacts would be reduced to less-than-significant levels. In addition, there is a remote potential for the recovery of human remains during ground-disturbing activities. With adherence to existing regulations, potential cumulative impacts would be reduced to less-than-significant levels.

Energy

The Project's construction and operation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary and would not obstruct a State or local plan for renewable energy or energy efficiency. In addition, all cumulative projects would be required to comply with Title 24, which establishes standards for energy efficiency and "green" construction. Therefore, implementation of the Project would not result in a cumulatively considerable impact on energy.

Geology and Soils

Potential effects related to geology and soils are inherently site-specific; therefore, there is no potential for the Project to contribute to a cumulatively considerable impact under this topic. The Project would be designed to reduce the risk for seismic-related ground failure, including liquefaction. Furthermore, all development proposals would be required to comply with applicable federal, State, and local regulations that are in place to preclude adverse geology and soils effects, including effects related to strong seismic ground shaking, fault rupture, soil erosion, and hazardous soil conditions (e.g., liquefaction, expansive soils, landslides).

There is remote potential that paleontological resources are buried beneath the surface of the Project Site and could be impacted during construction. Other projects within region would similarly have the potential to impact unknown, subsurface paleontological resources during ground-disturbing activities. Therefore, the potential for development on the Project Site to impact subsurface paleontological resource deposits is a cumulatively considerable impact. However, application of Mitigation Measure GEO-1 would reduce the Project's cumulative impacts to less-than-significant levels.

Greenhouse Gas Emissions

Global climate change (GCC) occurs as the result of global emissions of GHGs. An individual development project does not have the potential to result in direct and significant GCC-related effects in the absence of cumulative sources of GHGs. The *CEQA Guidelines* also emphasize that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (see *CEQA Guidelines* Section 15130[f]). Accordingly, the analysis in Section 8, *Greenhouse Gas Emissions*, reflects a cumulative impact analysis of the GHG emissions related to the Project. As concluded under Responses 8(a) and 8(b), the Project would not result in a cumulatively considerable impact related to GHG emissions.

Hazards and Hazardous Materials

There is potential that hazardous conditions beneath the surface of the Project Site could result in an impact during construction. Other projects within region could result in similar subsurface hazardous impacts during ground-disturbing activities due to past agricultural land uses in the vicinity of the Project Site. Therefore, the potential for development on the Project Site to result in a potential hazardous impact is a cumulatively considerable impact. However, compliance with existing regulations would reduce the Project's cumulative impacts to less-than-significant levels.

Hydrology and Water Quality

Construction and operation of the Project and other projects in the West San Jacinto Groundwater Basin would have the potential to result in a cumulative water quality impact, including erosion and sedimentation. However, in accordance with applicable federal, State, and local regulations, all development projects would be required to implement plans during construction and operation (e.g., SWPPP and WQMP) to minimize adverse effects to water quality, which would avoid a cumulatively considerable impact.

The Project and other projects in the West San Jacinto Groundwater Basin would be required to comply with federal, state, and local regulations in order to preclude flood hazards both on- and off-site. Compliance with federal, state, and local regulations would require on-site areas to be protected, at a minimum, from flooding during peak storm events (i.e., 100-year storm) and that proposed development would not expose downstream properties to increased flooding risks during peak storm events. Accordingly, a cumulatively considerable effect related to flooding would not occur.

Land Use and Planning

The Project would not physically divide an established community, or conflict with applicable land use or planning documents; therefore, there is no potential for the Project to contribute to a cumulatively considerable impact related to land use and planning.

Mineral Resources

The Project would have no impact on mineral resources. Therefore, there is no potential for the Project to contribute to a cumulatively considerable impact under this topic.

Noise

Overlapping construction activities associated with cumulative development projects in the nearby areas in conjunction with Proposed Project activities could result in cumulative noise impacts related to a temporary increase in ambient noise levels at the same noise-sensitive residences located throughout the area, especially during construction activities. As discussed in Section 13, *Noise*, the Proposed Project would not result in temporary noise levels in excess of the daytime construction noise threshold.

Population and Housing

The Project would not generate substantial population growth. Therefore, the Project would not implement a land use that generates unplanned new residents and would not require the construction of replacement housing. Accordingly, there is no potential for the Project to result in an adverse, cumulatively considerable environmental effect related to population and housing.

Public Services

All development projects in Menifee, including the Proposed Project, would require compliance with applicable policies and ordinances for fire prevention, protection, and safety. The Project would also incrementally increase demand for police protections services and would be required to pay the state-mandated school impact fees to offset the incremental increase in demand for new school facilities. Based on the foregoing, the Project would not result in cumulatively considerable impacts to resident-serving public facilities such as schools, parks, libraries, and other public facilities or services.

Transportation

The Project would not conflict with any City policies addressing the circulation network and would not generate substantial VMT. Nonetheless, mitigation measures are proposed to reduce impacts to

nearby intersections. With these improvements, all intersection levels of service would be improved in the City and within the City of Perris, which has nearly cumulative developments. Nonetheless, the Project would not contribute to any cumulatively considerable adverse transportation effects, since improvements are proposed that all future projects would utilize.

Tribal Cultural Resources

Development activities on the Project Site would not impact any known tribal cultural resources. However, there is the remote potential that such resources are buried beneath the surface of the Project Site and could be impacted during construction. Other projects within the region would similarly have the potential to impact unknown, subsurface tribal cultural resources during ground-disturbing activities. Therefore, the potential for development on the Project Site to impact subsurface tribal cultural resources deposits is a cumulatively considerable impact. However, application of Mitigation Measure CUL-1 would reduce the Project's cumulative impacts to less-than-significant levels.

Utilities and Service Systems

The Project would require water and wastewater infrastructure, as well as solid waste disposal for building operation. Development of public utility infrastructure is part of an extensive planning process involving utility providers and jurisdictions with discretionary review authority. The coordination process associated with the preparation of infrastructure plans is intended to ensure that adequate public utility services and resources are available to serve both individual development projects and cumulative growth in the region. Each individual development project is subject to review for utility capacity to avoid unanticipated interruptions in service or inadequate supplies. Coordination with the utility providers would allow for the provision of utility services to the Project and other developments. The Project and other planned projects are subject to connection and service fees to offset increased demand and assist in facility expansion and service improvements (at the time of need). Because of the utility planning and coordination activities described above, cumulatively considerable impacts to utilities and service systems would not occur.

Wildfire

The Project Site is not within an SRA or VHFHSZ according to CALFIRE and is not located within a High Fire Hazard Area according to the City of Menifee's General Plan. However, in accordance with applicable State and local regulations, all development projects would be required to be constructed to meet the current building code fire safety requirements, including the 2022 CBC, the California Fire Code and to regulations pertaining to fire protection within Menifee Municipal Code Chapter 8.20 to minimize adverse effects to wildfire risk, which would avoid a cumulatively considerable impact. Therefore, implementation of the Project would not result in adverse cumulative impacts associated with wildfire.

LESS THAN SIGNIFICANT IMPACT

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

In general, impacts to human beings are associated with air quality, GHG emissions, hazards and hazardous materials, and noise impacts. As detailed in analyses for air quality, GHG emissions, hazards and hazardous materials, and noise, the Proposed Project would not result, either directly or indirectly, in adverse effects related to air quality, GHG emissions, hazardous materials, or noise. Compliance with applicable rules and regulations would reduce potential impacts on human beings to a less-than-significant level.

LESS THAN SIGNIFICANT IMPACT

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Trumble & Watson
Construction Start Date	1/1/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	0.20
Location	33.74876724021304, -117.18357681328712
County	Riverside-South Coast
City	Menifee
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5512
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	313	1000sqft	17.2	313,205	85,365	—	—	—

General Office Building	15.0	1000sqft	0.00	15,000	0.00	—	—	—
Parking Lot	517	Space	0.00	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Energy	E-1	Buildings Exceed 2019 Title 24 Building Envelope Energy Efficiency Standards
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	58.8	58.7	12.1	23.3	0.04	0.40	2.24	2.65	0.37	0.54	0.92	—	5,897	5,897	0.21	0.33	10.8	6,013
Mit.	58.7	58.7	5.08	25.2	0.04	0.10	2.24	2.34	0.10	0.54	0.64	—	5,897	5,897	0.21	0.33	10.8	6,013
% Reduced	< 0.5%	< 0.5%	58%	-8%	—	75%	—	11%	74%	—	30%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.02	3.38	31.7	31.2	0.06	1.37	7.89	9.26	1.26	3.99	5.25	—	6,852	6,852	0.27	0.34	0.28	6,878
Mit.	1.03	0.91	5.22	36.4	0.06	0.12	7.89	7.99	0.12	3.99	4.09	—	6,852	6,852	0.27	0.34	0.28	6,878
% Reduced	74%	73%	84%	-17%	—	91%	—	14%	90%	—	22%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.64	8.59	11.7	18.8	0.03	0.40	2.04	2.44	0.37	0.86	1.14	—	5,031	5,031	0.15	0.27	3.68	5,119
Mit.	8.46	8.45	4.48	20.8	0.03	0.09	2.04	2.13	0.08	0.86	0.89	—	5,031	5,031	0.15	0.27	3.68	5,119
% Reduced	2%	2%	62%	-11%	—	78%	—	13%	77%	—	22%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.58	1.57	2.13	3.43	0.01	0.07	0.37	0.45	0.07	0.16	0.21	—	833	833	0.02	0.04	0.61	847
Mit.	1.54	1.54	0.82	3.80	0.01	0.02	0.37	0.39	0.02	0.16	0.16	—	833	833	0.02	0.04	0.61	847
% Reduced	2%	2%	62%	-11%	—	78%	—	13%	77%	—	22%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.00	1.68	12.1	23.3	0.04	0.40	2.24	2.65	0.37	0.54	0.92	—	5,897	5,897	0.21	0.33	10.8	6,013
2027	58.8	58.7	0.93	2.94	< 0.005	0.02	0.36	0.38	0.02	0.08	0.10	—	503	503	0.01	0.01	1.15	508
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.02	3.38	31.7	31.2	0.05	1.37	7.89	9.26	1.26	3.99	5.25	—	5,522	5,522	0.23	0.05	0.02	5,543
2026	3.71	3.12	27.3	28.7	0.06	1.12	3.85	4.97	1.03	1.49	2.52	—	6,852	6,852	0.27	0.34	0.28	6,878
2027	1.89	1.58	11.7	20.3	0.04	0.36	2.24	2.60	0.33	0.54	0.88	—	5,685	5,685	0.16	0.32	0.25	5,786
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.87	0.73	6.87	6.76	0.01	0.30	1.71	2.00	0.27	0.86	1.14	—	1,196	1,196	0.05	0.01	0.08	1,200
2026	1.81	1.52	11.7	18.8	0.03	0.40	2.04	2.44	0.37	0.54	0.91	—	5,031	5,031	0.15	0.27	3.68	5,119

2027	8.64	8.59	1.97	3.37	< 0.005	0.07	0.24	0.31	0.07	0.06	0.12	—	721	721	0.02	0.03	0.42	730
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.16	0.13	1.25	1.23	< 0.005	0.05	0.31	0.37	0.05	0.16	0.21	—	198	198	0.01	< 0.005	0.01	199
2026	0.33	0.28	2.13	3.43	0.01	0.07	0.37	0.45	0.07	0.10	0.17	—	833	833	0.02	0.04	0.61	847
2027	1.58	1.57	0.36	0.61	< 0.005	0.01	0.04	0.06	0.01	0.01	0.02	—	119	119	< 0.005	< 0.005	0.07	121

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.07	0.94	5.08	25.2	0.04	0.10	2.24	2.34	0.10	0.54	0.64	—	5,897	5,897	0.21	0.33	10.8	6,013
2027	58.7	58.7	0.74	2.77	< 0.005	< 0.005	0.36	0.36	< 0.005	0.08	0.09	—	503	503	0.01	0.01	1.15	508
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.58	0.57	2.67	29.3	0.05	0.10	7.89	7.99	0.10	3.99	4.09	—	5,522	5,522	0.23	0.05	0.02	5,543
2026	1.03	0.91	5.22	36.4	0.06	0.12	3.85	3.97	0.12	1.49	1.61	—	6,852	6,852	0.27	0.34	0.28	6,878
2027	1.00	0.88	5.09	22.2	0.04	0.10	2.24	2.34	0.10	0.54	0.64	—	5,685	5,685	0.16	0.32	0.25	5,786
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.13	0.12	0.58	6.36	0.01	0.02	1.71	1.73	0.02	0.86	0.89	—	1,196	1,196	0.05	0.01	0.08	1,200
2026	0.86	0.76	4.48	20.8	0.03	0.09	2.04	2.13	0.08	0.54	0.62	—	5,031	5,031	0.15	0.27	3.68	5,119
2027	8.46	8.45	0.76	3.57	< 0.005	0.01	0.24	0.25	0.01	0.06	0.07	—	721	721	0.02	0.03	0.42	730
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.02	0.11	1.16	< 0.005	< 0.005	0.31	0.32	< 0.005	0.16	0.16	—	198	198	0.01	< 0.005	0.01	199
2026	0.16	0.14	0.82	3.80	0.01	0.02	0.37	0.39	0.02	0.10	0.11	—	833	833	0.02	0.04	0.61	847
2027	1.54	1.54	0.14	0.65	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	119	119	< 0.005	< 0.005	0.07	121

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.9	11.3	9.85	33.2	0.12	0.29	6.79	7.08	0.28	1.74	2.02	310	15,418	15,728	32.0	1.50	27.6	17,001
Mit.	11.9	11.3	9.85	33.2	0.12	0.29	6.79	7.08	0.28	1.74	2.02	310	15,099	15,409	31.9	1.49	27.6	16,680
% Reduced	—	—	< 0.5%	< 0.5%	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	< 0.5%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.27	8.95	10.1	15.3	0.11	0.27	6.79	7.05	0.26	1.74	2.00	310	14,974	15,284	32.0	1.50	0.75	16,532
Mit.	9.27	8.95	10.1	15.3	0.11	0.27	6.79	7.05	0.26	1.74	2.00	310	14,655	14,965	31.9	1.50	0.75	16,212
% Reduced	—	—	< 0.5%	< 0.5%	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	< 0.5%	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.0	10.6	10.3	25.7	0.11	0.28	6.79	7.07	0.27	1.74	2.01	310	15,068	15,378	32.0	1.50	11.9	16,638
Mit.	11.0	10.6	10.3	25.7	0.11	0.28	6.79	7.07	0.27	1.74	2.01	310	14,749	15,059	32.0	1.50	11.9	16,317
% Reduced	—	—	< 0.5%	< 0.5%	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	< 0.5%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.01	1.93	1.88	4.68	0.02	0.05	1.24	1.29	0.05	0.32	0.37	51.3	2,495	2,546	5.29	0.25	1.98	2,755
Mit.	2.01	1.93	1.87	4.68	0.02	0.05	1.24	1.29	0.05	0.32	0.37	51.3	2,442	2,493	5.29	0.25	1.98	2,702
% Reduced	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%	< 0.5%	—	< 0.5%	—	2%	2%	< 0.5%	< 0.5%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.28	1.05	8.01	17.4	0.11	0.13	6.79	6.92	0.13	1.74	1.87	—	11,203	11,203	0.23	1.12	27.6	11,569
Area	10.4	10.2	0.12	14.3	< 0.005	0.03	—	0.03	0.02	—	0.02	—	58.7	58.7	< 0.005	< 0.005	—	58.9
Energy	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	3,664	3,664	0.34	0.02	—	3,680
Water	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Waste	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	11.9	11.3	9.85	33.2	0.12	0.29	6.79	7.08	0.28	1.74	2.02	310	15,418	15,728	32.0	1.50	27.6	17,001
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.22	0.99	8.42	13.9	0.10	0.14	6.79	6.92	0.13	1.74	1.87	—	10,818	10,818	0.23	1.12	0.72	11,160
Area	7.86	7.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	3,664	3,664	0.34	0.02	—	3,680
Water	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Waste	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	9.27	8.95	10.1	15.3	0.11	0.27	6.79	7.05	0.26	1.74	2.00	310	14,974	15,284	32.0	1.50	0.75	16,532
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.23	0.99	8.47	14.4	0.10	0.13	6.79	6.92	0.13	1.74	1.87	—	10,872	10,872	0.23	1.13	11.9	11,225
Area	9.60	9.46	0.08	9.78	< 0.005	0.02	—	0.02	0.01	—	0.01	—	40.2	40.2	< 0.005	< 0.005	—	40.3
Energy	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	3,664	3,664	0.34	0.02	—	3,680
Water	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Waste	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	11.0	10.6	10.3	25.7	0.11	0.28	6.79	7.07	0.27	1.74	2.01	310	15,068	15,378	32.0	1.50	11.9	16,638
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.22	0.18	1.55	2.63	0.02	0.02	1.24	1.26	0.02	0.32	0.34	—	1,800	1,800	0.04	0.19	1.97	1,858
Area	1.75	1.73	0.02	1.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.66	6.66	< 0.005	< 0.005	—	6.68
Energy	0.03	0.02	0.31	0.26	< 0.005	0.02	—	0.02	0.02	—	0.02	—	607	607	0.06	< 0.005	—	609
Water	—	—	—	—	—	—	—	—	—	—	—	23.8	81.4	105	2.45	0.06	—	184
Waste	—	—	—	—	—	—	—	—	—	—	—	27.5	0.00	27.5	2.75	0.00	—	96.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	2.01	1.93	1.88	4.68	0.02	0.05	1.24	1.29	0.05	0.32	0.37	51.3	2,495	2,546	5.29	0.25	1.98	2,755

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.28	1.05	8.01	17.4	0.11	0.13	6.79	6.92	0.13	1.74	1.87	—	11,203	11,203	0.23	1.12	27.6	11,569
Area	10.4	10.2	0.12	14.3	< 0.005	0.03	—	0.03	0.02	—	0.02	—	58.7	58.7	< 0.005	< 0.005	—	58.9
Energy	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	3,346	3,346	0.30	0.02	—	3,359
Water	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Waste	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	11.9	11.3	9.85	33.2	0.12	0.29	6.79	7.08	0.28	1.74	2.02	310	15,099	15,409	31.9	1.49	27.6	16,680
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.22	0.99	8.42	13.9	0.10	0.14	6.79	6.92	0.13	1.74	1.87	—	10,818	10,818	0.23	1.12	0.72	11,160
Area	7.86	7.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	3,346	3,346	0.30	0.02	—	3,359
Water	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Waste	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	9.27	8.95	10.1	15.3	0.11	0.27	6.79	7.05	0.26	1.74	2.00	310	14,655	14,965	31.9	1.50	0.75	16,212
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.23	0.99	8.47	14.4	0.10	0.13	6.79	6.92	0.13	1.74	1.87	—	10,872	10,872	0.23	1.13	11.9	11,225
Area	9.60	9.46	0.08	9.78	< 0.005	0.02	—	0.02	0.01	—	0.01	—	40.2	40.2	< 0.005	< 0.005	—	40.3
Energy	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	3,346	3,346	0.30	0.02	—	3,359
Water	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Waste	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	11.0	10.6	10.3	25.7	0.11	0.28	6.79	7.07	0.27	1.74	2.01	310	14,749	15,059	32.0	1.50	11.9	16,317
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.22	0.18	1.55	2.63	0.02	0.02	1.24	1.26	0.02	0.32	0.34	—	1,800	1,800	0.04	0.19	1.97	1,858
Area	1.75	1.73	0.02	1.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.66	6.66	< 0.005	< 0.005	—	6.68
Energy	0.03	0.02	0.31	0.26	< 0.005	0.02	—	0.02	0.02	—	0.02	—	554	554	0.05	< 0.005	—	556
Water	—	—	—	—	—	—	—	—	—	—	—	23.8	81.4	105	2.45	0.06	—	184
Waste	—	—	—	—	—	—	—	—	—	—	—	27.5	0.00	27.5	2.75	0.00	—	96.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	2.01	1.93	1.87	4.68	0.02	0.05	1.24	1.29	0.05	0.32	0.37	51.3	2,442	2,493	5.29	0.25	1.98	2,702

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.72	6.85	6.53	0.01	0.30	—	0.30	0.27	—	0.27	—	1,146	1,146	0.05	0.01	—	1,150
Dust From Material Movement	—	—	—	—	—	—	1.66	1.66	—	0.85	0.85	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.25	1.19	< 0.005	0.05	—	0.05	0.05	—	0.05	—	190	190	0.01	< 0.005	—	190
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.16	0.16	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.02	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	227	227	0.01	0.01	0.02	230
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	49.7	49.7	< 0.005	< 0.005	0.08	50.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.23	8.23	< 0.005	< 0.005	0.01	8.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2025) - Mitigated

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

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

Off-Roa Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	0.56	6.13	0.01	0.02	—	0.02	0.02	—	0.02	—	1,146	1,146	0.05	0.01	—	1,150
Dust From Material Movement	—	—	—	—	—	—	1.66	1.66	—	0.85	0.85	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.10	1.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	190	190	0.01	< 0.005	—	190
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	1.02	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	227	227	0.01	0.01	0.02	230
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	49.7	49.7	< 0.005	< 0.005	0.08	50.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.23	8.23	< 0.005	< 0.005	0.01	8.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.01	2.04	< 0.005	0.08	—	0.08	0.08	—	0.08	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	0.37	< 0.005	0.02	—	0.02	0.01	—	0.01	—	80.8	80.8	< 0.005	< 0.005	—	81.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.09	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	254	254	< 0.005	0.01	0.02	257

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.03	19.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.15	3.15	< 0.005	< 0.005	< 0.005	3.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Grading (2026) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.33	2.61	< 0.005	0.01	—	0.01	0.01	—	0.01	—	488	488	0.02	< 0.005	—	490
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	80.8	80.8	< 0.005	< 0.005	—	81.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.09	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	254	254	< 0.005	0.01	0.02	257
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.0	19.0	< 0.005	< 0.005	0.03	19.3

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.15	3.15	< 0.005	< 0.005	< 0.005	3.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.00	0.84	7.73	10.2	0.02	0.30	—	0.30	0.27	—	0.27	—	1,880	1,880	0.08	0.02	—	1,887
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.41	1.86	< 0.005	0.05	—	0.05	0.05	—	0.05	—	311	311	0.01	< 0.005	—	312
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.64	0.58	0.54	9.79	0.00	0.00	1.78	1.78	0.00	0.42	0.42	—	1,880	1,880	0.08	0.06	6.37	1,908
Vendor	0.07	0.03	1.73	0.54	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,619	1,619	0.04	0.25	4.43	1,699
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.54	0.60	7.42	0.00	0.00	1.78	1.78	0.00	0.42	0.42	—	1,729	1,729	0.03	0.07	0.17	1,750
Vendor	0.07	0.03	1.80	0.55	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,620	1,620	0.04	0.25	0.11	1,696
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.42	0.51	6.09	0.00	0.00	1.40	1.40	0.00	0.33	0.33	—	1,373	1,373	0.02	0.05	2.16	1,392
Vendor	0.06	0.03	1.42	0.43	0.01	0.02	0.36	0.38	0.02	0.10	0.12	—	1,270	1,270	0.03	0.20	1.49	1,331
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.11	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	227	227	< 0.005	0.01	0.36	230

Vendor	0.01	< 0.005	0.26	0.08	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	210	210	< 0.005	0.03	0.25	220
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2026) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.26	2.21	11.6	0.02	0.06	—	0.06	0.06	—	0.06	—	1,880	1,880	0.08	0.02	—	1,887
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.05	0.05	0.40	2.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	311	311	0.01	< 0.005	—	312
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.64	0.58	0.54	9.79	0.00	0.00	1.78	1.78	0.00	0.42	0.42	—	1,880	1,880	0.08	0.06	6.37	1,908
Vendor	0.07	0.03	1.73	0.54	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,619	1,619	0.04	0.25	4.43	1,699
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.54	0.60	7.42	0.00	0.00	1.78	1.78	0.00	0.42	0.42	—	1,729	1,729	0.03	0.07	0.17	1,750
Vendor	0.07	0.03	1.80	0.55	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,620	1,620	0.04	0.25	0.11	1,696
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.42	0.51	6.09	0.00	0.00	1.40	1.40	0.00	0.33	0.33	—	1,373	1,373	0.02	0.05	2.16	1,392
Vendor	0.06	0.03	1.42	0.43	0.01	0.02	0.36	0.38	0.02	0.10	0.12	—	1,270	1,270	0.03	0.20	1.49	1,331
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.11	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	227	227	< 0.005	0.01	0.36	230
Vendor	0.01	< 0.005	0.26	0.08	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	210	210	< 0.005	0.03	0.25	220
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.68	0.94	< 0.005	0.02	—	0.02	0.02	—	0.02	—	175	175	0.01	< 0.005	—	175
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.9	28.9	< 0.005	< 0.005	—	29.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.52	0.54	6.85	0.00	0.00	1.78	1.78	0.00	0.42	0.42	—	1,697	1,697	0.02	0.06	0.15	1,717
Vendor	0.07	0.03	1.74	0.54	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,591	1,591	0.04	0.24	0.11	1,663

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	< 0.005	0.18	127
Vendor	0.01	< 0.005	0.13	0.04	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.13	121
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	20.7	20.7	< 0.005	< 0.005	0.03	21.0
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.02	20.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2027) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	1.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	175	175	0.01	< 0.005	—	175

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.9	28.9	< 0.005	< 0.005	—	29.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.52	0.54	6.85	0.00	0.00	1.78	1.78	0.00	0.42	0.42	—	1,697	1,697	0.02	0.06	0.15	1,717
Vendor	0.07	0.03	1.74	0.54	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,591	1,591	0.04	0.24	0.11	1,663
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	< 0.005	0.18	127
Vendor	0.01	< 0.005	0.13	0.04	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	116	116	< 0.005	0.02	0.13	121
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	20.7	20.7	< 0.005	< 0.005	0.03	21.0
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	19.2	19.2	< 0.005	< 0.005	0.02	20.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2027) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.97	1.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	211	211	0.01	< 0.005	—	212
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.75	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	187	187	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.4	26.4	< 0.005	< 0.005	0.04	26.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.37	4.37	< 0.005	< 0.005	0.01	4.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2027) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.27	1.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	211	211	0.01	< 0.005	—	212
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.75	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	187	187	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.4	26.4	< 0.005	< 0.005	0.04	26.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.37	4.37	< 0.005	< 0.005	0.01	4.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	58.5	58.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.0	19.0	< 0.005	< 0.005	—	19.1
Architectural Coatings	8.34	8.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.15	3.15	< 0.005	< 0.005	—	3.16
Architectural Coatings	1.52	1.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.81	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	369	369	< 0.005	0.01	1.15	374
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.20	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	49.0	49.0	< 0.005	< 0.005	0.07	49.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.11	8.11	< 0.005	< 0.005	0.01	8.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2027) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	58.5	58.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.09	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.0	19.0	< 0.005	< 0.005	—	19.1
Architectural Coatings	8.34	8.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.15	3.15	< 0.005	< 0.005	—	3.16
Architectural Coatings	1.52	1.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.81	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	369	369	< 0.005	0.01	1.15	374
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.20	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	49.0	49.0	< 0.005	< 0.005	0.07	49.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.11	8.11	< 0.005	< 0.005	0.01	8.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.52	0.34	7.55	5.44	0.07	0.12	2.65	2.77	0.11	0.70	0.81	—	7,616	7,616	0.17	1.05	15.2	7,949
General Office Building	0.76	0.71	0.46	12.0	0.04	0.02	4.14	4.15	0.01	1.04	1.06	—	3,587	3,587	0.06	0.06	12.4	3,621
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.28	1.05	8.01	17.4	0.11	0.13	6.79	6.92	0.13	1.74	1.87	—	11,203	11,203	0.23	1.12	27.6	11,569
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.50	0.33	7.91	4.66	0.07	0.12	2.65	2.77	0.11	0.70	0.81	—	7,547	7,547	0.17	1.05	0.39	7,866
General Office Building	0.72	0.67	0.51	9.19	0.03	0.02	4.14	4.15	0.01	1.04	1.06	—	3,271	3,271	0.06	0.07	0.32	3,294
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.22	0.99	8.42	13.9	0.10	0.14	6.79	6.92	0.13	1.74	1.87	—	10,818	10,818	0.23	1.12	0.72	11,160
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrig Warehouse-No Rail	0.09	0.06	1.45	0.87	0.01	0.02	0.48	0.51	0.02	0.13	0.15	—	1,251	1,251	0.03	0.17	1.09	1,305
General Office Building	0.13	0.12	0.10	1.76	0.01	< 0.005	0.76	0.76	< 0.005	0.19	0.19	—	549	549	0.01	0.01	0.89	554
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.22	0.18	1.55	2.63	0.02	0.02	1.24	1.26	0.02	0.32	0.34	—	1,800	1,800	0.04	0.19	1.97	1,858

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.52	0.34	7.55	5.44	0.07	0.12	2.65	2.77	0.11	0.70	0.81	—	7,616	7,616	0.17	1.05	15.2	7,949
General Office Building	0.76	0.71	0.46	12.0	0.04	0.02	4.14	4.15	0.01	1.04	1.06	—	3,587	3,587	0.06	0.06	12.4	3,621
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.28	1.05	8.01	17.4	0.11	0.13	6.79	6.92	0.13	1.74	1.87	—	11,203	11,203	0.23	1.12	27.6	11,569
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.50	0.33	7.91	4.66	0.07	0.12	2.65	2.77	0.11	0.70	0.81	—	7,547	7,547	0.17	1.05	0.39	7,866

General Office Building	0.72	0.67	0.51	9.19	0.03	0.02	4.14	4.15	0.01	1.04	1.06	—	3,271	3,271	0.06	0.07	0.32	3,294
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.22	0.99	8.42	13.9	0.10	0.14	6.79	6.92	0.13	1.74	1.87	—	10,818	10,818	0.23	1.12	0.72	11,160
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.09	0.06	1.45	0.87	0.01	0.02	0.48	0.51	0.02	0.13	0.15	—	1,251	1,251	0.03	0.17	1.09	1,305
General Office Building	0.13	0.12	0.10	1.76	0.01	< 0.005	0.76	0.76	< 0.005	0.19	0.19	—	549	549	0.01	0.01	0.89	554
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.22	0.18	1.55	2.63	0.02	0.02	1.24	1.26	0.02	0.32	0.34	—	1,800	1,800	0.04	0.19	1.97	1,858

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,367	1,367	0.13	0.02	—	1,375

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	248	248	0.02	< 0.005	—	250
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,615	1,615	0.15	0.02	—	1,625
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,367	1,367	0.13	0.02	—	1,375
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	248	248	0.02	< 0.005	—	250
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,615	1,615	0.15	0.02	—	1,625
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	226	226	0.02	< 0.005	—	228
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	41.1	41.1	< 0.005	< 0.005	—	41.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	267	267	0.03	< 0.005	—	269

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,053	1,053	0.10	0.01	—	1,059
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	245	245	0.02	< 0.005	—	246
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,298	1,298	0.12	0.02	—	1,306
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,053	1,053	0.10	0.01	—	1,059
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	245	245	0.02	< 0.005	—	246
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,298	1,298	0.12	0.02	—	1,306
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	174	174	0.02	< 0.005	—	175

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	40.6	40.6	< 0.005	< 0.005	—	40.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	215	215	0.02	< 0.005	—	216

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,916	1,916	0.17	< 0.005	—	1,922
General Office Building	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	133
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	2,049	2,049	0.18	< 0.005	—	2,055
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,916	1,916	0.17	< 0.005	—	1,922
General Office Building	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	133

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	2,049	2,049	0.18	< 0.005	—	2,055
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.03	0.02	0.29	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	317	317	0.03	< 0.005	—	318
General Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.0	22.0	< 0.005	< 0.005	—	22.0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.02	0.31	0.26	< 0.005	0.02	—	0.02	0.02	—	0.02	—	339	339	0.03	< 0.005	—	340

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,916	1,916	0.17	< 0.005	—	1,922
General Office Building	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	2,047	2,047	0.18	< 0.005	—	2,053

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,916	1,916	0.17	< 0.005	—	1,922
General Office Building	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.19	0.09	1.72	1.44	0.01	0.13	—	0.13	0.13	—	0.13	—	2,047	2,047	0.18	< 0.005	—	2,053
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.03	0.02	0.29	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	317	317	0.03	< 0.005	—	318
General Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.7	21.7	< 0.005	< 0.005	—	21.7
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.02	0.31	0.26	< 0.005	0.02	—	0.02	0.02	—	0.02	—	339	339	0.03	< 0.005	—	340

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

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

Consum Products	7.02	7.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.83	0.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.54	2.34	0.12	14.3	< 0.005	0.03	—	0.03	0.02	—	0.02	—	58.7	58.7	< 0.005	< 0.005	—	58.9
Total	10.4	10.2	0.12	14.3	< 0.005	0.03	—	0.03	0.02	—	0.02	—	58.7	58.7	< 0.005	< 0.005	—	58.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	7.02	7.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.83	0.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	7.86	7.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.28	1.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.15	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.32	0.29	0.02	1.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.66	6.66	< 0.005	< 0.005	—	6.68
Total	1.75	1.73	0.02	1.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.66	6.66	< 0.005	< 0.005	—	6.68

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	7.02	7.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.83	0.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.54	2.34	0.12	14.3	< 0.005	0.03	—	0.03	0.02	—	0.02	—	58.7	58.7	< 0.005	< 0.005	—	58.9
Total	10.4	10.2	0.12	14.3	< 0.005	0.03	—	0.03	0.02	—	0.02	—	58.7	58.7	< 0.005	< 0.005	—	58.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	7.02	7.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.83	0.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	7.86	7.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.28	1.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.15	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.32	0.29	0.02	1.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.66	6.66	< 0.005	< 0.005	—	6.68
Total	1.75	1.73	0.02	1.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.66	6.66	< 0.005	< 0.005	—	6.68

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	139	474	613	14.3	0.34	—	1,073
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.11	17.2	22.3	0.53	0.01	—	39.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	139	474	613	14.3	0.34	—	1,073

General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.11	17.2	22.3	0.53	0.01	—	39.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	23.0	78.6	102	2.36	0.06	—	178
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.85	2.85	3.70	0.09	< 0.005	—	6.49
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.8	81.4	105	2.45	0.06	—	184

4.4.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	139	474	613	14.3	0.34	—	1,073
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.11	17.2	22.3	0.53	0.01	—	39.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	139	474	613	14.3	0.34	—	1,073
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.11	17.2	22.3	0.53	0.01	—	39.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	144	492	636	14.8	0.36	—	1,112
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	23.0	78.6	102	2.36	0.06	—	178
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.85	2.85	3.70	0.09	< 0.005	—	6.49
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	23.8	81.4	105	2.45	0.06	—	184

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.52	0.00	7.52	0.75	0.00	—	26.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.52	0.00	7.52	0.75	0.00	—	26.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	26.3	0.00	26.3	2.63	0.00	—	91.9
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.24	0.00	1.24	0.12	0.00	—	4.35

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	27.5	0.00	27.5	2.75	0.00	—	96.3

4.5.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.52	0.00	7.52	0.75	0.00	—	26.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.52	0.00	7.52	0.75	0.00	—	26.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	166	0.00	166	16.6	0.00	—	581

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	26.3	0.00	26.3	2.63	0.00	—	91.9
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.24	0.00	1.24	0.12	0.00	—	4.35
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	27.5	0.00	27.5	2.75	0.00	—	96.3

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.6.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/1/2025	12/31/2025	6.00	79.0	—
Grading	Grading	1/1/2026	1/31/2026	6.00	27.0	—
Building Construction	Building Construction	2/1/2026	1/31/2027	6.00	312	—
Paving	Paving	2/1/2027	3/31/2027	6.00	51.0	—
Architectural Coating	Architectural Coating	4/1/2027	5/31/2027	6.00	52.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Back	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37

Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	136	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	53.8	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	27.3	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	136	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	53.8	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	27.3	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	492,308	164,103	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	119	0.00	—
Grading	—	—	81.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
General Office Building	0.00	0%
Parking Lot	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	197	197	197	71,905	3,224	3,224	3,224	1,176,816
General Office Building	364	364	364	132,860	5,957	5,957	5,957	2,174,425
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	197	197	197	71,905	3,224	3,224	3,224	1,176,816
General Office Building	364	364	364	132,860	5,957	5,957	5,957	2,174,425
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	492,308	164,103	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00

Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,441,479	346	0.0330	0.0040	5,979,767
General Office Building	261,648	346	0.0330	0.0040	413,800
Parking Lot	0.00	346	0.0330	0.0040	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,110,524	346	0.0330	0.0040	5,979,567
General Office Building	258,246	346	0.0330	0.0040	408,397
Parking Lot	0.00	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	72,428,656	1,353,523
General Office Building	2,666,006	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	72,428,656	1,353,523
General Office Building	2,666,006	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	294	—
General Office Building	14.0	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	294	—
General Office Building	14.0	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00

General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	27.8	annual days of extreme heat
Extreme Precipitation	2.60	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	9.89	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	91.1

AQ-PM	51.4
AQ-DPM	21.5
Drinking Water	67.4
Lead Risk Housing	21.2
Pesticides	70.2
Toxic Releases	24.2
Traffic	74.1
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	12.5
Solid Waste	22.1
Sensitive Population	—
Asthma	48.8
Cardio-vascular	78.2
Low Birth Weights	53.5
Socioeconomic Factor Indicators	—
Education	79.3
Housing	24.9
Linguistic	16.4
Poverty	46.8
Unemployment	73.4

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	60.29770307
Employed	40.65186706
Median HI	53.71487232
Education	—
Bachelor's or higher	37.28987553
High school enrollment	21.68612858
Preschool enrollment	56.08879764
Transportation	—
Auto Access	87.47593995
Active commuting	24.03438984
Social	—
2-parent households	65.68715514
Voting	37.14872321
Neighborhood	—
Alcohol availability	82.31746439
Park access	26.70345182
Retail density	10.84306429
Supermarket access	22.85384319
Tree canopy	2.014628513
Housing	—
Homeownership	88.6179905
Housing habitability	84.80687797
Low-inc homeowner severe housing cost burden	74.63107917
Low-inc renter severe housing cost burden	62.78711664
Uncrowded housing	64.30129603
Health Outcomes	—
Insured adults	49.23649429
Arthritis	1.9

Asthma ER Admissions	51.4
High Blood Pressure	4.3
Cancer (excluding skin)	3.1
Asthma	46.1
Coronary Heart Disease	2.1
Chronic Obstructive Pulmonary Disease	9.6
Diagnosed Diabetes	20.7
Life Expectancy at Birth	41.6
Cognitively Disabled	70.6
Physically Disabled	50.9
Heart Attack ER Admissions	20.0
Mental Health Not Good	57.3
Chronic Kidney Disease	3.6
Obesity	36.5
Pedestrian Injuries	19.6
Physical Health Not Good	33.7
Stroke	7.6
Health Risk Behaviors	—
Binge Drinking	80.1
Current Smoker	59.6
No Leisure Time for Physical Activity	36.0
Climate Change Exposures	—
Wildfire Risk	7.4
SLR Inundation Area	0.0
Children	31.0
Elderly	48.0
English Speaking	75.4
Foreign-born	34.0

Outdoor Workers	12.6
Climate Change Adaptive Capacity	—
Impervious Surface Cover	83.3
Traffic Density	34.3
Traffic Access	23.0
Other Indices	—
Hardship	58.4
Other Decision Support	—
2016 Voting	52.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	55.0
Healthy Places Index Score for Project Location (b)	50.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Per applicant provided site plans
Construction: Construction Phases	Per applicant provided data.
Operations: Vehicle Data	Adjusted such that truck trips are allocated to Warehouse use and passenger vehicle trips are allocated to Office use. Adjustments made based on trip generation provided by Translutions (2025)
Operations: Fleet Mix	Fleet mix adjusted to accurately reflect vehicle types from the project specific trip generation analysis. Truck trips attributed to warehouse use, passenger trips attributed to general office use.

Appendix B

Biological and MSHCP Report



Trumble and Watson Warehouse Project

Habitat Assessment and MSHCP Consistency Analysis

prepared for

City of Menifee
29844 Haun Road
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Contact: Russell J. Brown

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Rincon Consultants, Inc.
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February 2025

RINCON CONSULTANTS, INC. SINCE 1994

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Executive Summary

Rincon Consultants, Inc. (Rincon) prepared this *Habitat Assessment and MSHCP Consistency Analysis Report* for the Trumble and Watson Warehouse Project (project or proposed project) at the request of the City of Menifee. This report was completed to document existing site conditions and to determine potential impacts to sensitive biological resources relative to consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The project site consists of four parcels and covers 17.19 acres located south of Watson Road and Highway 74, in the City of Menifee, Riverside County, California. The project site is largely undeveloped vacant land that has been disturbed by repeated heavy construction machinery. No other vegetation communities/landscape cover types are present on site.

The Regional Conservation Authority (RCA) MSHCP Information Map was queried to determine potential MSHCP sensitive species survey and conservation requirements for the proposed project. The project site is not located within the MSHCP Criteria Area (i.e., Cells or Cell Groups) nor within existing or described Conservation Areas. As such the project is not subject to MSHCP Reserve Assembly requirements or the Joint Project Review process.

This report includes an assessment for riparian/riverine resources, associated species, and vernal pool/fairy shrimp habitat. No riparian/riverine resources, vernal pools, or habitat suitable for fairy shrimp occur on the project site. The proposed project is not located within MSHCP-designated areas that would require surveys for amphibians, mammals, narrow endemic plant species, or criteria area plant species.

Due to the potential presence of suitable habitat for nesting birds on and immediately adjacent to the project site within bordering trees and vegetation, if clearing and grubbing occurs during the nesting season (February 1 through August 31), a survey for active nests should be conducted by a qualified biologist no more than one week prior to any ground-disturbing activities.

Payment of MSHCP Development Mitigation Fees is required. Because there are no impacts to MSHCP resources and no additional mitigation is required, with payment of MSHCP fees, the project is consistent with the MSHCP. Furthermore, pursuant to the California Environmental Quality Act (CEQA), any potential impacts to MSHCP-covered species and their associated habitats, as well as any potential conflicts with an adopted habitat conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan would be less than significant. In addition, the proposed project is not expected to result in any significant impacts to species-status plant or wildlife species that are not covered under the “take” provisions of the MSHCP. The project site is also located within the Riverside County Habitat Conservation Agency Stephens’ Kangaroo Rat Habitat Conservation Plan Area and is subject to the plan’s associated mitigation fees.

1 Introduction

This Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP or Plan) Consistency Analysis documents consistency with MSHCP requirements. The assessment describes existing site conditions and includes a discussion of potential impacts to sensitive biological resources associated with the Trumble and Watson Warehouse project. This report also includes a discussion of each of the MSHCP policies and their relative applicability.

1.1 Project Location

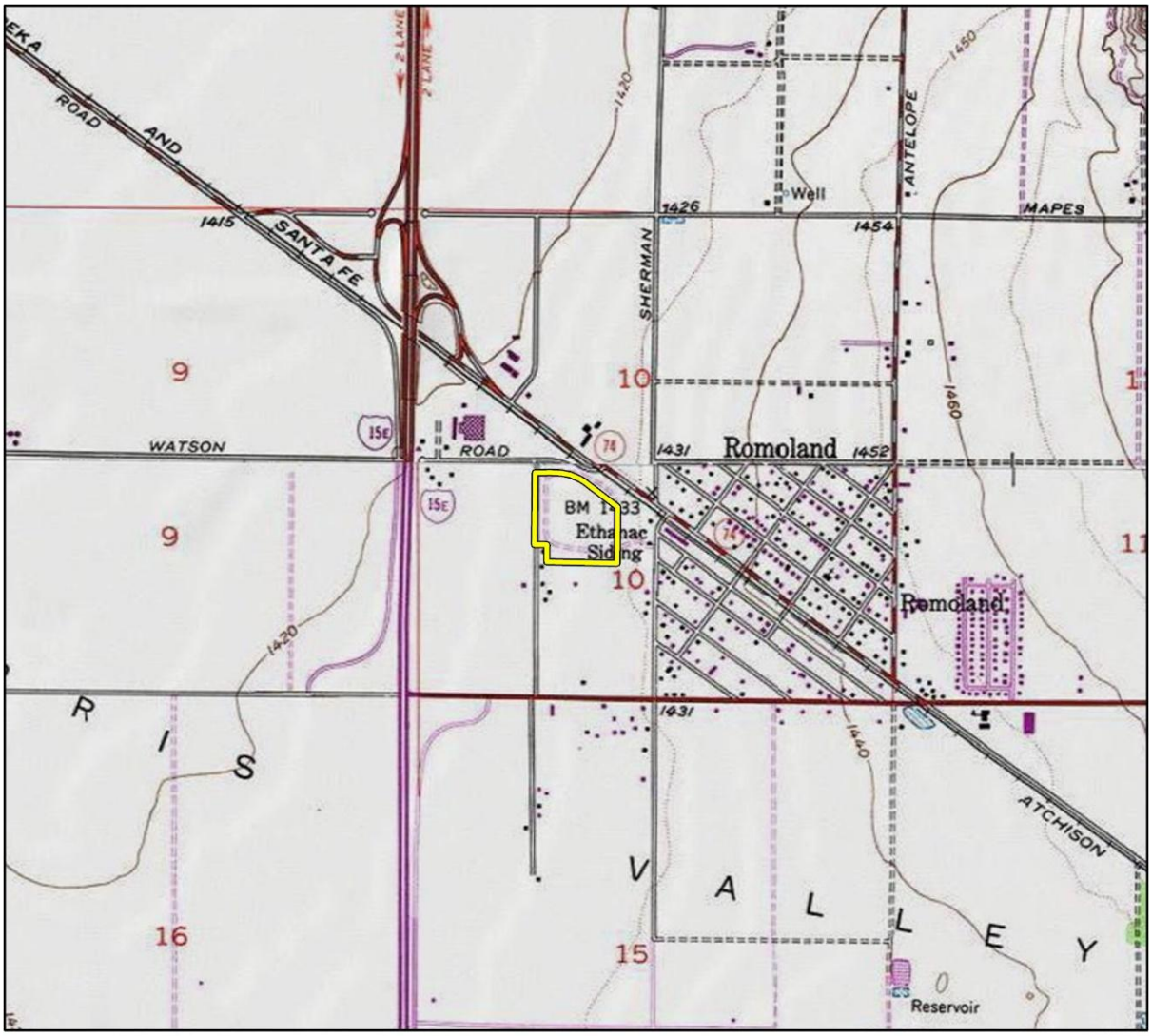
The 17.19-acre project site is located in the City of Menifee, Riverside County, California. The project site encompasses a portion of Section 10 of Township 5 South, Range 3 West on the *Romoland, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. Specifically, the project site is located east of Trumble Road and southeast of the intersection with Watson Road within Assessor's Parcel Numbers 329-240-046, 329-240-048, 329-240-049, and 329-240-051 east of Interstate 215 and south of Highway 74 (Figure 1 and Figure 2). The project site is a vacant lot surrounded by commercial and industrial developments to the north, west, and east, residential developments to the southwest, and undeveloped, disturbed habitat to the south and east.

1.2 Project Description

The project site, formerly known as the Trumble Pit Site (or Trumble Road Open Pit), was originally operated as an open pit mine and soil hauling (import and export) facility and has, most recently, been used as a soil and concrete recycling area. The former open pit was subject to rough grading and restoration between 2019 and 2022. The pit restoration involved 5,000 cubic yards (cy) of cut and 207,000 cy of fill import to fill the pit and level the site.

The current project proposes to construct a 328,205-square-foot warehouse building, including 15,000 square-feet of office space and associated parking lot and drive aisles (425 parking spaces, including 333 standard stalls and 92 trailer stalls). Watson Road would be improved while providing safe and adequate access across the railroad tracks to Highway 74.

Figure 1 Project Location



Basemap provided by National Geographic Society, Esri and their licensors © 2024. Romoland Quadrangle. T05S R032 S10. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Project Location

0 1,000 2,000 Feet

N

24-16157 CR
Fig 1 Regional Location - Topo

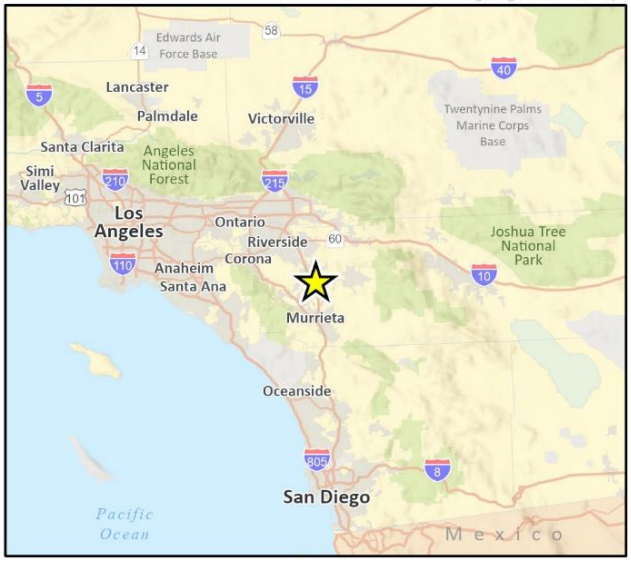


Figure 2 Project Site



Imagery provided by Microsoft Bing and its licensors © 2025.

24-16157 BIO
Fig 2 Project Site

2 Methodology

2.1 Western Riverside County MSHCP Consistency Analysis

The MSHCP describes conservation both broadly (core habitat areas and linkages) and specifically (Criteria Cells and Cell Groups, where particular habitat elements occur or are planned to occur), with the intent of assembling a 500,000-acre Reserve. At the time the MSHCP was initiated, 347,000 acres were already conserved as Public/Quasi-Public Lands, with the goal of acquiring another 153,000 acres to assemble the Reserve. Requirements set forth in the MSHCP vary depending on location within the Plan Area. For example, projects within the MSHCP Criteria Area must comply with conservation goals at a larger scope, structured around conserving existing and proposed Cores, Extensions of Existing Cores, Linkages, Constrained Linkages and Non-contiguous Habitat Blocks (features generally referenced as Cores and Linkages in the Plan). Furthermore, the Plan Area is separated into smaller Area Plans and Area Plan subunits, each with conservation goals broader than Cells and Cell Group goals.

The project site is not located within the MSHCP Criteria Area nor within existing or described Conservation Areas. As such the project is not subject to MSHCP Reserve Assembly requirements or the Joint Project Review process.

To ensure consistency with the requirements set forth in the MSHCP (County of Riverside 2003), the RCA MSHCP Information Map (online) was queried to determine potential MSHCP sensitive species surveys and conservation requirements for the project site (RCA 2025). Areas queried in the Information Map included Criteria Cells, Conservation Areas, and a search for Linkages that facilitate wildlife movement corridors; designated survey areas for plant, bird, mammal, and amphibian species; Criteria Area Species Survey Areas (CASSA); and Narrow Endemic Plant Species Survey Areas (NEPSSA). Per the Information Map, no portions of the project site are within a designated burrowing owl (*Athene cunicularia*; BUOW) survey area and a habitat suitability assessment for BUOW is not required.

The MSHCP also requires an assessment of potential impacts to riparian/riverine areas and vernal pools, if present on a project site. The assessment includes mapping and a description of the functions and values of the mapped areas with respect to species associated with these areas. Furthermore, the assessment includes the applicability of urban/wildlands interface guidelines, if in proximity to existing or described Conservation Areas, as well as other measures intended to protect MSHCP resources.

2.2 Literature Review

Prior to the field visit, a literature review was conducted to establish the environmental and regulatory setting for the proposed project. Specific literature reviewed is provided in the References section. The background and literature review included review of the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) *Custom Area of Interest in the Menifee Quadrangles* (USDA NRCS 2025a), the *Romoland, California* USGS 7.5-minute topographic quadrangle (USGS 2025), literature detailing the habitat requirements of subject species, and aerial photographs (Google Earth 2025). The MSHCP species accounts and other reference materials were

reviewed for habitat assessment requirements as well as habitat suitability elements for special-status species. The primary objective of the habitat assessment was to evaluate the project site's potential to contain suitable habitat for special-status species, as well as to determine the applicability of other MSHCP and CEQA requirements as they pertain to the proposed project.

The California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Data Base (CNDDB; CDFW 2025a), Biogeographic Information and Observation System (BIOS; CDFW 2025b) and U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS 2025a) were reviewed to determine if any special-status wildlife, plant, or vegetation communities were previously recorded within the nine-quadrangle search area (quadrangles *Lakeview*, *Perris*, *Murrieta*, *Wildomar*, *Romoland*, *Winchester*, *Lake Elsinore*, *Bachelor Mtn.*, and *Steele Peak*). The *National Wetlands Inventory* (NWI; USFWS 2025b) was reviewed to determine and review previously documented and mapped wetland and/or non-wetland waters on or in the vicinity of the proposed project site. Other resources included the California Native Plant Society (CNPS) online *Inventory of Rare and Endangered Plants of California* (2025), CDFW *Special Animals List* (2025c), and CDFW *Special Vascular Plants, Bryophytes, and Lichens List* (2024b).

2.3 Field Surveys

Survey date and conditions are shown in Table 1. Details of these surveys are discussed further below.

Table 1 Survey Dates, Conditions, and Type

Date	Time	Biologist	Weather	Survey Type
1/24/2025	0900-1300	Nick Julier	5% cloud cover, sunny, 0-4 mph winds, 61-70°F, no precipitation	Field Reconnaissance Survey

2.3.1 Reconnaissance Survey

A field reconnaissance survey of the project site was conducted to review existing site conditions and the potential presence of sensitive biological resources, including sensitive plant and wildlife species, sensitive plant communities, jurisdictional waters and wetlands, and habitat for nesting birds. The field reconnaissance survey was conducted on January 24, 2025.

As part of the reconnaissance survey effort, field staff noted general site characteristics, mapped vegetation, and took representative photographs. The biologist searched for any species present within the Study Area (the project site plus a 500-foot buffer) and/or habitat suitable for special-status species, both for species covered by the MSHCP and those not covered by the MSHCP. As part of this effort, the biologist also focused on identifying the following: habitat suitable for BUOW and potential jurisdictional waters/wetlands, including MSHCP riparian/riverine and vernal pool resources.

2.3.2 Vegetation Mapping

Vegetation communities observed on site were mapped and classified using the systems provided in *A Manual of California Vegetation, Second Edition* (MCV2) (Sawyer et al. 2009). Vegetation communities that were not recognized by the MCV2 were classified in a way that best describes the vegetation present.

2.3.3 Flora

All plant species observed in the project site were noted during the January 24, 2025 survey. Floral nomenclature for native and non-native plants follows The Jepson Online Interchange (University of California, Berkeley 2025), the California Native Plant Society's (CNPS) Rare Plant Inventory (CNPS 2025), and the California Invasive Plant Council (Cal-IPC) Inventory (Cal-IPC 2025). Species status updates provided in the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2025d) and the online Inventory of Rare and Endangered Plants of California (CNPS 2025) were used. Focused plant surveys were not required, as further discussed below in Sections 4.6.2 and 4.6.3.

2.3.4 Fauna

Wildlife species observed directly or detected from calls, tracks, scat, nests, or other sign in the project site were noted. The survey was performed during the day; therefore, the identification of nocturnal animals was limited to sign if present on site. Zoological nomenclature for wildlife is consistent with nomenclature used in the CNDDB (CDFW 2025a). Based on the results of the reconnaissance survey, no suitable habitat for any special-status species was identified within the project site. As such, focused surveys for special-status species were not required.

2.3.5 Jurisdictional Waters

Prior to the field reconnaissance survey, aerial imagery from the NWI (USFWS 2025b) was reviewed to locate and inspect any potential drainage features or water bodies that may be considered riparian/riverine habitat or under the jurisdiction of the U.S. Army Corps of Engineers (USACE), the Santa Ana Regional Water Quality Control Board (RWQCB), or CDFW. During the field reconnaissance survey, accessible portions of the Study Area were surveyed to confirm the absence of, or identify, potential jurisdictional aquatic resources, including any potential wetlands and non-wetland waters that may constitute waters of the U.S., waters of the State, streambeds, and/or riparian/riverine or vernal pool resources.

2.3.6 Riparian/Riverine Habitat Assessment

MSHCP Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, requires the protection of riparian/riverine areas and vernal pools within the MSHCP area. An assessment of a project's potentially significant effects on riparian/riverine areas and vernal pools, as well as the species that may depend on them, including riparian birds and listed fairy shrimp species, is required. The first step is determining if the habitat resources as defined by the MSHCP are present on a project site:

- **Riparian/Riverine Areas** as described by the MSHCP as "lands which contain habitat dominated by trees, shrubs, persistent emergent, or emergent mosses and lichens which occur close to or which depend upon soil moisture from a nearby fresh water source or areas with fresh water flow during all or a portion of the year." Riparian/riverine areas under the MSHCP also include drainage areas that are vegetated or have upland (non-riparian/riverine) vegetation that drain directly into an area that is described for conservation under the MSHCP (or areas already conserved).
- **Vernal Pools** are described by the MSHCP as "seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and /or vegetation during the drier portion of the growing season."

Riparian areas should also be assessed for their potential capacity to support riparian birds covered under the MSHCP, including least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*).

Furthermore, a project site may contain features other than vernal pools that could potentially support listed fairy shrimp species, including Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Branchinecta lynchi*), or Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*). These features include seasonal depressions, ephemeral pools, artificially created habitat, and/or undisturbed roads.

If found in the Study Area, riparian/riverine habitat, vernal pools, and habitat suitable for riparian birds and listed fairy shrimp species were mapped and recorded during the field reconnaissance survey.

3 Existing Conditions

This section provides a brief discussion of the existing conditions observed on site. Site photographs are located in Appendix A. The Study Area includes the project site and the 500-foot buffer area around the project site. The Study Area is in arid western Riverside County within Menifee, California which is characterized by long, hot, dry summers and short, relatively wet winters. Average high and low temperatures are 94° to 64°F in the summer and 66° to 40°F in the winter. The average annual precipitation in the area is 13 inches (National Oceanic and Atmospheric Administration (NOAA) 2025).

3.1 Land Use

The Study Area comprises mostly of a disturbed vacant lot south of Highway 74, with land surrounding it that reflects a mix of commercial and residential development. Commercial development surrounds the Study Area to the north, west and east, and a residential neighborhood is to the southwest of the Study Area.

3.2 Watershed and Drainages

The Study Area is located within the San Jacinto River watershed. However, no defined watercourses or tributaries are present within the Study Area boundaries. Consequently, there are no hydrological features such as ephemeral or intermittent streams within the area. The Study Area is not associated with any known surface water conveyance systems or wetlands.

3.3 Topography and Soils

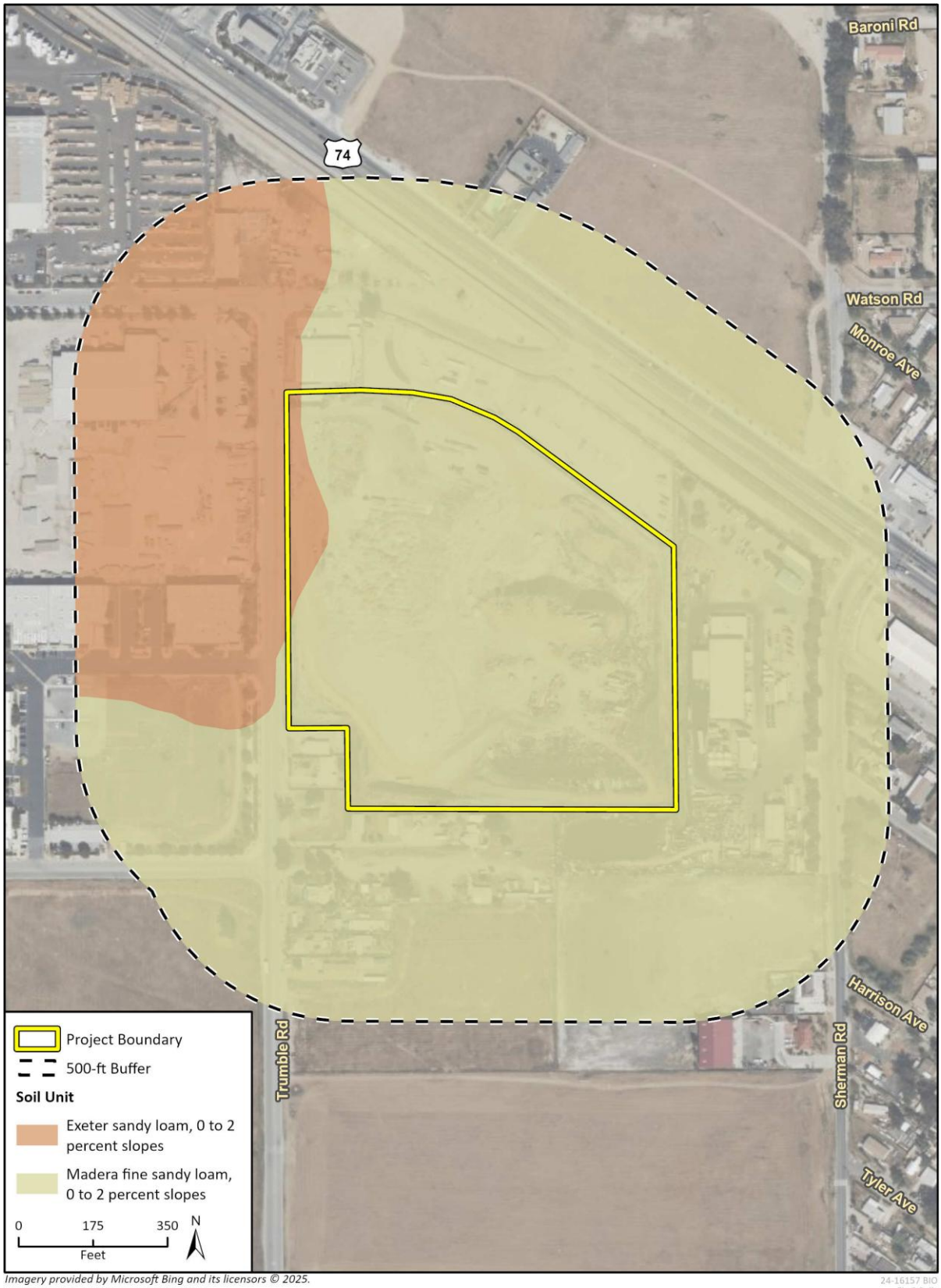
The project site is largely undeveloped vacant land that has been disturbed by previous construction. The middle of the project site sits at a lower elevation than the rest of the site, sloping gently towards the center part of the Study Area. Most of the project site is relatively flat with a small slope towards the center of the project site. The elevation range of the project site ranges from 1,422 to 1,435 feet above mean sea level (amsl).

The USDA NRCS Web Soil Survey depicts two map units within the Study Area (USDA NRCS 2025a):

- Exeter sandy loam, 0 to 2 percent slopes
- Madera fine sandy loam, 0 to 2 percent slopes

All of the soil map units within the Study Area are listed as Nonhydric or Predominantly Nonhydric soils (USDA NRCS and 2025a). Descriptions of the soil series within the Study Area are provided below and their locations are depicted in Figure 3.

Figure 3 USDA Soils Map



Imagery provided by Microsoft Bing and its licensors © 2025.
Additional data provided by NRCS, 2024.

24-16157 BIO
Fig 3 Soils

3.3.1 Exeter Sandy Loam, 0 to 2 Percent Slopes

The Exeter Sandy Loam series consists of deep, well-drained soils typically found on low terraces and alluvial plains with slopes ranging from 0 to 2 percent. These soils are derived from sedimentary materials and are characterized by their sandy texture. They are generally found in areas that are moderately to well-drained, with runoff ranging from negligible to moderate. Permeability is moderate, allowing water to move through the soil at a moderate rate. The soil remains moist for much of the year, but it may be dry in the upper layers (0 to 8 inches) during the warmer months, especially from May through October, and moist conditions are often present from November to April. This soil type is typically used for agriculture due to its fertility and good drainage properties, making it suitable for a variety of crops. (USDA NRCS 2025a).

3.3.2 Madera Fine Sandy Loam, 0 to 2 Percent Slopes

The Madera Fine Sandy Loam series consists of deep, well-drained soils typically found on low terraces and alluvial fans with slopes ranging from 0 to 2 percent. These soils are formed from alluvium and are derived primarily from sedimentary materials. The soil has low to moderate runoff and moderately slow permeability, which allows for gradual water movement through the profile. The soil remains moist in the deeper layers (below 8 inches) during the cooler months from November to May, while the upper layers (0 to 8 inches) may dry out during the warmer months, particularly from May to October. Madera Fine Sandy Loam is often used for agricultural purposes, as it provides good conditions for crops that require well-drained, moderately fertile soils. (USDA NRCS 2025a).

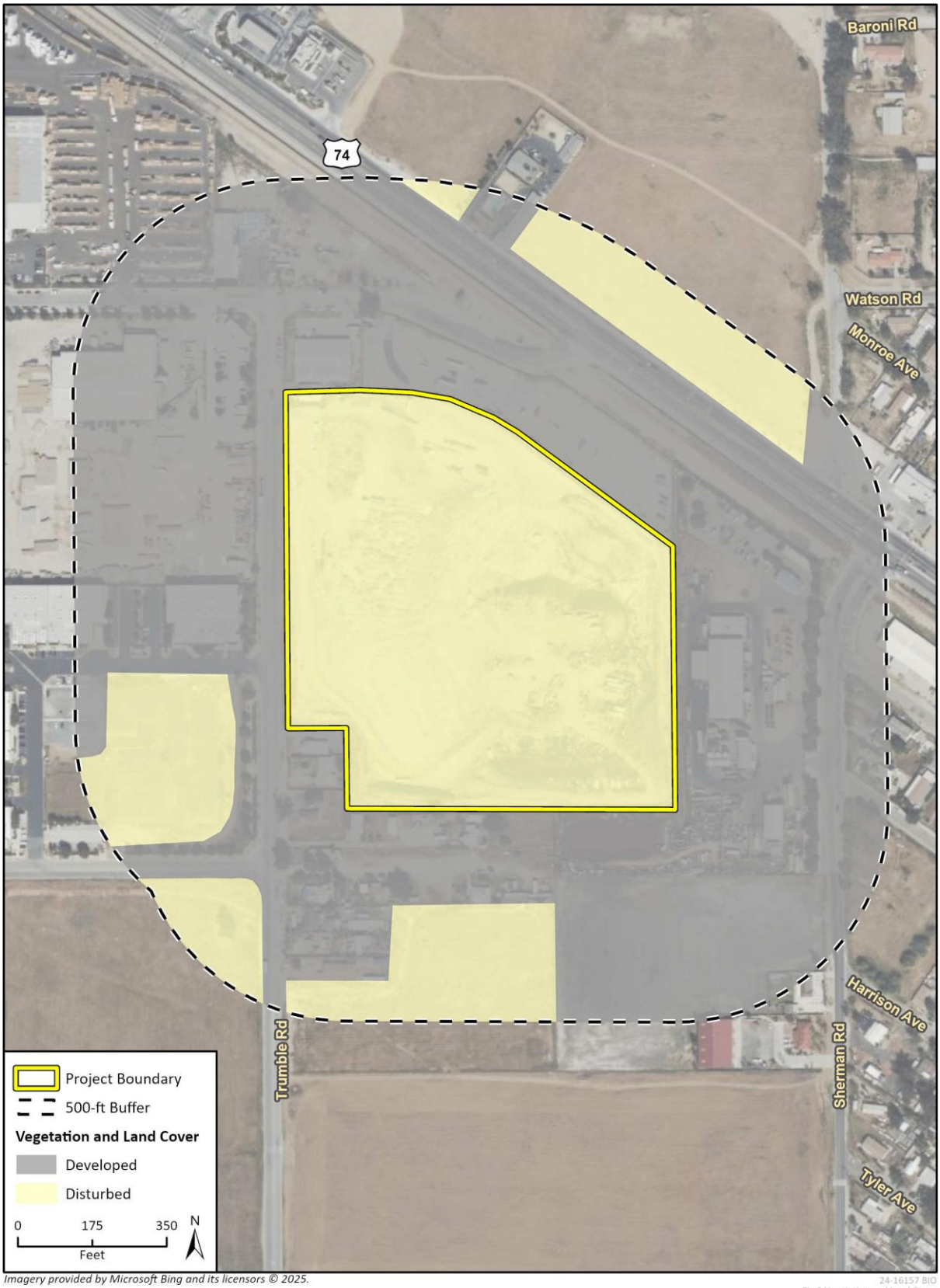
3.4 Vegetation Communities

Two vegetation communities and land cover types were documented within the Study Area during the field survey. Brief descriptions of the vegetation communities and land cover types are provided in the subsections below. Table 2 lists each vegetation community and land cover type, provides their approximate acreage, and their percentage area covered in the Study Area. Figure 4 depicts the location of each vegetation community and land cover type within the Study Area. A complete list of plant species observed during the field reconnaissance survey is presented in Appendix B.

Table 2 Vegetation Communities and Land Cover Types within the Study Area

CDFW Sensitive	Vegetation Community/Land Cover Type	Acres on Site
N/A	Disturbed Habitat	27.92
N/A	Developed Habitat	47.56
Total		**75.48**

Figure 4 Vegetation Communities Map



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24-16157 BIO
Fig 3 Vegetation and Land Cover

3.4.1 Disturbed Habitat

Disturbed habitat refers to any land where the native vegetation has been significantly altered by agriculture, construction, or other anthropogenic activities. Disturbed land is typically found in vacant lots, roadsides, material storage areas, or abandoned fields. The species' composition is often dominated by non-native species and/or bare ground.

There are 27.92 acres of disturbed habitat within the Study Area. It is dominated by large patches of mostly bare ground with shortpod mustard (*Hirschfeldia incana*), stinknet (*Oncosiphon pilulifer*), Russian thistle (*Salsola tragus*) and cheatgrass (*Bromus tectorum*). Disturbed habitat is found within the entirety of the project site and in some of the 500-foot boundary to the north and southwest of the Study Area. This land cover is not recognized in the MCV2 (Sawyer et al. 2009).

3.4.2 Developed Habitat

Developed land includes areas that have been developed or otherwise physically altered to the extent that they no longer support most vegetation. Developed land is characterized by the presence of permanent or semi-permanent structures, gravel lots, pavement, or hardscape. This land cover type may also contain areas that are sparsely vegetated, primarily with ornamental and/or invasive species. The Study Area contains 47.56 acres of developed land along Highway 74 and the residential developments south of the project site, and the commercial developments north, west, and east of the Study Area. This land cover is not recognized in the MCV2 (Sawyer et al 2009).

3.5 General Wildlife

The project site provides limited habitat for wildlife species that commonly occur within urban communities in Riverside County. Common urban-adapted avian species observed on site during the field survey include yellow-rumped warbler (*Setophaga coronate*), American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), red-winged blackbird (*Agelaius phoeniceus*), lesser goldfinch (*Spinus psaltria*), red-tailed hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), white-crowned sparrow (*Zonotrichia leucophrys*), American pipit (*Anthus rubescens*), rock pigeon (*Columba livia*), and northern mockingbird (*Mimus polyglottos*). A complete list of wildlife species observed during the field reconnaissance survey is presented in Appendix C.

4 Sensitive Biological Resources

4.1 Special-Status Species

This section discusses special-status species and sensitive biological resources observed on the project site and evaluates the potential for the project site to support additional sensitive biological resources. Special-status species in this report are defined as 1) California Endangered Species Act (CESA) or federal Endangered Species Act (ESA) designations (e.g., Threatened, Endangered, Species of Special Concern, etc.), 2) plants with CNPS California Rare Plant Rank (CRPR) of 1 or 2, or 3) MSHCP-covered species. Additional regulatory information pertaining to special-status species is presented in Appendix D. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB and other sources, species occurrence records from other sites in the vicinity of the survey area, previous reports for the project site, and the results of surveys of the project site. The potential for each special-status species to occur in the Study Area was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on the site if present (e.g., oak [*Quercus* spp.] trees).
- **Low Potential.** Few of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not very likely to be found on the site.
- **Moderate Potential**. Some of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species is known to occur in the vicinity and has a moderate probability of being found on the site.
- **High Potential.** All the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has been recently documented in the vicinity and has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

The literature and database review identified 41 plant species and 63 wildlife species in the nine-quadrangle search area. Of those, no special-status species were determined to have a moderate or high potential to occur in the Study Area (Appendix E).

4.1.1 Special-Status Plant Species

The following discussion is relative to CEQA significance. For additional details related to plant species and their coverage under the MSHCP, if applicable, refer to Section 4.6.4.

The developed and disturbed vegetation communities within the Study Area are generally not suitable for supporting special-status plant species due to the lack of intact natural habitats. As a result, no special-status plant species with the potential to occur within the Study Area have been identified.

4.1.2 Special-Status Wildlife Species

The following discussion is relative to CEQA significance. For additional details related to wildlife species and their coverage under the MSHCP, if applicable, refer to Section 4.6.4.

No special-status wildlife species were determined to have a moderate or higher potential to occur in the Study Area due to surrounding development (e.g., structures and roads), disturbed land cover, and lack of relevant occurrences recorded in the CNDDB and other relevant databases. Five special-status wildlife species are considered to have a low potential to occur in the Study Area: American bumblebee (*Bombus pensylvanicus*), coast horned lizard (*Phrynosoma blainvillii*), Cooper's hawk (*Accipiter cooperii*), California horned lark (*Eremophila alpestris actia*), and loggerhead shrike (*Lanius ludovicianus*). American bumble bee is not a covered species under the MSHCP and is not further discussed in this analysis due to its low potential to occur. The remaining four species (coast horned lizard, Cooper's hawk, California horned lark, and loggerhead shrike) are covered species under the MSHCP but are adequately conserved and would not require focused surveys. Therefore, these species are not further discussed in this analysis. No special-status wildlife species were present in the Study Area during the survey.

4.1.3 Nesting Birds

California Fish and Game Code Section 3503 and the Migratory Bird Treaty Act (MBTA) protect native birds and their nests from direct take. The Study Area includes ornamental trees (e.g., blue gum eucalyptus [*Eucalyptus globulus*] and Peruvian peppertree [*Schinus molle*]) in addition to shrubs and ground surfaces, which are suitable for nesting birds to occupy. The ornamental vegetation on the adjacent properties provides suitable nesting habitat for several avian species.

4.2 Sensitive Natural Communities

Vegetation communities are considered sensitive biological resources if they have limited distributions, have high-wildlife value, include special-status species, or are particularly susceptible to disturbance. The CDFW ranks natural and sensitive communities using NatureServe's Heritage Methodology, the same system used to assign global and state rarity ranks for plant and animal species in the CNDDB. No vegetation communities are present within the Study Area (Table 2).

4.3 Jurisdictional Waters and Riparian/Riverine Resources

Waters of the U.S., Waters of the State, and streambeds are defined under the Clean Water Act (Section 404), the Porter-Cologne Water Quality Control Act (CA Water Code Section 13000 et seq.), and the CDFW lake and streambed alteration program (California Fish and Game Code Section 1600 et seq.). These resources are also protected under MSHCP Section 6.1.2. If impacted, aquatic features meeting the definition of Waters of the U.S., Waters of the State, and streambed under the jurisdiction of the USACE, RWQCB, and CDFW would require permits before impacting these features. In addition, any impacts to riparian/riverine resources would also require preparation of a Determination of Biologically Equivalent or Superior Preservation (DBESP) report to be submitted separately to CDFW and USFWS for review and approval.

No jurisdictional features, including Waters of the U.S., Waters of the State, or streambeds, are present within the Study Area. As such, no riparian/riverine resources, as defined under Section 6.1.2 of the MSHCP, have been identified on-site. No further inspection or delineation of jurisdictional aquatic features is necessary within the Study Area.

4.4 Wildlife Movement

Wildlife corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats in the linkage do not necessarily need to be the same as the habitats that are being linked. Rather, the linkage merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (e.g., rock outcroppings, vernal pools, or oak trees) may need to be in the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

The Study Area does not contain areas of land considered “essential connectivity areas” identified by the Essential Habitat Connectivity Areas (EHCA) project (Spencer et al. 2010) or any habitat linkages under the MSHCP. Portions of the Study Area contain developed land, such as existing roadways, suburban residences, and commercial businesses. This development is unlikely to impact terrestrial wildlife movement through the Study Area, as the area is an open, disturbed site with minimal habitat value. The lack of substantial vegetation or natural cover in the Study Area provides limited refuge or resources for wildlife. As a result, the Study Area does not support significant wildlife movements or serve as a corridor for migrating species.

4.5 Resources Protected by Local Policies and Ordinances

4.5.1 Tree Ordinances

In the area of the project site, only certain trees would be subject to local policies and ordinances under the City of Menifee. The City's Tree Protection Ordinance (Menifee Municipal Code Section 9.45.010) requires a permit for the removal or severe trimming of protected trees, which includes trees located in public rights-of-way or designated as significant trees on private property. A permit is not required for this project, as all work activities will occur outside of any public right-of-way and no protected trees are located within the project site. Additionally, the City of Menifee's regulations (Menifee Municipal Code Section 9.45.040) require a permit for the removal of native trees on properties greater than one-half acre in size. However, no native trees are present on the project site. Therefore, no permits are required for tree removal under these local ordinances.

4.5.2 Stephens' Kangaroo Rat Habitat Conservation Plan

The Riverside County Habitat Conservation Agency (RCHCA) administers the Stephens' Kangaroo Rat Habitat Conservation Plan encompassing more than 46,000 acres in western Riverside County. The proposed project is located within the RCHCA Stephens' Kangaroo Rat Habitat Conservation Plan Area and is subject to the plan's associated mitigation fees.

4.6 MSHCP Consistency

The proposed project site is not located within the MSHCP Criteria Area (i.e., not within a Cell or Cell Group). As stated above, the project is not subject to MSHCP Reserve Assembly requirements or the Joint Project Review process.

The following discusses only the resources covered by the MSHCP. All MSHCP covered species with potential to occur in the Study Area are considered adequately conserved, or are species that are not adequately conserved but the project site is not located within any of their designated survey areas. As such, no further action or additional surveys for these species is required, and no mitigation is required. This section also addresses the presence/absence of riparian/riverine areas and vernal pools (also refer to Section 4.3 above), and the special-status species associated with them. Furthermore, this section identifies if avoidance and minimization measures are applicable to each of the MSHCP resources potentially affected by the proposed project.

4.6.1 Riparian/Riverine Resources and Vernal Pool Areas (MSHCP Section 6.1.2)

Section 6.1.2 of the MSHCP requires the protection of riparian/riverine areas and vernal pools, and the species associated with them.

Riparian/Riverine Features

As discussed above, there are no MSHCP riparian/riverine areas or vernal pools located within the project site. Therefore, no implementation of avoidance and minimization of riparian riparian/riverine areas is required.

Riparian Birds

Riparian areas are not present within the Study Area. As a result, special-status riparian birds are unlikely to occur in the area. There is no riparian habitat to support these species, and no understory layers or riparian vegetation are present. Therefore, focused surveys for riparian birds are not required.

Fairy Shrimp

There are no vernal pools, seasonal wetlands, ephemeral ponding, depressions, undisturbed road ruts, or clay soils within the Study Area. Therefore, focused surveys for listed fairy shrimp are not required.

4.6.2 Narrow Endemic Plant Species (MSHCP Section 6.1.3)

MSHCP Section 6.1.3 addresses narrow endemic plant species with requirements to survey for a number of these species identified specifically for each survey area. The project is not located within a NEPSSA. Therefore, focused surveys for these plant species are not required.

4.6.3 Additional Survey Needs and Procedures (MSHCP Section 6.3.2)

Criteria Area Plant Species

Criteria Area Plant Species requiring additional surveys are listed in Section 6.3.2 of the MSHCP. The project is not located within a CASSA for plants. Therefore, focused surveys for these plant species are not required.

Amphibians

The project site is not located within a designated survey area for amphibian species. The project footprint is limited to primarily disturbed areas and no riparian or other areas suitable for amphibians occur on the site. Focused surveys for amphibians are not required.

Burrowing Owl

Burrowing owl is listed as a State Candidate Endangered species by the State of California and is covered under MSHCP Section 6.3.2, meaning surveys are required in habitat determined to be suitable habitat for burrowing owl. The project site does not fall within a MSHCP BUOW survey area and no suitable habitat for BUOW was identified during the survey. Therefore, BUOW are not expected to occur within the Study Area, and focused surveys for BUOW are not required.

Mammals

Mammal species requiring additional surveys are listed in Section 6.3.2 of the MSHCP. The Study Area is not located within a designated survey area for mammal species. Therefore, focused surveys for mammals are not required.

4.6.4 MSHCP Table 9-3 Species Not Adequately Conserved.

There are no Table 9-3 species with the potential to occur in the Study Area. Therefore, no further action relative to these plant or wildlife species is required.

4.6.5 Guidelines Pertaining to the Urban/Wildlands Interface (MSHCP Section 6.1.4)

According to Section 6.1.4 of the MSHCP, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. The project site is not within, adjacent to, or near an existing or described MSHCP Conservation Area. Therefore, the project is not subject to the Urban/Wildlife Interface Guidelines.

4.7 Nesting Birds

Although no special-status avian species are considered to have a moderate or higher potential to occur in the Study Area, a pre-construction nesting bird survey will be conducted by the project in accordance with Mitigation Measure (MM) BIO-3 to cover avian species that receive protection under the MBTA and CFGC. It should be noted that the MSHCP does not provide take coverage for impacts to nesting birds.

5 Impact Analysis and Mitigation Measures

Pursuant to the CEQA Guidelines, this section discusses the possible adverse impacts to biological resources that may occur from implementation of the proposed project and suggests appropriate avoidance, minimization, and mitigation measures that would reduce those impacts to less than significant levels.

5.1 Special-Status Species

The proposed project would have a significant effect on biological resources if it would:

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 Wildlife or U.S. Fish and Wildlife Service.

5.1.1 Special-Status Plant Species

No special-status plant species are expected to occur within the project site. As such, there are no issues regarding direct or indirect impacts to special-status plants. The project will be limited to disturbed and developed habitat (Figure 4), and no habitat for special-status plants is present. As no such species are anticipated, no additional measures are required to address potential impacts.

5.1.2 Special-Status Wildlife Species

No special-status wildlife species are considered to have a moderate or high potential to occur in the project site. However, migratory birds protected under the Migratory Bird Treaty Act have potential to nest and forage in the Study Area. Suitable nesting habitat for ground-nesters occurs on the ground surface within the project site, and in ornamental trees outside of the project site within the Study Area. Project development has the potential to directly (e.g., destroy a nest) or indirectly (e.g., cause an active nest to fail) impact nesting birds protected under the CFGC and MBTA. Project development could also lead to loss of foraging habitat for species such as loggerhead shrike if present. The loss of foraging habitat could be considered significant if it had substantial adverse effects to local populations of species protected under the CFGC or the MBTA. However, project development would not significantly impact foraging habitat as the project site is highly disturbed.

Potential impacts to nesting birds will further be avoided and minimized with implementation of MMs provided in Section 6 of this analysis. These MMs include general best management practices to be implemented during the project to avoid impacts to wildlife and other biological resources, the establishment of a training program to ensure all personnel present onsite understand the special-status species and biological resources that can occur onsite, and require a pre-construction nesting bird survey prior to the commencement of ground-disturbing activities to identify and establish non-disturbance buffers depending on the species, nest location, and construction activities. Thus, project development will not adversely affect nesting birds or raptors with implementation of mitigation measures described in Section 6, and potential impacts would be reduced to less-than-significant levels.

5.2 Sensitive Natural Communities

The proposed project would have a significant effect on biological resources if it would:

b) Have a substantial adverse impact 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 Wildlife or US Fish and Wildlife Service.

No riparian habitat or any other sensitive natural communities occur within the project site. As such, there are no issues regarding direct or indirect impacts to these communities because the project will be limited to disturbed and developed habitat (Figure 4). No impacts to sensitive communities would occur.

5.3 Jurisdictional Wetlands

The proposed project would have a significant effect on biological resources if it would:

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

There are no State or federally protected wetlands present within the project footprint or Study Area. No impacts to protected wetlands would occur.

5.4 Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.

The proposed project activities are restricted to a 17.19-acre lot and include mostly disturbed habitat. The project site is surrounded by Highway 74 to the north and residential and commercial properties to the north, south, and west. The project site is not located within any MSHCP linkages or other established movement corridors. Furthermore, the habitat in the project site does not support migratory fish species nor does it support wildlife nursery sites. As such, there would be no impact to established resident or migratory wildlife corridors, or wildlife nursery sites.

5.5 Resources Protected by Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

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

The only local policies or ordinances applicable to project site are the City's tree protection policies. No protected trees were observed during the field surveys. No additional permits or compliance measures are required, and no impact would occur.

5.6 Habitat Conservation Plans

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?

5.6.1 MSHCP Requirements

The proposed project is located within the boundaries of the MSHCP, and the City as the CEQA lead agency is also a Permittee to the MSHCP. As such, with their discretionary authority over the project, the City can also convey MSHCP take coverage to the project if needed, consistent with the MSHCP. Refer to Section 4.6 above for the details that demonstrate the project's consistency with the MSHCP. In addition, payment of MSHCP mitigation fees is required. Payment of fees, as well as compliance with the requirements of Section 6.0 of the MSHCP, is intended to provide full mitigation under CEQA, the National Environmental Policy Act (NEPA), CESA, and ESA for impacts to special-status species and protected habitats covered by the MSHCP, pursuant to agreements with the USFWS and the CDFW, and set forth in the implementing agreement for the MSHCP.

5.6.2 Stephens' Kangaroo Rat Habitat Conservation Plan

The proposed project is located within the Stephens' Kangaroo Rat Habitat Conservation Plan Area and is subject to the plan's associated mitigation fees. No Stephens' kangaroo rat conservation measures are required by the proposed project as this species is now considered fully conserved under the Stephens' Kangaroo Rat Habitat Conservation Plan. Therefore, with payment of fees, the proposed project will not conflict with the Stephens' Kangaroo Rat Habitat Conservation Plan.

5.7 Mitigation Measures

The following MMs shall be incorporated into the project design to the maximum extent feasible to avoid, minimize, and/or mitigate impacts to special-status species and other sensitive biological resources. With the implementation of the following measures, impacts to biological resources would be less than significant.

MM BIO-1 Direct and Indirect Impacts During Construction

- Consistent with the Best Management Practices from MSHCP Volume 1, Attachment C, the following shall be implemented to avoid direct and indirect impacts during construction:
  - Limiting grading to the minimum area necessary for construction, operation, and decommissioning of the project
  - Limiting vegetation disturbance/removal to the maximum extent practicable
  - Implementing fiber rolls and sandbags around drainage areas and the site perimeter
  - Stockpiling and disposing of demolition debris, concrete, and soil properly
  - Installation of a stabilized construction entrance/exit and stabilization of disturbed areas
  - Proper protections for fueling and maintenance of equipment and vehicles

  - Managing waste, aggressively controlling litter, and implementing sediment controls
  - Soil stabilization in disturbed areas by revegetation

- **Minimize Spills of Hazardous Materials.** All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills and contaminated soil shall be immediately cleaned up and the contaminated soil shall be properly handled or disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.
- **Invasive Plant Species Control.** Invasive plant species, for the purpose of this document, shall include all species with a California Invasive Plant Council (Cal-IPC) rating of limited, moderate, or high. Construction personnel and equipment shall be free of invasive plant seeds, propagules, and any material which may contain them (e.g., soil) prior to entering the project site. All potentially contaminated equipment will be carefully cleaned prior to the initiation of project activities. Staging areas and temporary work areas shall avoid weed infestations and infestations within the work area(s) shall be flagged and avoided to the maximum extent feasible. Only certified weed-free materials (e.g., gravel, straw, and fill) will be used for the project.
- **Removal of Native Vegetation.** The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
- **Standard Dust Control Measures.** Standard dust control measures as per the South Coast Air Quality Management District shall be implemented to reduce dust impacts on nearby conserved lands, plants, and wildlife. Measures include controlling speed to 15 mph or less on unpaved roads, replacing ground cover in disturbed areas as quickly as possible, frequently watering active work sites, installation of shaker plates, and suspending excavation and grading operations during periods of high winds.
- **Wildlife Hazards.** The following measures shall be implemented to ensure that wildlife do not become trapped, entangled, injured, or poisoned by construction activities:
  - Structures in which wildlife may become trapped (e.g., open pipes, pits, trenches, etc.) shall be tightly covered at the end of each work day. If covering the structure is not possible, an escape ramp shall be provided to allow any wildlife that falls in to safely escape.
  - Debris piles, construction materials, equipment, and other items that may be used as wildlife refuge shall be inspected for wildlife at the start of each work day and prior to disturbance. If wildlife is discovered, it shall either be moved out of harm's way by a qualified biologist or allowed to move off of the study area on its own.
  - Nets and mesh shall be made of loose-weave material that is not fused at the intersections of the weave, as nets with welded weaves present an entanglement risk.
  - Toxic materials and garbage shall be removed from the work site and safely stored or disposed of at the end of each workday.

MM BIO-2 Worker Environmental Awareness Plan Training

Prior to the initiation of the project, an approved biologist shall present Worker Environmental Awareness Plan training (WEAP) to all on-site personnel. The WEAP will educate the personnel on the identification of special-status species and regulated biological resources that are present or have the potential to occur within the project site, will cover the applicable regulatory policies and provisions regarding their protection, and will provide an overview of the project's avoidance,

minimization, and mitigation measures. Furthermore, on-site personnel will be briefed on the reporting process if an inadvertent injury or mortality should occur to a special-status species during construction or operations.

MM BIO-3 Pre-construction Nesting Bird Surveys

To avoid disturbance of nesting birds, including special-status bird species and birds protected by the Migratory Bird Species Act (MBTA) and California Fish and Game Code (CFGC Section 3503), project activities shall occur outside of the breeding season for nesting birds (generally February 1 through August 31), if feasible.

If construction occurs during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to the initiation of project activities. If more than one phase of grading occurs during nesting season, the pre-construction nesting bird survey shall be repeated. The nesting bird survey shall be conducted on foot inside the project site and include a 500-foot buffer for raptors and special status bird species and a 100-foot buffer for all other bird species. The survey shall be conducted by a biologist familiar with avian species known to inhabit Southern California. If nests are found, an avoidance buffer of up to 500 feet for raptors and special-status species and up to 100 feet for non-raptors (dependent upon the species, the proposed work activity, and existing disturbances associated with land use outside of the workspace) shall be determined and demarcated by the biologist with construction fencing, flagging, or other means to mark the boundary. The buffer shall be maintained and nest avoided until the young have fledged and/or the nest is no longer active.

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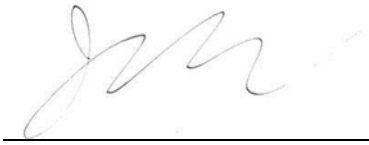
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7 Certification and List of Preparers

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: February 11, 2025 Signed: 

Jared Reed, Senior Biologist/Project Manager

Rincon Consultants, Inc.

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Appendix A

Site Photographs



Photograph 1. View from northwest corner looking southeast within project site.



Photograph 2. View looking south of disturbed habitat adjacent to Trumble Road within the project site.



Photograph 3. View from southwest corner within project site looking northeast.



Photograph 4. View looking northeast from south side of the project site.



Photograph 5. View looking east, adjacent to the small neighborhood and showing disturbed habitat within the south end of the project site.



Photograph 6. Overview from the southeast end of project site.



Photograph 7. View looking north within the eastern boundary of project site towards Highway 74.



Photograph 8. Overview of project site looking southwest from eastern boundary.



Photograph 9. View looking southwest from northern boundary of project site.



Photograph 10. View looking west towards project site showing disturbed habitat.

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Appendix B

Observed Plant Species Lists

Observed Plant Species List

Scientific Name	Common Name	Native/Introduced/ Invasive Rating[1]	Wetland Indicator Status	Life Form (e.g., Tree, Shrub, Herbaceous)
Bromus tectorum	cheat grasses	Introduced; Cal-IPC Limited to Moderate	–	Herb
Centaurea melitensis	Maltese start-thistle	Introduced	–	Herb
Eucalyptus globulus	blue gum	Introduced; Cal-IPC Limited	NL	Tree
Helianthus gracilentus	slender sunflower	Native	OBL	Herb
Heliotropium curassavicum	Alkali heliotrope	Native	NL	Herb
Hirschfeldia incana	short-pod mustard	Introduced; Cal-IPC Moderate	NL	Herb
Oncosiphon pilulifer	stinknet	Introduced; Cal-IPC High	FACU	Herb
Platanus occidentalis	American sycamore	Native	NL	Tree
Salsola tragus	Russian thistle	Introduced; Cal-IPC Limited	FACU	Shrub
Schinus molle	Peruvian peppertree	Introduced; Cal-IPC Limited	FACU	Tree
Washingtonia robusta	Mexican fan palm	Native	NL	Tree

[1] Cal-IPC – California Invasive Plant Council (Cal-IPC 2024) Invasive Rating

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Appendix C

Observed Wildlife Species List

Scientific Name	Common Name	Status	Native or Introduced
Birds			
Agelaius phoeniceus	red-winged blackbird	–	Native
Anthus rubescens	American pipit	–	Native
Buteo jamaicensis	red-tailed hawk	–	Native
Charadrius vociferus	killdeer	–	Native
Corvus brachyrhynchos	American crow	–	Native
Columba livia	rock pigeon	–	Native
Mimus polyglottos	northern mockingbird	–	Native
Passer domesticus	house sparrow	–	Native
Passerculus sandwichensis	savannah sparrow	–	Native
Sayornis nigricans	black phoebe	–	Native
Setophaga coronata	yellow-rumped warbler	–	Native
Spinus psaltria	lesser goldfinch	–	Native
Zenaida macroura	mourning dove	–	Native
Zonotrichia leucophrys	white-crowned sparrow	–	Native

Status (Federal/State)

SE = State Endangered

FE = Federal Endangered

SSC = Species of Special Concern

CESA = Protected Under California Endangered Species Act

FCS: Federal Candidate Species

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Appendix D

Regulatory Background

Regulatory Background

Special-status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and State levels, depending on the magnitude of the threat to continued existence and existing knowledge of population levels.

Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) administers the federal Endangered Species Act (ESA) that provides a process for listing species as either threatened or endangered, and the methods of protecting listed species. The ESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is a species that is likely to become endangered in the near future. A "proposed" species is one that has been officially proposed by USFWS for addition to the federal threatened and endangered species list.

Section 9 of the ESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. The presence of any federally threatened or endangered species that are in a project site generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA). The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

Section 3503 and 3511 of California Fish and Game Code

The CDFW administers the California Fish and Game Code. There are particular sections of the Code that are applicable to natural resource management. For example, Section 3503 of the Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3511 of the Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses for take of these species. Pertinent species that are fully protected by the State include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) makes it unlawful to pursue, capture, kill, or possess or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union.

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in western Riverside County. The goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region.

The approval of the MSHCP and execution of the Implementing Agreement (IA) by the wildlife agencies allows signatories of the IA to issue "take" authorizations for all species covered by the MSHCP, including State- and federal-listed species as well as other identified sensitive species and/or their habitats, if a project has first been determined consistent with the MSHCP.

Each city or local jurisdiction will impose a Development Mitigation Fee for projects within their jurisdiction. With payment of the mitigation fee to the County and consistency with the survey requirements of the MSHCP where required, full mitigation in compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), CESA, and ESA will be granted. The Development Mitigation Fee varies according to project size and project description. The fee for commercial development is currently $6,597 per acre (http://www.wrc-rca.org/Fees/MSHCP%20Fee%20Schedule%20FY%202015.pdf). Payment of the mitigation fee and compliance with the requirements of Section 6.0 of the MSHCP are intended to provide full mitigation under CEQA, NEPA, CESA, and ESA for impacts to the species and habitats covered by the MSHCP pursuant to agreements with the USFWS, the CDFW, and/or any other appropriate participating regulatory agencies and as set forth in the IA for the MSHCP.

Appendix E

Special-Status Wildlife Species in the Regional Vicinity of the Project Site

Special-Status Wildlife Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Plants and Lichens				
Abronia villosa var. *aurita* chaparral sand-verbena	None/None G5T2?/S2 1B.1	Annual herb. Chaparral, coastal scrub, desert dunes. Sandy. Elevations: 245-5250ft. (75-1600m.) Blooms (Jan)Mar-Sep.	No potential	Coastal scrub and sandy soils are not present in the Study Area. There are no CNDDB occurrences of this species within 5 miles of the Study Area.
Allium marvinii Yucaipa onion	None/None G1/S1 1B.2 MSHCP	Perennial bulbiferous herb. Chaparral. In openings on clay soils. Elevations: 2495-3495ft. (760-1065m.) Blooms Apr-May.	No potential	Species occurs outside of the elevation range of the Study Area.
Allium munzii Munz's onion	FE/ST G1/S1 1B.1 MSHCP	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland. Clay, mesic. Elevations: 975-3510ft. (297-1070m.) Blooms Mar-May.	No potential	No coastal scrub habitat is present in the Study Area. Clay soil is not present in the Study Area.
Almutaster pauciflorus alkali marsh aster	None/None G4/S1S2 2B.2	Perennial herb. Meadows and seeps. Alkaline. Elevations: 785-2625ft. (240-800m.) Blooms Jun-Oct.	No potential	Meadows and seeps are not present in the Study Area.
Ambrosia pumila San Diego ambrosia	FE/None G1/S1 1B.1 MSHCP	Perennial rhizomatous herb. Chaparral, coastal scrub, valley and foothill grassland, vernal pools. Alkaline (sometimes), clay (sometimes), disturbed areas (often), sandy (sometimes). Elevations: 65-1360ft. (20-415m.) Blooms Apr-Oct.	No potential	Chaparral, coastal scrub, valley, and vernal pools are not present in the Study Area. There are no CNDDB occurrences of this species within 5 miles of the Study Area.
Arctostaphylos rainbowensis Rainbow manzanita	None/None G2/S2 1B.1 MSHCP	Perennial evergreen shrub. Chaparral. Usually found in gabbro chaparral. Elevations: 675-2200ft. (205-670m.) Blooms Dec-Mar.	No potential	Chaparral is not present in the Study Area.
Astragalus pachypus var. jaegeri Jaeger's milk-vetch	None/None G4T1/S1 1B.1	Perennial shrub. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Rocky (sometimes), sandy (sometimes). Elevations: 1200-3200ft. (365-975m.) Blooms Dec-Jun.	No potential	Cismontane woodland and coastal scrub is not present within the Study Area. There are no CNDDB occurrences of this species within 5 miles of the Study Area.
Atriplex coronata var. *notatior* San Jacinto Valley crownscale	FE/None G4T1/S1 1B.1 MSHCP	Annual herb. Playas, valley and foothill grassland, vernal pools. Alkaline. Elevations: 455-1640ft. (139-500m.) Blooms Apr-Aug.	No potential	Playas, valley and foothill grassland, and vernal pools are not present in the Study Area.
Atriplex parishii Parish's brittlescale	None/None G1G2/S1 1B.1 MSHCP	Annual herb. Chenopod scrub, playas, vernal pools. Alkaline. Elevations: 80-6235ft. (25-1900m.) Blooms Jun-Oct.	No potential	There are no playas, and vernal pools present in the Study Area. There are no alkaline soils present. There are no CNDDB occurrences of this species within 5 miles of the Study Area.
Atriplex serenana var. *davidsonii* Davidson's saltscale	None/None G5T1/S1 1B.2 MSHCP	Annual herb. Coastal bluff scrub, coastal scrub. Alkaline. Elevations: 35-655ft. (10-200m.) Blooms Apr-Oct.	No potential	There is no coastal bluff scrub present in the Study Area.
Ayenia compacta California ayenia	None/None G4/S3 2B.3	Perennial herb. Mojavean desert scrub, Sonoran Desert scrub. Rocky. Elevations: 490-3595ft. (150-1095m.) Blooms Mar-Apr.	No potential	Mojavean desert scrub and Sonoran Desert scrub are not present in the Study Area.
Brodiaea filifolia thread-leaved brodiaea	FT/SE G2/S2 1B.1 MSHCP	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Clay (often). Elevations: 80-3675ft. (25-1120m.) Blooms Mar-Jun.	No potential	No coastal scrub habitat is present in the Study Area. Playas, valley and foothill grasslands, vernal pools, and clay soils are not present in the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Brodiaea santarosae Santa Rosa Basalt brodiaea	None/None G1/S1 1B.2	Perennial bulbiferous herb. Valley and foothill grassland. Santa Rosa Basalt. Elevations: 1855-3430ft. (565-1045m.) Blooms May-Jun.	No potential	Species occurs outside of the elevation range of the Study Area.
Calochortus weedii var. *intermedius* intermediate mariposa-lily	None/None G3G4T3/S3 1B.2 MSHCP	Perennial bulbiferous herb. Chaparral, coastal scrub, valley and foothill grassland. Rocky. Elevations: 345-2805ft. (105-855m.) Blooms May-Jul.	No potential	Coastal scrub and rocky soils are not present in the Study Area. There are no known populations of this species within 5 miles of the Study Area.
Centromadia pungens ssp. laevis smooth tarplant	None/None G3G4T2/S2 1B.1	Annual herb. Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland. Alkaline. Elevations: 0-2100ft. (0-640m.) Blooms Apr-Sep.	No potential	Chenopod scrub, meadows and seeps are not present in the Study Area.
Chorizanthe parryi var. *parryi* Parry's spineflower	None/None G3T2/S2 1B.1 MSHCP	Annual herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Openings, Rocky (sometimes), sandy (sometimes). Elevations: 900-4005ft. (275-1220m.) Blooms Apr-Jun.	Moderate potential	No coastal scrub habitat and rocky soils are present within the Study Area.
Chorizanthe polygonoides var. *longispina* long-spined spineflower	None/None G5T3/S3 1B.2 MSHCP	Annual herb. Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Clay (often). Elevations: 100-5020ft. (30-1530m.) Blooms Apr-Jul.	No potential	Clay soils, vernal pools, meadows and seeps, and grasslands are not present.
Clinopodium chandleri San Miguel savory	None/None G2G3/S2 1B.2 MSHCP	Perennial shrub. Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Gabbroic (sometimes), rocky (sometimes). Elevations: 395-3525ft. (120-1075m.) Blooms Mar-Jul.	No potential	Coastal scrub, riparian habitat, and rocky soils are not present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.
Cryptantha wigginsii Wiggins' cryptantha	None/None G2/S1 1B.2	Annual herb. Coastal scrub. Often on clay soils. Elevations: 65-900ft. (20-275m.) Blooms Feb-Jun.	No potential	Coastal scrub or clay soils are not present in the Study Area.
Dodecahema leptoceras slender-horned spineflower	FE/SE G1/S1 1B.1 MSHCP	Annual herb. Chaparral, cismontane woodland, coastal scrub. Flood deposited terraces and washes; associates include *Encelia, Dalea, Lepidospartum*, etc. Sandy soils. Elevations: 655-2495ft. (200-760m.) Blooms Apr-Jun.	No potential	Coastal scrub and sandy soils are not present in the Study Area within mostly disturbed habitat. There have been no CNDDB occurrences of this species within five miles of the Study Area.
Dudleya multicaulis many-stemmed dudleya	None/None G2/S2 1B.2 MSHCP	Perennial herb. Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. Elevations: 50-2590ft. (15-790m.) Blooms Apr-Jul.	No potential	Coastal scrub and clay soils are not present in the Study Area. There is a small known population of this species within five miles of the Study Area.
Eryngium aristulatum var. *parishii* San Diego button-celery	FE/SE G5T1/S1 1B.1 MSHCP	Annual/perennial herb. Coastal scrub, valley and foothill grassland, vernal pools. San Diego mesa hardpan and claypan vernal pools and southern interior basalt flow vernal pools; usually surrounded by scrub. Elevations: 65-2035ft. (20-620m.) Blooms Apr-Jun.	No potential	Coastal scrub is not present in the Study Area and this species is typically associated with vernal pools which are not present.
Geothallus tuberosus Campbell's liverwort	None/None G2/S2 1B.1	Ephemeral liverwort. Coastal scrub, vernal pools. Liverwort known from mesic soil. Elevations: 35-1970ft. (10-600m.)	No potential	No coastal scrub and vernal pools are present in the Study Area.
Hesperocyparis forbesii Tecate cypress	None/None G2/S2 1B.1	Perennial evergreen tree. Chaparral, closed-cone coniferous forest. Primarily on north-facing slopes; groves often associated with chaparral. On clay or gabbro. Elevations: 260-4920ft. (80-1500m.)	No potential	Chaparral and closed-cone conifer forest are not present in the Study Area.
Juncus luciensis Santa Lucia dwarf rush	None/None G3/S3 1B.2	Annual herb. Chaparral, great basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools. Vernal pools, ephemeral drainages, wet meadow habitats and streamsides. Elevations: 985-6695ft. (300-2040m.) Blooms Apr-Jul.	No potential	Vernal pools, chaparral, great basin scrub, and lower montane coniferous forest are not present in the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	None/None G4T2/S2 1B.1 MSHCP	Annual herb. Marshes and swamps, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-. Elevations: 5-4005ft. (1-1220m.) Blooms Feb-Jun.	No potential	Marshes and swamps, playas, and vernal pools are not present in the Study Area.
Lilium parryi lemon lily	None/None G3/S3 1B.2 MSHCP	Perennial bulbiferous herb. Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Wet, mountainous terrain; generally, in forested areas; on shady edges of streams, in open boggy meadows and seeps. Elevations: 4005-9005ft. (1220-2745m.) Blooms Jul-Aug.	No potential	Species occurs outside of the elevation range of the Study Area.
Limnanthes alba ssp. *parishii* Parish's meadowfoam	None/SE G4T2/S2 1B.2 MSHCP	Annual herb. Lower montane coniferous forest, meadows and seeps, vernal pools. Vernally moist areas and temporary seeps of highland meadows and plateaus; often bordering lakes and streams. Elevations: 1970-6560ft. (600-2000m.) Blooms Apr-Jun.	No potential	Species occurs outside of the elevation range of the Study Area.
Monardella hypoleuca ssp. *intermedia* intermediate monardella	None/None G4T2?/S2? 1B.3	Perennial rhizomatous herb. Chaparral, cismontane woodland, lower montane coniferous forest. Often in steep, brushy areas. Elevations: 1310-4100ft. (400-1250m.) Blooms Apr-Sep.	No potential	Chaparral, cismontane woodland, and lower montane coniferous forest are not present in the Study Area.
Nama stenocarpa mud nama	None/None G4G5/S1S2 2B.2	Annual/perennial herb. Marshes and swamps. Lake shores, riverbanks, intermittently wet areas. Elevations: 15-1640ft. (5-500m.) Blooms Jan-Jul.	No potential	Marshes and swamps. Lake shores, and riverbanks are not present in the Study Area.
Navarretia fossalis spreading navarretia	FT/None G2/S2 1B.1 MSHCP	Annual herb. Chenopod scrub, marshes and swamps, playas, vernal pools. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrounded by other habitat types. Elevations: 100-2150ft. (30-655m.) Blooms Apr-Jun.	No potential	Chenopod scrub, marshes and swamps are not present in the Study Area.
Navarretia prostrata prostrate vernal pool navarretia	None/None G2/S2 1B.2 MSHCP	Annual herb. Coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. Elevations: 10-3970ft. (3-1210m.) Blooms Apr-Jul.	No potential	This species is typically associated with vernal pools which are not present in the Study Area.
Orcuttia californica California Orcutt grass	FE/SE G1/S1 1B.1	Annual herb. Vernal pools. Elevations: 50-2165ft. (15-660m.) Blooms Apr-Aug.	No potential	Vernal pools are not present in the Study Area.
Pseudognaphalium leucocephalum white rabbit-tobacco	None/None G4/S2 2B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Sandy, gravelly sites. Elevations: 0-6890ft. (0-2100m.) Blooms (Jul)Aug-Nov(Dec).	No potential	Coastal scrub and sandy soils are not present in the Study Area. There are no known CNDDB occurrences of this species within five miles of the Study Area.
Scutellaria bolanderi ssp. *austromontana* southern mountains skullcap	None/None G4T3/S3 1B.2	Perennial rhizomatous herb. Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland. Elevations: 1395-6560ft. (425-2000m.) Blooms Jun-Aug.	No potential	Chaparral, cismontane woodland, and lower montane coniferous forest are not present in the Study Area.
Sibaropsis hammittii Hammitt's clay-cress	None/None G2/S2 1B.2 MSHCP	Annual herb. Chaparral, valley and foothill grassland. Mesic microsites in open areas on clay soils in Stipa grassland. Often surrounded by Adenostoma chaparral. Elevations: 2360-3495ft. (720-1065m.) Blooms Mar-Apr.	No potential	Chaparral and valley and foothill grasslands are not present in the Study Area.
Sidalcea neomexicana salt spring checkerbloom	None/None G4/S2 2B.2	Perennial herb. Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas. Alkali springs and marshes. Elevations: 50-5020ft. (15-1530m.) Blooms Mar-Jun.	No potential	Chaparral, coastal scrub, and lower montane coniferous forest are not present in the Study Area.
Sphaerocarpos drewiae bottle liverwort	None/None G1/S1 1B.1	Ephemeral liverwort. Chaparral, coastal scrub. Liverwort in openings; on soil. Elevations: 295-1970ft. (90-600m.)	No potential	Chaparral and coastal scrub habitat is not present in the Study Area.. There are no known CNDDB occurrences of this species within five miles of the Study Area.
Symphyotrichum defoliatum San Bernardino aster	None/None G2/S2 1B.2	Perennial rhizomatous herb. Cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, meadows and seeps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. Elevations: 5-6695ft. (2-2040m.) Blooms Jul-Nov.	No potential	Coastal scrub habitat, marshes, and swamps are present in the Study Area. There are no known CNDDB occurrences of this species within five miles of the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Tortula californica California screw moss	None/None G2G3/S2? 1B.2	Moss. Chenopod scrub, valley and foothill grassland. Moss growing on sandy soil. Elevations: 35-4790ft. (10-1460m.)	No potential	No scrub habitat and sandy soils are present in the Study Area.
Trichocoronis wrightii var. *wrightii* Wright's trichocoronis	None/None G4T3/S1 2B.1 MSHCP	Annual herb. Marshes and swamps, meadows and seeps, riparian forest, vernal pools. Mud flats of vernal lakes, drying riverbeds, alkali meadows. Elevations: 15-1425ft. (5-435m.) Blooms May-Sep.	No potential	No riparian vegetation is present in the Study Area,
Invertebrates				
Bombus crotchii Crotch's bumble bee	None/SCE G2/S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia,* and *Eriogonum*.	No potential	No food plants are present throughout the Study Area. There are two CNDDB occurrences within five miles of the Study Area from 1975 and 2001.
Bombus pensylvanicus American bumble bee	None/None G3G4/S2	Long-tongued; forages on a wide variety of flowers including vetches (*Vicia*), clovers (*Trifolium*), thistles (*Cirsium*), sunflowers (*Helianthus*), etc. Nests above ground under long grass or underground. Queens overwinter in rotten wood or underground.	Low potential	*Helianthus spp.* is present in the Study Area, but the Study Area is highly disturbed. There are 23 known CNDDB occurrences of this species within five miles of the Study Area since 1946.
Branchinecta lynchi vernal pool fairy shrimp	FT/None G3/S3 MSHCP	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	No potential	Vernal pools, grassed swales, and depression pools are not present in the Study Area.
Branchinecta sandiegonensis San Diego fairy shrimp	FE/None G2/S1	Endemic to San Diego and Orange County mesas. Vernal pools.	No potential	Vernal pools are not present in the Study Area.
Cicindela senilis frosti senile tiger beetle	None/None G2G3T1T3/S1	Inhabits marine shoreline, from Central California coast south to salt marshes of San Diego. Also found at Lake Elsinore. Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.	No potential	Marine shorelines, salt marshes, and lake shores are not present in the Study Area.
Euphydryas editha quino quino checkerspot butterfly	FE/None G4G5T1T2/S1S2 MSHCP	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties. Hills and mesas near the coast. Need high densities of food plants *Plantago erecta, P. insularis,* and *Orthocarpus purpurescens.*	No potential	Food plants are not present in the Study Area. There is no CNDDB occurrence within five miles of the Study Area.
Linderiella occidentalis California linderiella	None/None G2G3/S2S3	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and total dissolved solids.	No potential	Seasonal pools are not present in the Study Area.
Linderiella santarosae Santa Rosa Plateau fairy shrimp	None/None G1G2/S1 MSHCP	Found only in the vernal pools on Santa Rosa Plateau in Riverside County. Southern basalt flow vernal pools.	No potential	Vernal pools are not present in the Study Area.
Neolarra alba white cuckoo bee	None/None GH/SH	Known only from localities in Southern California. Cleptoparasitic in the nests of perdita bees.	No potential	There are no CNDDB occurrences of this species within five miles of the Study Area.
Socalchemmis icenoglei Icenogle's socalchemmis spider	None/None G1/S1	Known only from the type locality in the vicinity of Winchester, Riverside County. .	No potential	There are no CNDDB occurrences of this species within five miles of the Study Area.
Streptocephalus woottoni Riverside fairy shrimp	FE/None G1G2/S2 MSHCP	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	No potential	Vernal pools and swales/earth slump basins are not present in the Study Area.
Fish				
Gila orcuttii arroyo chub	None/None G2/S2 SSC MSHCP	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	No potential	There is no aquatic habitat present in the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Amphibians				
Anaxyrus californicus arroyo toad	FE/None G2G3/S2 SSC MSHCP	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	No potential	Washes, intermittent streams, and sandy banks are not present in the Study Area.
Rana draytonii California red-legged frog	FT/None G2G3/S2S3 SSC MSHCP	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	No potential	There is no aquatic habitat present in the Study Area.
Spea hammondii western spadefoot	None/None G2G3/S3S4 SSC MSHCP	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	No potential	Vernal pools are not present in the Study Area.
Taricha torosa Coast Range newt	None/None G4/S4 SSC MSHCP	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow-moving streams.	No potential	There are no permanent bodies of water within the Study Area.
Reptiles				
Actinemys pallida southwestern pond turtle	FPT/None G2G3/SNR SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying. Occurs in southern California from Monterey County south to Los Angeles, Riverside, and San Diego Counties into northern Baja California, Mexico.	No potential	Marshes, rivers, streams and irrigation ditches areas are not present within the Study Area. There are no CNDDB occurrences within five miles of the Study Area.
Anniella stebbinsi Southern California legless lizard	None/None G3/S3 SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	No Potential	Sandy or loose loamy soils are not present within the Study Area. No CNDDB occurrences within five miles of the Study Area.
Arizona elegans occidentalis California glossy snake	None/None G5T2/S2 SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	No potential	Scrub habitat is not present in the Study Area. The site is surrounded by development, making it difficult for any nearby populations to move into the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.
Aspidoscelis hyperythra orange-throated whiptail	None/None G5/S2S3 WL MSHCP	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	No potential	Coastal scrub and sandy areas are not present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.
Aspidoscelis tigris stejnegeri coastal whiptail	None/None G5T5/S3 SSC MSHCP	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	No potential	Semi-arid areas and riparian areas with sandy soils are not present in the Study Area. There are no known CNDDB occurrences of this species within five miles of the Study Area.
Coleonyx variegatus abbotti San Diego banded gecko	None/None G5T5/S1S2 SSC	Coastal and cismontane Southern California. Found in granite or rocky outcrops in coastal scrub and chaparral habitats.	No potential	No granite or rocky outcrops in coastal scrub and chaparral habitats in the Study Area.
Crotalus ruber red-diamond rattlesnake	None/None G4/S3 SSC MSHCP	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	No potential	Chaparral, woodland, grassland, and desert areas are not present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.
Diadophis punctatus modestus San Bernardino ringneck snake	None/None G5T2T3/S2?	Most common in open, relatively rocky areas. Often in somewhat moist microhabitats near intermittent streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous veg.	No potential	Intermittent streams are not present in the Study Area. There are no known CNDDB occurrences of this species within five miles of the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Phrynosoma blainvillii coast horned lizard	None/None G4/S4 SSC MSHCP	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Low potential	No sandy washes and low bushes are present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area. This species is known to inhabit disturbed habitats with scattered low brush.
Salvadora hexalepis virgultea coast patch-nosed snake	None/None G5T4/S3 SSC	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites.	No potential	Shrubby vegetation and small mammal burrows are not present in the Study Area.
Thamnophis hammondii two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	No potential	Permanent fresh water is not present in the Study Area.
Thamnophis sirtalis pop. 1 south coast gartersnake	None/None G5T1T2/S1S2 SSC	Southern California coastal plain from Ventura County to San Diego County, and from sea level to about 850 m. Marsh and upland habitats near permanent water with good strips of riparian vegetation.	No potential	Marsh and upland habitats are not present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.
Birds				
Accipiter cooperii Cooper's hawk	None/None G5/S4 WL MSHCP	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Low potential	No riparian trees are present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area. However, this species can occur in developed and disturbed habitats with large trees present.
Agelaius tricolor tricolored blackbird	None/ST G1G2/S2 SSC MSHCP	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	No potential	Open, permanent water is not present in the Study Area.
Aimophila ruficeps canescens southern California rufous-crowned sparrow	None/None G5T3/S4 WL MSHCP	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	No potential	Coastal sage scrub and sparse mixed chaparral are not present in the Study Area.
Aquila chrysaetos golden eagle	None/None G5/S3 FP WL MSHCP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	No potential	Rolling foothills, mountain areas, sage-juniper flats, and desert are not present in the Study Area.
Artemisiospiza belli belli Bell's sparrow	None/None G5T2T3/S3 WL MSHCP	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	No potential	Coastal sage scrub is not present in the Study Area, although limited. There are no CNDDB occurrences of this species within five miles of the Study Area.
Asio otus long-eared owl	None/None G5/S3? SSC	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	No potential	There are no willows and cottonwoods in the Study Area. There are no CNDDB occurrences of this species within 5 miles of the Study Area.
Athene cunicularia burrowing owl	None/None G4/S2 SSC MSHCP	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No potential	There is no scrub habitat in the Study Area. No burrows are present in the Study Area, with no burrowing owl or sign observed during survey.
Buteo regalis ferruginous hawk	None/None G4/S3S4 WL MSHCP	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	No potential	The Study Area is highly developed/disturbed, with no native open habitat. There are no CNDDB occurrences of this species within five miles of the Study Area.
Buteo swainsoni Swainson's hawk	None/ST G5/S4 MSHCP	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	No potential	There is no suitable nesting or foraging areas within or adjacent to the Study Area. There are no CNDDB occurrences of this species within 5 miles of the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren	None/None G5T3Q/S2 SSC	Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	No potential	There are no suitable nesting or foraging areas within or adjacent to the Study Area. There are no CNDDB occurrences of this species within 5 miles of the Study Area.
Charadrius nivosus nivosus western snowy plover	FT/None G3T3/S3 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	No potential	Sandy beaches, salt pond levees, and alkali lakes are not present in the Study Area.
Circus hudsonius northern harrier	None/None G5/S3 SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	No potential	Coastal salt and freshwater marsh are not present within the Study Area.
Elanus leucurus white-tailed kite	None/None G5/S3S4 FP MSHCP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	No potential	There are no suitable nesting or foraging areas within or adjacent to the Study Area. There was no CNDDB occurrences of this species within five miles from the Study Area along.
Eremophila alpestris actia California horned lark	None/None G5T4Q/S4 WL MSHCP	Coastal regions, chiefly from Sonoma County to San Diego County. Also, main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Low potential	Short-grass prairie, and fallow grain fields are present just outside the Study Area.
Haliaeetus leucocephalus bald eagle	FD/SE G5/S3 FP MSHCP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests are within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	No potential	None of the trees in the Study Area are appropriate nesting habitat for this species.
Icteria virens yellow-breasted chat	None/None G5/S4 SSC MSHCP	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	No potential	No *Salix* spp. trees are present in the Study Area. There is no CNDDB occurrences of this species within five miles from the Study Area.
Lanius ludovicianus loggerhead shrike	None/None G4/S4 SSC MSHCP	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Low potential	Scrub habitat and washes are not present in the Study Area. Species may forage in disturbed areas.
Plegadis chihi white-faced ibis	None/None G5/S3S4 WL MSHCP	Shallow freshwater marsh. Dense tule thickets for nesting, interspersed with areas of shallow water for foraging.	No potential	There are no marshes or tule thickets present in the Study Area.
Polioptila californica californica coastal California gnatcatcher	FT/None G4G5T3Q/S2 SSC MSHCP	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	No potential	There is no coastal sage scrub habitat in the Study Area.
Setophaga petechia yellow warbler	None/None G5/S3 SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	No potential	There is no willow shrubs and thickets present in the Study Area.
Vireo bellii pusillus least Bell's vireo	FE/SE G5T2/S3 MSHCP	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	No potential	There are no *Salix* spp. and *Baccharis* spp. and riparian habitat present in the Study Area.
Xanthocephalus xanthocephalus yellow-headed blackbird	None/None G5/S3 SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as Odonata are abundant, nesting timed with maximum emergence of aquatic insects.	No potential	Freshwater emergent wetlands with dense vegetation is not present in the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Mammals				
Chaetodipus californicus femoralis Dulzura pocket mouse	None/None G5T3/S3	Found in a variety of habitats including coastal scrub, chaparral, and grassland in San Diego County, Baja California, and Mexico. Attracted to grass-chaparral edges.	No potential	Coastal scrub and grassland habitat is not present in the Study Area. There are no known CNDDB occurrences of this species within five miles of the Study Area.
Chaetodipus fallax fallax northwestern San Diego pocket mouse	None/None G5T3T4/S3S4 MSHCP	Inhabits coastal sage scrub, sagebrush scrub, grasslands, and chaparral communities. Found in open, sandy areas in southwestern California and northern Baja California. Prefers moderately gravelly and rocky substrates.	No potential	Coastal sage scrub and grasslands are not present in the Study Area. There is one CNDDB occurrence of this species within five miles of the Study Area.
Dipodomys merriami parvus San Bernardino kangaroo rat	FE/SCE G5T1/S1 SSC MSHCP	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	No potential	Alluvial scrub habitat/flood plains is not present in the Study Area.
Dipodomys stephensi Stephens' kangaroo rat	FT/ST G2/S3 MSHCP	Found primarily in annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass filaree. Will burrow into firm soil and use the burrows of California ground squirrels and pocket gophers. Occurs only in southern California.	No potential	Buckwheat sagebrush, brome grass, and filaree are not present in the Study Area.
Eumops perotis californicus western mastiff bat	None/None G4G5T4/S3S4 SSC	Occurs in open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.	No potential	Cliff faces, caves, and tall buildings are not present within or adjacent to the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.
Lasiurus xanthinus western yellow bat	None/None G4G5/S3 SSC	Occurs in arid regions of the southwestern United States. Typically found in riparian woodlands, oak or pinyon-juniper woodland, desert wash, palm oasis habitats, and urban or suburban areas. Roosts in trees, often between palm fronds.	No potential	The Study Area does not contain riparian habitat. There are no CNDDB occurrences of this species within five miles of the Study Area.
Lepus californicus bennettii San Diego black-tailed jackrabbit	None/None G5T3T4/S3S4 MSHCP	Occurs in Los Angeles, San Bernardino, Riverside, and San Diego Counties of southern California. Typically found in open shrub habitats. Will also occur in woodland habitats with open understory adjacent to shrublands.	No potential	The shrub habitat is very limited and adjacent to disturbed lands in the Study Area.
Neotoma lepida intermedia San Diego desert woodrat	None/None G5T3T4/S3S4 SSC MSHCP	Occurs in scrub habitats of southern California from San Luis Obispo County to San Diego County.	No potential	No middens were observed during the site visits. There are no CNDDB occurrences of this species within five miles of the Study Area.
Nyctinomops femorosaccus pocketed free-tailed bat	None/None G5/S3 SSC	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.	No potential	Pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, and rocky areas with high cliffs are not present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.
Onychomys torridus ramona southern grasshopper mouse	None/None G5T3/S3 SSC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	No potential	Scrub habitat is not present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.
Perognathus longimembris brevinasus Los Angeles pocket mouse	None/None G5T2/S1S2 SSC MSHCP	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	No potential	Scrub habitat and sandy soils are not present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.
Perognathus longimembris internationalis Jacumba pocket mouse	None/None G5T2T3/S2 SSC	Desert riparian, desert scrub, desert wash, coastal scrub and sagebrush. Rarely found on rocky sites; uses all canopy coverages.	No potential	Desert riparian, desert scrub, and desert wash are not present in the Study Area. There are no CNDDB occurrences of this species within five miles of the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Site	Habitat Suitability/ Observations
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No potential	The Study Area is surrounded by developments and is unlikely to support this species, which needs open, uncultivated ground and a large homerange.

Regional Vicinity refers to within a 9-quad search radius of site.

Status (Federal/State)

FE = Federal Endangered
FT = Federal Threatened
FPE = Federal Proposed Endangered
FPT = Federal Proposed Threatened
FD = Federal Delisted
FC = Federal Candidate
MSHCP = MSHCP Covered
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
SCT = State Candidate Threatened
SR = State Rare
SD = State Delisted
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)
G2 or S2 Imperiled Globally or Subnationally (state)
G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5 Apparently secure, common and abundant
GH or SH Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority
? – Inexact numeric rank

CRPR (CNPS California Rare Plant Rank)

1A = Presumed extirpated in California, and rare or extinct elsewhere
1B = Rare, Threatened, or Endangered in California and elsewhere
2A = Presumed extirpated in California, but common elsewhere
2B= Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Need more information (Review List)
4 = Limited Distribution (Watch List)

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

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Appendix C

Cultural Resources Report

Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012
213-788-4842

January 9, 2025
Project No: 24-16157

Mr. Russel J. Brown
City of Menifee
29844 Haun Road
Menifee, California 92586
Via email: rbrown@cityofmenifee.us

Subject: Cultural Resources Assessment for the Trumble and Watson Warehouse Project City of Menifee, Riverside County, California

Dear Mr. Brown:

The City of Menifee (City) retained Rincon Consultants, Inc (Rincon) to prepare a cultural resources assessment study in support of the Trumble and Watson Warehouse Project (project), located in the City of Menifee. Riverside County, California. This letter report documents the results of the assessment and tasks conducted by Rincon, including a California Historical Resources Information System (CHRIS) records search, a Native American Heritage Commission (NAHC) Sacred Land Files (SLF) search, background research, and a desktop geoarchaeological review of the project site. This study has been completed pursuant to requirements of the California Environmental Quality Act (CEQA) Section 15064.5. The City is the lead agency under CEQA. Methods, results, and recommendations are presented below.

Project Site and Description

The 17.19-acre project site is located in the City of Menifee, Riverside County. The project site encompasses a portion of Section 10 of Township 5 South, Range 3 West on the *Romoland, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle, Specifically, the project site is located on Trumble Road south of the intersection with Watson Road within Assessor's Parcel Numbers 329-240-046, 329-240-048, 329-240-049, and 329-240-051 east of Interstate 215 and Highway 74 (Attachment 1: Figure 1 and Figure 2).

The project site, formerly known as the Trumble Pit Site (or Trumble Road Open Pit), was originally operated as an open pit mine and soil hauling (import and export) facility and has, most recently, been used as a soil and concrete recycling area. The former open pit was subject to rough grading and restoration between 2019 and 2022. The pit restoration involved 5,000 cubic yards (cy) of cut and 207,000 cy of fill import to fill the pit and level the site.

The current project proposes to construct a 328,205-square-foot warehouse building, including 15,000 square-feet of office space and associated parking lot and drive aisles (425 parking spaces, including 333 standard stalls and 92 trailer stalls). Watson Road would be improved while providing safe and adequate access across the railroad tracks to Highway 74.

Methods

This section presents the methods for each task completed during the preparation of this assessment.

Background Research

California Historical Resources Information System Records Search

On December 5, 2024, Rincon conducted a supplemental search of CHRIS at the South Coastal Information Center. The South Coastal Information Center is the official state repository for cultural resources records and reports for Riverside County. Rincon previously completed a CHRIS records search that captured the project site and a 0.5-mile search radius in 2018. The purpose of the 2024 supplemental records search was to obtain any previously recorded cultural resources and previously conducted cultural resources studies within the project site plus a 0.5-mile radius that have been completed since 2018. Rincon also reviewed the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks list, Built Environment Resources Directory, and Archaeological Determination of Eligibility list. Results of the records search can be found in Attachment 2.

Sacred Lands File Search

Rincon contacted the NAHC on November 1, 2024, to request a search of the SLF and a contact list of Native Americans culturally affiliated with the project site vicinity (Attachment 3).

Geoarchaeological Review

A geoarchaeological review was conducted to assess the potential for subsurface archaeological resources to be present within the project site. Sources reviewed as part of this assessment include historical topographic maps, historical aerial photographs, geologic maps, and soil survey maps.

Findings

This section presents the findings of each task completed during the preparation of this assessment.

California Historical Resources Information System Records Search

Previous Cultural Resources Studies

The CHRIS records search results indicate 18 cultural resources studies have been previously conducted within 0.5 mile of the project site between 1989 and 2024 (Attachment 2). None of the studies were conducted within or adjacent to the project site. However, the entire project site has been previously studied by the cultural resources assessment prepared for the Trumble Road Open Restoration Project in 2018 (Hass and Duran 2018). This study is summarized below.

Previous Studies Covering the Project Site

The 2018 *Trumble Road Open Pit Restoration, Cultural Resources Records Search and Archaeological Survey, APN 329-240-046/048/049/051, Menifee, Riverside County, California*, was prepared by Hannah Haas and Christopher Duran for the North Pacific Development, Inc. in June 2018 and consists of a records search and an archaeological field survey of the project site (Hass and Duran 2018). The study was conducted (within the context of the City of Menifee's Tribal Consultation with the Soboba Band of Luiseno Indians [Soboba], pursuant to Assembly Bill 52). The Soboba had requested that a cultural resources records search, archaeological survey, and report be prepared for the Trumble Road Open Pit Restoration Project. The 2018 study encompassed 100 percent of the current project site. The study concluded that due to the level of previous disturbance of the mining pit operation, the project site is not considered to be sensitive for archaeological resources and is

unlikely to impact any previously unrecorded resources. Hass and Duran recommended a standard unanticipated discoveries measure for all project-related ground-disturbing activities (Hass and Duran 2018).

Previously Recorded Cultural Resources

The CHRIS records search identified 10 previously recorded cultural resources within a 0.5-mile radius of the project site (Table 1). All resources identified are historic built environment resources. Two of these (P-33-015743 [California Southern Railway mainline] and P-33-021493 [Watson Road]) are recorded adjacent to the project site. None of these resources were identified within the project site.

Table 1 Previously Recorded Resources within 0.5-Mile of the Project Site

Primary Number and Trinomial	Resource Type	Description	Recording Events	NR/CR Status	Relationship to Project Site
33-007701	Historic Building	Vernacular single-family residence	1982 (W. Hedges)	5D: Contributor to a district or designated locally	Outside
33-015383	Historic Building	Craftsman style single-family residence	2006 (M. Rees)	6; Recommended ineligible for the NR, or CR through survey evaluation	Outside
33-015389	Historic Building	Ranch style single-family residence	2006 (M Rees)	6; Recommended ineligible for the NR, or CR through survey evaluation	Outside
33-020448/ CA-RIV-10349	Historic Road	4th Street	2011 (J. Trampier)	No record of evaluation for NR or CR listing	Outside
33-020449/ CA-RIV-10350	Historic Road	2nd Street	2011 (J. Trampier)	No record of evaluation for NR or CR listing	Outside
33-020450/ CA-RIV-10351	Historic Road	1st Street	2012 (J. Trampier)	No record of evaluation for NR or CR listing	Outside
33-020502/ CA-RIV-10403	Historic Road	Sherman Road	2011 (J. Trampier)	No record of evaluation for NR or CR listing	Outside
33-020503/ CA-RIV-10404	Historic Road	3rd Street	2011 (J. Trampier)	No record of evaluation for NR or CR listing	Outside
33-021493/ CA-RIV-11281	Historic Road	Watson Road	2011 (J. Trampier)	No record of evaluation for NR or CR listing	Adjacent
33-020448/ CA-RIV-10349	Historic Road	4th Street	2011 (J. Trampier)	No record of evaluation for NR or CR listing	Outside

NR = National Register of Historic Places; CR = California Register of Historical Resources

Source: South Coastal Information Center 2018 and December 2024

Sacred Land File Search

On November 23, 2024, the NAHC responded to Rincon's SLF search request, stating the results of the SLF search were positive. See Attachment 3 for the NAHC response.

Geoarchaeological Review

Historical Map and Aerial Photograph Review

Historical maps reviewed include the 1865 and 1877 General Land Office plat map (Bureau of Land Management 2024), the 1901 *Elsinore, California* 30-minute USGS topographic quadrangle, the 1942 15-minute *Perris and Murriata, California* USGS topographic quadrangles, and the 1953 *Perris and Romoland, California* 7.5-minute topographic quadrangles (USGS 2024). Historical aerial photographs of the project site were available for 1938, 1953 (University of California, Santa Barbara 2024), 1966, 1967, 1978, 1985, 1996, 2005, 2010, 2016, 2018, 2020, and 2022 (NETR Online 2024).

The 1865 and 1877 General Land Office plat maps show the project site within the Menifee Valley, immediately east of the San Jacinto Nuevo Land Grant. The maps do not show any development within the project site. The nearest waterway to the project site is the San Jacinto River, which appears on the maps as early as 1865, 1903–1930 topographic maps and is shown approximately 2 miles to the northwest of the project site. The aerial photograph for the year 1938 and 1942 and 1953 topographic maps show the roadway adjacent to the project site to be generally consistent with the layout of present-day Watson Road and Trumble Road. Between 1938, and well into the early 1960s, topographic maps and aerial photographs show the project site and its vicinity as agricultural land. By 1967, the project site was graded and changed from agricultural use to soil mining. The aerial photographs for the years ranging from 1970 to 1990s depict the open mining pit operations. The soil mining activity continued on the project site until 2018, when the pit restoration project started. Overall, the project site has been subject to agricultural use, and excavations of the Trumble Road Open Pit mining activities. The 2022 photograph depicts the project site's current condition following the restoration of the open pit and leveling of the site (NETR Online 2024).

Geologic Map Review

The project site is situated in the Peninsular Ranges, one of the 11 major geomorphic provinces in California (California Geological Survey 2002). The Peninsular Ranges consist of northwest-southeast trending mountain ranges and faults (Norris and Webb 1976). These mountains are comprised of Mesozoic to Cenozoic plutonic and extrusive igneous and Cretaceous marine sedimentary rocks. Specifically, the project site is located in the Perris Valley, which is part of the Perris Block, a geophysical block with low topographic relief which is bounded to the west by the Elsinore Fault Zone and to the east by the San Jacinto Fault Zone (Morton and Miller 2006).

The project site is situated at an elevation of 1,420 feet above mean sea level. The San Jacinto River approximately 2 miles to the west is nearest water source to the project site. the river's headwaters are in the Santa Rosa Mountains and San Jacinto Mountains and northwestern until they empty into Lake Elsinore.

Geologic mapping indicates Quaternary old alluvial fan deposits (Qof) dating to the late to middle Pleistocene epoch (2.58 million years to 11,700 years ago) are mapped at the surface within the project. Quaternary old alluvial fan deposits consist of reddish-brown, moderately to well-consolidated, silt, sand, and gravel, (Morton and Miller 2006). The age of this formation largely pre-dates human occupation of the area. The entire project site has been heavily disturbed and modified by the previous mining operation and soil hauling, which resulted in the removal of native soils through the process of soil import and export as early as 1966 through 2018, this was followed by the Trumble Road Open Pit restoration project, which started in 2019 and involved cut and filling the project site with import soils to restore the open pit and level the site surface. Due to the age of the formation and the extent of disturbances, the likelihood of encountering surface or subsurface archaeological materials is low.

Conclusions and Recommendations

The project proposes the construction of a warehouse building and associated office and parking space. Ground-disturbing excavations associated with the project development may reach the depth of 8 feet for utility line trenching. Excavation for stormwater infrastructure may reach maximum depth of to 20 feet below the current ground surface.

No prehistoric or historic-period archaeological resources were identified within the project site. The geoarchaeological review suggests the likelihood for encountering surface or subsurface archaeological resources is low given the age of the geologic unit mapped at surface within the project site and the previous disturbances by the mining pit operation and restoration. As such, project-related ground disturbance is not likely to encounter intact archaeological resources that may qualify as historical resources or unique archaeological resources pursuant to CEQA, However, unanticipated discoveries during construction remain a possibility. Rincon presents the following recommended mitigation measure for unanticipated discoveries during construction. With adherence to this measure, Rincon recommends a finding of **less-than-significant impact with mitigation for archaeological resources under CEQA**.

Unanticipated Discovery of Cultural Resources

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall halt, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology (National Park Service 1983) shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of California Code of Regulations Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. The City shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the CHRIS, per California Code of Regulations Section 15126.4(b)(3)(C).

Human Remains

No human remains are known to be present within the project site. However, the discovery of human remains is always a possibility during ground-disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the Coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

With adherence to existing regulations, Rincon recommends a finding of less-than-significant impact to human remains under CEQA.

Should you have any questions concerning this study, please do not hesitate to contact Kholood Abdo at 951-405-2351 or kabdo@rinconconsultants.com.

Sincerely,
Rincon Consultants, Inc.



Kholood Abdo, MA, RPA
Senior Supervising Archaeologist



Monica Strauss, MA, RPA
Senior Principal

Attachments

Attachment 1 Figures
Attachment 2 California Historic Resources Information System Search Results
Attachment 3 Sacred Lands File Search Results

References

Bureau of Land Management

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City of Menifee

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1953a Romoland, California, 1:24000 Topographic Map. Accessed November 2024. https://ngmdb.usgs.gov/topoview/viewer/.

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University of California, Santa Barbara

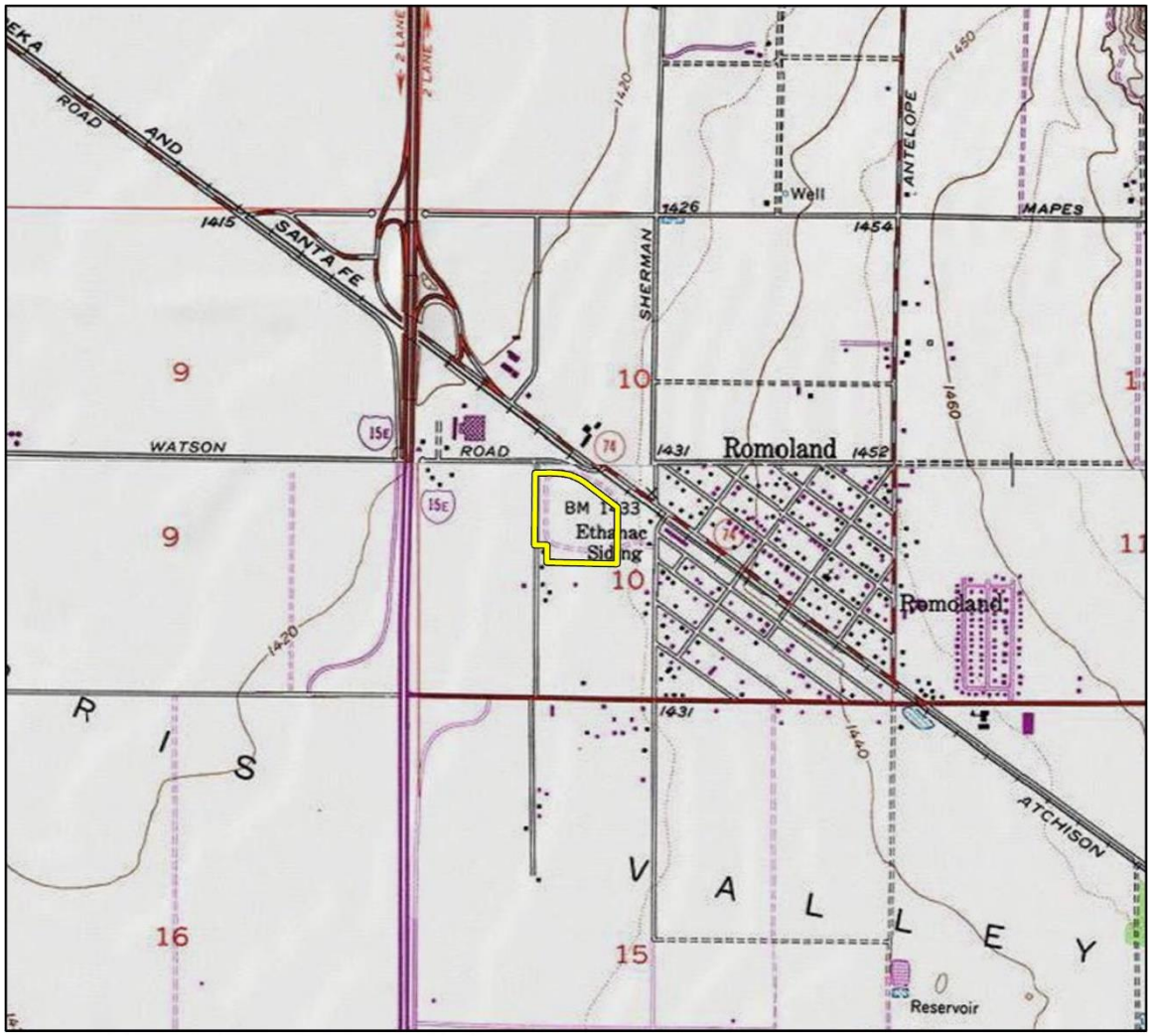
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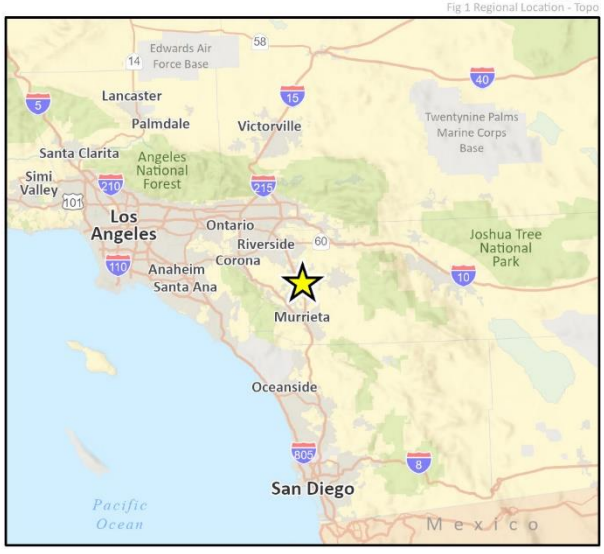
Attachment 1

Figures

Figure 1 Regional Location



Basemap provided by National Geographic Society, Esri and their licensors © 2024. Romoland Quadrangle. T05S R032 S10. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.



Project Location

0 1,000 2,000 Feet

N

Figure 2 Project Location



Imagery provided by Microsoft Bing and its licensors © 2024.

24-16157 CR
Fig 2 Project Location

Attachment 2

California Historic Resources Information System Search Results

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-02475	NADB-R - 1082968; Voided - MF-2707	1989	Christopher E. Drover	A Cultural Resource Inventory of the Menifee North Project, Near Hemet, California	Christopher E. Drover	33-000978, 33-001175, 33-002607, 33-003714
RI-02476	NADB-R - 1083236; Voided - MF-2707	1990	Christopher E. Drover, PhD	A Cultural Resource Inventory: An Addendum to the Menifee North Project near Hemet, California.	Christopher E. Drover, PhD	
RI-04130	NADB-R - 1085318; Voided - MF-4605	1998	MASON, ROGER, PHILIPPE LAPIN, and WAYNE H. BONNER	CULTURAL RESOURCES RECORDS SEARCH AND SURVEY REPORT FOR A PACIFIC BELL MOBILE SERVICES TELECOMMUNICATIONS FACILITY: CM 125-21 CITY OF PERRIS, CALIFORNIA	CHAMBERS GROUP, INC.	
RI-04474	NADB-R - 1085835; Submitter - 01-3	2001	ROBINSON, MARK C.	CULTURAL RESOURCES SURVEY AND ASSESSMENT OF APPROXIMATELY 2.0 ACRES: HCI INCORPORATED 25201A TRUMBLE ROAD PROJECT, PERRIS, RIVERSIDE COUNTY, CALIFORNIA	GREAT LAKES RESEARCH	
RI-04894	NADB-R - 1086261; Submitter - CAP-05-652.ARS	2005	HOOVER, ANNA M. and WILLIAM R. GILLEAN	A PHASE I ARCHAEOLOGICAL SURVEY REPORT ON APNS 327-220-005 & -012 TO -016, +68 ACRES, CITY OF PERRIS, RIVERSIDE COUNTY, CALIFORNIA	L&L ENVIRONMENTAL, INC.	
RI-05799	NADB-R - 1087162	2004	KYLE, CAROLYN E.	CULTURAL RESOURCE ASSESSMENT FOR AT&T WIRELESS FACILITY 950-031-034A, LOCATED AT 25110 TRUMBLE ROAD, CITY OF ROMOLAND, RIVERSIDE COUNTY, CALIFORNIA	KYLE CONSULTING	33-028179
RI-06018	NADB-R - 1087381; Submitter - 1104	2003	Bai Tang, Michael Hogan, Mariam Dahdul, and Daniel Ballester	Historical/Archaeological Resources Survey Report: Menifee Valley North Drainage Facilities Project, In and Near the Communities of Romoland and Homeland, Riverside County, California	CRM TECH	
RI-06239	NADB-R - 1087602; Submitter - CRM TECH CONTRACT #1281	2004	TANG, BAI, MICHAEL HOGAN, and JOSH SMALLWOOD	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR PARCEL NUMBER 329-030-051, NEAR THE UNINCORPORATED COMMUNITY OF ROMOLAND, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-06355	NADB-R - 1087718; Submitter - CONTRACT #1380	2004	TANG, BAI, MICHAEL HOGAN, and MATTHEW WETHERBEE	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: PERRIS VALLEY RWRF EXPANSION, IN THE CITY OF PERRIS, RIVERSIDE COUNTY, CA	CRM TECH	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06888	Submitter - 06-63	2006	Lerch, Michael K. and Gray, Marlesa A.	Cultural Resources Assessment of the Valley-Ivyglen Transmission Line Project, Riverside County, California	Statistical Research, Inc.	33-015346, 33-015347, 33-015348, 33-015349, 33-015350, 33-015351, 33-015352, 33-015353, 33-015354, 33-015355, 33-015356, 33-015357, 33-015358, 33-015359, 33-015360, 33-015361, 33-015362, 33-015363, 33-015364, 33-015365, 33-015375, 33-015376, 33-015377, 33-015378, 33-015379, 33-015380, 33-015416, 33-015417, 33-015418, 33-015419, 33-015420, 33-015422, 33-015423, 33-015424, 33-015425, 33-015427
RI-07397		2006	Lord, Kenneth J.	Phase I Cultural Resources Assessment with Paleontological Records Review CP Business Center Romoland Area, Riverside County, California	MBA	
RI-07407		2007	Jean A. Keller	A Phase I Cultural Resources Assessment of APN 329-030-012 Thru 016, +- 5.0 Acres of Land in Romoland Riverside County, California, USGS Romoland, California Quadrangle, 7.5' Series	Jean A. Keller	
RI-08396		2010	Joan George and Dennid McDougall	Cultural Resources Report for the Sun City Force Main and Recycled Water Project, Riverside County, California.	Applied EarthWorks, Inc.	
RI-08770		2011	Jay K. Sanders	Archaeological Survey Report for SCE's Idle Facilities Removal Project	TD# 525428	
RI-08981	Submitter - Project No. 16720.00	2013	Matthew M. DeCarlo, Scott C. Justus, and William T. Eckhardt	Summary Class III Cultural Resource Inventory, Proposed Southern California Edison Devers-Palo Verde 2 500kV Transmission Line Project, Riverside County, California	ASM Affiliates	33-001383, 33-001811, 33-013572, 33-013576, 33-013588, 33-013589, 33-018117, 33-018118, 33-018119, 33-018120, 33-018121, 33-018137, 33-018138, 33-018150, 33-018153, 33-018157, 33-018158, 33-018166, 33-018171, 33-018172, 33-018175, 33-018178
RI-09002		2014	Bai "Tom" Tang	Letter Report: Update to Historical/ Archaeological Resources Survey Report: Menifee Valley North Drainage Facilities Project, Cities of Menifee and Perris; Unincorporated Homeland and Romoland Areas, Riverside County, California, CRM TECH Contract No. 1104/2771	CRM TECH	33-015743, 33-020504, 33-020644

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-10461	Other - 18142.00	2015	William T. Eckhardt, Matthew M. DeCarlo, Doug Mengers, Sherri Andrews, Don Laylander, and Tony Quach	Archaeological Investigations and Monitoring for the Construction of the Devers-Palo Verde No. 2 Transmission Line Project, Riverside County, California	ASM Affiliates	33-018128, 33-020289, 33-020290, 33-020294, 33-020317, 33-020318, 33-020319, 33-020320, 33-020321, 33-020322, 33-020323, 33-020324, 33-020325, 33-020336, 33-020409, 33-020410, 33-020975, 33-020976, 33-020977, 33-020978, 33-020979, 33-021001, 33-021014, 33-022103, 33-022105, 33-023799
RI-11363		2024	Andrew J. Garrison	Cultural Resources Studt Update for the Ethanaz and Case Project, City of Perris, Riverside County, California APNs 327-220-012 and -044	BFSA Environmental Services	

Attachment 3

Sacred Lands File Search Results

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November 23, 2024

Kholood Abdo
Rincon Consultants, Inc.

Via Email to: kabdo@rinconconsultants.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Trumble and Watson Warehouse Project, Riverside County

To Whom It May Concern:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

- Any report that may contain site forms, site significance, and suggested mitigation measures.

  All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of the Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was positive. Please contact the Pechanga Band of Indians on the attached list for more information.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Manager

Attachment

Native American Heritage Commission
Native American Contact List
Riverside County
11/23/2024

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Riverside	Agua Caliente Band of Cahuilla Indians	F	Lacy Padilla, Director of Historic Preservation/THPO	5401 Dinah Shore Drive Palm Springs, CA, 92264	(760) 333-5222	(760) 699-6919	ACBCI-THPO@aguacaliente.net	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	1/11/2024
	Augustine Band of Cahuilla Indians	F	Tribal Operations,	84-001 Avenue 54 Coachella, CA, 92236	(760) 398-4722		info@augustinetribe-nsn.gov	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	4/18/2024
	Cabazon Band of Cahuilla Indians	F	Doug Welmas, Chairperson	84-245 Indio Springs Parkway Indio, CA, 92203	(760) 342-2593	(760) 347-7880	jstapp@cabazonindians-nsn.gov	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	
	Cahuilla Band of Indians	F	Erica Schenk, Chairperson	52701 CA Highway 371 Anza, CA, 92539	(951) 590-0942	(951) 763-2808	chair@cahuilla-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	2/1/2024
	Cahuilla Band of Indians	F	BobbyRay Esparza, Cultural Director	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		besparza@cahuilla-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	6/28/2023
	Cahuilla Band of Indians	F	Anthony Madrigal, Tribal Historic Preservation Officer	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549		anthonymad2002@gmail.com	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	6/28/2023
	Los Coyotes Band of Cahuilla and Cupeño Indians	F	Ray Chapparosa, Chairperson	P.O. Box 189 Warner Springs, CA, 92086-0189	(760) 782-0711	(760) 782-0712		Cahuilla Cupeno	Imperial,Riverside,San Bernardino,San Diego	
	Morongo Band of Mission Indians	F	Robert Martin, Chairperson	12700 Pumarra Road Banning, CA, 92220	(951) 755-5110	(951) 755-5177	abrierty@morongo-nsn.gov	Cahuilla Serrano	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	
	Morongo Band of Mission Indians	F	Ann Brierty, THPO	12700 Pumarra Road Banning, CA, 92220	(951) 755-5259	(951) 572-6004	abrierty@morongo-nsn.gov	Cahuilla Serrano	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	
	Pala Band of Mission Indians	F	Shasta Gaughen, Tribal Historic Preservation Officer	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3515		sgaughen@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
	Pala Band of Mission Indians	F	Christopher Nejo, Legal Analyst/Researcher	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3564		cnejo@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
	Pala Band of Mission Indians	F	Alexis Wallick, Assistant THPO	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3537		awallick@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
	Pechanga Band of Indians	F	Tuba Ebru Ozdil, Pechanga Cultural Analyst	P.O. Box 2183 Temecula, CA, 92593	(951) 770-6313	(951) 695-1778	eozdil@pechanga-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	8/2/2023
	Pechanga Band of Indians	F	Steve Bodmer, General Counsel for Pechanga Band of Indians	P.O. Box 1477 Temecula, CA, 92593	(951) 770-6171	(951) 695-1778	sbodmer@pechanga-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	8/2/2023
	Quechan Tribe of the Fort Yuma Reservation	F	Jill McCormick, Historic Preservation Officer	P.O. Box 1899 Yuma, AZ, 85366	(928) 261-0254		historicpreservation@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	5/16/2023
	Quechan Tribe of the Fort Yuma Reservation	F	Jordan Joaquin, President, Quechan Tribal Council	P.O.Box 1899 Yuma, AZ, 85366	(760) 919-3600		executivesecretary@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	5/16/2023
	Quechan Tribe of the Fort Yuma Reservation	F	Manfred Scott, Acting Chairman - Kw'ts'an Cultural Committee	P.O. Box 1899 Yuma, AZ, 85366	(928) 210-8739		culturalcommittee@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	5/16/2023
	Ramona Band of Cahuilla	F	Joseph Hamilton, Chairperson	P.O. Box 391670 Anza, CA, 92539	(951) 763-4105	(951) 763-4325	admin@ramona-nsn.gov	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	
	Rincon Band of Luiseno Indians	F	Denise Turner Walsh, Attorney General	One Government Center Lane Valley Center, CA, 92082	(760) 689-5727		dwalsh@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	7/7/2023
	Rincon Band of Luiseno Indians	F	Joseph Linton, Tribal Council/Culture Committee Member	One Government Center Lane Valley Center, CA, 92082	(760) 803-3548		jlinton@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	5/31/2023
	Rincon Band of Luiseno Indians	F	Cheryl Madrigal, Cultural Resources Manager/Tribal Historic Preservation Officer	One Government Center Lane Valley Center, CA, 92082	(760) 648-3000		cmadrigal@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	5/31/2023
	Rincon Band of Luiseno Indians	F	Laurie Gonzalez, Tribal Council/Culture Committee Member	One Government Center Lane Valley Center, CA, 92082	(760) 484-4835		lgonzalez@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	5/31/2023
	Santa Rosa Band of Cahuilla Indians	F	Vanessa Minott, Tribal Administrator	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	vminott@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	4/8/2024
	Santa Rosa Band of Cahuilla Indians	F	Steven Estrada, Tribal Chairman	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	(951) 659-2228	sestrada@santarosa-nsn.gov	Cahuilla	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	4/8/2024
	Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-6261	(951) 654-4198	jvaldez@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023
	Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-5279	(951) 654-4198	jontiveros@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023
	Torres-Martinez Desert Cahuilla Indians	F	Alesia Reed, Cultural Committee Chairwoman	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300		lisareed990@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023
	Torres-Martinez Desert Cahuilla Indians	F	Gary Resvaloso, TM MLD	P.O. Box 1160 Thermal, CA, 92274	(760) 777-0365		grestmtm@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023
	Torres-Martinez Desert Cahuilla Indians	F	Thomas Tortez, Chairperson	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300	(760) 397-8146	thomas.tortez@tmdci.org	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023
	Torres-Martinez Desert Cahuilla Indians	F	Abraham Becerra, Cultural Coordinator	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300		abecerra@tmdci.org	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023
	Torres-Martinez Desert Cahuilla Indians	F	Mary Belardo, Cultural Committee Vice Chair	P.O. Box 1160 Thermal, CA, 92274	(760) 397-0300		belardom@gmail.com	Cahuilla	Imperial,Riverside,San Bernardino,San Diego	10/30/2023

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Trumble and Watson Warehouse Project, Riverside County.

Record: PROJ-2024-006072
Report Type: AB52 GIS
Counties: Riverside
NAHC Group: All

Appendix D

Geotechnical Investigation

May 17, 2022 Project No. 17172-02

Mr. Ted Hart
Lovett Industrial
1730 East Holly Avenue, #808
El Segundo, California 90245

Subject: ***Updated Geotechnical Recommendations for Proposed Industrial Development, 25630 Trumble Road, Menifee, California***

In accordance with your request, LGC Geotechnical, Inc. has prepared this updated geotechnical report regarding the proposed industrial development of the property located at 25630 Trumble Road in Menifee, California.

Should you have any questions regarding this report, please do not hesitate to contact our office. We appreciate this opportunity to be of service.

Respectfully,

LGC Geotechnical, Inc.





Ryan L. Douglas, GE 3147
Project Engineer





Kevin B. Colson, CEG 2210
Vice President

KBC/RLD/klr

Distribution: (5) Addressee (4 wet-signed copies and 1 electronic copy)

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1.0 INTRODUCTION

LGC Geotechnical has previously performed a geotechnical evaluation of the site and provided geotechnical recommendations for remedial grading and backfill for the open pit restoration at the site (LGC Geotechnical, 2018). We are also providing geotechnical observation and testing services during the in-progress grading operations for the pit backfill. This report has been prepared to provide recommendations for the proposed development of the site at the completion of site grading.

Although recommendations and parameters for site development were provided in our previous report (LGC Geotechnical, 2018), they were conceptual only and were per the 2016 California Building Code (CBC). The recommendation and parameters provided herein are specific to the current proposed site development and are updated to the 2019 CBC.

This report is not a stand-alone document and must be used in conjunction with the referenced geotechnical report (LGC Geotechnical, 2018) for completeness. In the case of conflict, the recommendations contained herein should supersede those provided in our previous report. The remaining recommendations provided in our previous geotechnical report (LGC Geotechnical, 2018) remain valid and applicable.

1.1 Project Description

The approximately 17.8-acre, irregular-shaped site is located just southeast of the intersection at Interstate 215 (I-215) and Highway 74 (CA-74). The site is bounded by Trumble Road to the west, an industrial welding building and empty lot to the north, a food waste recycling center to the east, and residential housing to the south (Figure 1). The site was originally used as an open pit mine and more recently was used as a soils and concrete recycling area.

Remedial grading and backfill grading of the pit began in April of 2019. The operations have been performed periodically since then under the observation and testing services of LGC Geotechnical. The operations to date have been performed in general accordance with the recommendations of the project geotechnical report (LGC Geotechnical, 2018). We understand that ultimately, the pit will be backfilled with compacted fill to the approximate elevation of the adjacent Trumble Road.

Once finish grade has been achieved, we understand that the proposed site development will include precise and post grading for and construction of an approximately 327,865 square-foot, one-story industrial warehouse, associated parking, drive isles, and improvements (HPA, 2022).

We understand that preliminary maximum column and wall structural (dead plus live) loads are estimated to be on the order of 90 kips and 9 kips per lineal foot, respectively.

The recommendations provided in this report are based on preliminary structural loads and grading information as indicated above. LGC Geotechnical should be provided with any updated project information, plans, and/or updated structural loads as they become available in order to either confirm or modify the recommendations provided herein.

1.2 Seismic Design Parameters

The site seismic characteristics were evaluated per the guidelines set forth in Chapter 16, Section 1613 of the 2019 California Building Code (CBC) and applicable portions of ASCE 7-16 which has been adopted by the CBC. Please note that the following seismic parameters are only applicable for code-based acceleration response spectra and are not applicable for where site-specific ground motion procedures are required by ASCE 7-16. Representative site coordinates of latitude 33.7485 degrees north and longitude -117.1822 west were utilized in our analysis. The maximum considered earthquake (MCE) spectral response accelerations (S_{MS} and S_{M1}) and adjusted design spectral response acceleration parameters (S_{DS} and S_{D1}) for Site Class D are provided in Table 1 on the following page. Since site soils are Site Class D, additional adjustments are required to code acceleration response spectrums as outlined below and provided in ASCE 7-16. The structural designer should contact the geotechnical consultant if structural conditions (e.g., number of stories, seismically isolated structures, etc.) require site-specific ground motions.

A deaggregation of the PGA based on a 2,475-year average return period (MCE) indicates that an earthquake magnitude of 6.94 at a distance of approximately 16.21 km from the site would contribute the most to this ground motion (USGS, 2014).

Section 1803.5.12 of the 2019 CBC (per Section 11.8.3 of ASCE 7) states that the maximum considered earthquake geometric mean (MCE_G) Peak Ground Acceleration (PGA) should be used for liquefaction potential. The PGA_M for the site is equal to 0.55g (SEAOC, 2022). The design PGA is equal to 0.37g (2/3 of PGA_M).

TABLE 1

Seismic Design Parameters

Selected Parameters from 2019 CBC, Section 1613 - Earthquake Loads	Seismic Design Values	Notes/Exceptions
Distance to applicable faults classifies the site as a "Near-Fault" site.		Section 11.4.1 of ASCE 7
Site Class	D*	Chapter 20 of ASCE 7
Ss (Risk-Targeted Spectral Acceleration for Short Periods)	1.424g	From SEAOC, 2022
S_1 (Risk-Targeted Spectral Accelerations for 1-Second Periods)	0.529g	From SEAOC, 2022
F_a (per Table 1613.2.3(1))	1.000	For Simplified Design Procedure of Section 12.14 of ASCE 7, F_a shall be taken as 1.4 (Section 12.14.8.1)
F_v (per Table 1613.2.3(2))	1.771	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
S_{MS} for Site Class D [Note: $S_{MS} = F_aS_S$]	1.424g	-
S_{M1} for Site Class D [Note: $S_{M1} = F_vS_1$]	0.937g	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
S_{DS} for Site Class D [Note: $S_{DS} = (^2/_3)S_{MS}$]	0.949g	-
S_{D1} for Site Class D [Note: $S_{D1} = (^2/_3)S_{M1}$]	0.625g	Value is only applicable per requirements/exceptions per Section 11.4.8 of ASCE 7
C_{RS} (Mapped Risk Coefficient at 0.2 sec)	0.935	ASCE 7 Chapter 22
C_{R1} (Mapped Risk Coefficient at 1 sec)	0.918	ASCE 7 Chapter 22
*Since site soils are Site Class D and S_1 is greater than or equal to 0.2, the seismic response coefficient Cs is determined by Eq. 12.8-2 for values of $T \leq 1.5T_s$ and taken equal to 1.5 times the value calculated in accordance with either Eq. 12.8-3 for $T_L \geq T > T_s$, or Eq. 12.8-4 for $T > T_L$. Refer to ASCE 7-16.		

2.0 FINDINGS AND CONCLUSIONS

Based on review of our previous geotechnical evaluation (LGC Geotechnical, 2018), the results of our geotechnical observation and testing services performed to date, and review of the proposed development plan (HPA, 2022), it is our opinion that the proposed site development is feasible from a geotechnical standpoint, provided that the grading operations continue to be performed in accordance with the recommendations of the project geotechnical report (LGC Geotechnical, 2018) or as revised and/or updated herein. In the case of conflict, the recommendations provided herein shall supersede all previous.

3.0 RECOMMENDATIONS

The following recommendations are to be considered preliminary and should be confirmed upon completion of earthwork operations. In addition, they should be considered minimal from a geotechnical viewpoint, as there may be more restrictive requirements from the architect, structural engineer, building codes, governing agencies, or the City. It is the responsibility of the builder to ensure these recommendations are provided to the appropriate parties.

It should be noted that the following geotechnical recommendations are intended to provide sufficient information to develop the site in general accordance with the 2019 California Building Code (CBC) requirements. Regarding the potential occurrence of potentially catastrophic geotechnical hazards such as fault rupture, earthquake-induced landslides, liquefaction, etc., the following geotechnical recommendations should provide adequate protection for the proposed development to the extent required to reduce seismic risk to an "acceptable level." The "acceptable level" of risk is defined by the California Code of Regulations as "the level that provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project" [Section 3721(a)]. Therefore, repair and remedial work of the proposed improvement may be required after a significant seismic event. With regards to the potential for less significant geologic hazards to the proposed development, the recommendations contained herein are intended as a reasonable protection against the potential damaging effects of geotechnical phenomena such as expansive soils, fill settlement, groundwater seepage, etc. It should be understood, however, that although our recommendations are intended to maintain the structural integrity of the proposed development and structures given the site geotechnical conditions, they cannot preclude the potential for some cosmetic distress or nuisance issues to develop as a result of the site geotechnical conditions.

The geotechnical recommendations contained herein must be confirmed to be suitable or modified based on the actual exposed conditions.

3.1 Site Earthwork

We anticipate that earthwork at the site will consist of required earthwork removals, fill placement, and utility line construction and backfill. We recommend that earthwork onsite continue to be performed in accordance with the project geotechnical report (LGC Geotechnical, 2018), 2019 CBC, and City of Menifee requirements. In case of conflict, the following recommendations shall supersede previous recommendations.

As previously recommended; from a geotechnical viewpoint, "select" import soils would be preferable in the upper 15 feet of the finish surface of the area of proposed development. These soils should consist of clean, relatively granular soils of Very Low expansion potential (expansion index 20 or less based on ASTM D4829) and no particles larger than 3 inches in greatest dimension. Source samples of planned importation of select materials should be provided to the geotechnical consultant for laboratory testing a minimum of 3 working days prior to any planned importation for required laboratory testing. The recommendations and parameters provided herein are contingent upon implementation of this select import. The geotechnical properties of the material placed in the upper 15 feet of site grades should be confirmed prior to import, during site grading and based on laboratory testing of the finish grade soils.

3.2 Settlement Waiting Period for Deep Fills

Where overlying deep fills (generally 50 feet deep or greater), shallow footings and slabs-on-grade foundations should be constructed after a waiting period to verify that total settlements are within tolerable limits. Please note, that it is very difficult to predict the settlement waiting period.

3.2.1 Settlement Monuments and Monitoring

Fill soils are subject to post-grading settlement. For shallower fills (up to approximately 50 feet deep), fill settlement typically occurs during grading for granular soils, and/or within a few months of the completion of grading. Longer settlement periods are expected for deeper fill and for those comprised of finer-grained soils and deeper fills. This occurs even to properly compacted fill soils over competent removal bottoms. Development areas above areas of deep fill should not be released for construction until settlement monitoring indicates settlement has diminished to within the tolerable limits for the proposed foundations and other structural improvements.

Settlement monuments must be installed after grading, in order to monitor settlement of deeper fills (approximately 50 feet or deeper). We anticipated that three surface settlement monuments will be required. The monuments should be installed in accordance with the details provided in Appendix C of our referenced report (LGC Geotechnical, 2018). The monuments installation should be performed by or under the observation of the project geotechnical consultant. The approximate locations for recommended monuments are depicted on the attached Settlement Monument Location Map (Figure 2); the actual installation locations may vary at the discretion of the geotechnical consultant, based on as-graded conditions. Settlement monuments should be installed as site grading is completed.

At the completion of their construction, the monuments should be surveyed by a licensed surveyor to a fixed benchmark, preferably within Trumble Road. Other locations may be considered but must ultimately be approved by the geotechnical consultant. All survey must be performed by a digital level capable of reading to an accuracy of at least 0.001-foot. The survey must be performed by an experienced surveyor who has previously performed level surveys to this level of precision. The survey must close to 0.004-feet per mile. All surveys must take place early in the morning in good weather for survey work. The geotechnical consultant will determine the appropriate survey schedule, but the schedule may be varied slightly by the surveyor based on anticipated weather.

The monuments should then be monitored periodically at regular intervals (four times in the first two months, twice in the third month, and then once a month thereafter until informed otherwise by the geotechnical consultant). The readings should be provided to this office and continue until total settlements are within tolerable limits. The frequency of the readings may be adjusted during the monitoring period based on results of the readings.

3.2.2 Preliminary Foundation Recommendations

The proposed structures may be supported on spread or continuous footings and conventional slabs, provided earthwork is performed in accordance with the recommendations presented in this report. Since the finish grade site soils are anticipated to be "Very Low" expansion potential (EI of 20 or less per ASTM D4829), special design considerations from a geotechnical perspective are not anticipated, however, this must be verified based on as-graded conditions. Footings should be supported on properly compacted fill. Please note that the following foundation recommendations are preliminary and must be confirmed by LGC Geotechnical at the completion of grading.

Preliminary foundation recommendations are provided in the following sections. The foundation design must be performed by the structural engineer based on the following geotechnical parameters and minimum values provided.

3.2.3 Slab Design and Construction

From a geotechnical perspective, minimum slab thicknesses of 6 inches and 4 inches are recommended for new slabs in the warehouse areas and office areas, respectively. Slabs are to be supported on compacted fill soils properly prepared in accordance with the recommendations provided in this report. Actual slab reinforcement and thickness should be determined by the structural engineer based on the imposed loading. Additional slab-on-grade recommendations can be provided for alternative building types upon request.

The foundation designer may use a modulus of vertical subgrade reaction (k) of 200 pounds per cubic inch (pounds per square inch per inch of deflection). This value is for a 1-foot by 1-foot square loaded area and should be adjusted by the structural designer for the area of the proposed footing using the following formula:

$k = 200 \times [(B+1)/2B]^2$
k = modulus of vertical subgrade reaction, pounds per cubic inch (pci)
B = foundation width (feet)

It is recommended that subgrade soils below slabs be moisture conditioned in order to maintain the recommended moisture content up to the time of concrete placement. The recommended moisture content of the slab subgrade soils should be between optimum moisture content and approximately 2 percent above optimum moisture content to a minimum depth of 12 inches. The moisture content of the slab subgrade should be verified by the geotechnical consultant within 1 to 2 days prior to concrete placement. In addition, this moisture content should be maintained around the immediate perimeter of the slab during construction and up to occupancy of the building structures.

The following recommendations are for informational purposes only, as they are unrelated to the geotechnical performance of the foundation. The following recommendations may be superseded by the foundation engineer and/or owner. Some post-construction moisture migration should be expected below the foundation. In

general, interior floor slabs with moisture sensitive floor coverings should be underlain by a minimum 10 mil thick polyolefin material vapor retarder, which has a water vapor transmission rate (permeance) of less than 0.03 perms. The need for sand and/or the sand thickness (above and/or below the vapor retarder) should be specified by the structural engineer, architect or concrete contactor. The selection and thickness of sand is not a geotechnical engineering issue and is therefore outside our purview.

3.2.4 Foundation Design Parameters

For the proposed industrial warehouse structures, minimum continuous wall and column footing widths are to be 12 inches and 24 inches, respectively, minimum exterior foundation embedment is to extend a minimum of 18 inches below the adjacent exterior grade, and interior column footings should be embedded a minimum of 12 inches beneath the adjacent subgrade. The following allowable bearing pressures for both continuous and column spread footings presented in Table 2 below are recommended for corresponding footing widths and embedments.

TABLE 2

Allowable Soil Bearing Pressures

Allowable Static Bearing Pressure (psf)	Minimum Footing Width (feet)	Minimum Footing Embedment* (feet)
3,500	4	2
3,000	3	2
2,500	2	1.5
2,000	1	1.5

* Refers to minimum depth measured below lowest adjacent grade.

These allowable bearing values indicated above (exclusive of the weight of the footings) are for total dead loads and frequently applied live loads and may be increased by ⅓ for short duration loading (i.e., wind or seismic loads). The allowable bearing pressures are applicable for level (ground slope equal to or flatter than 5H:1V) conditions only.

In utilizing the above-mentioned allowable bearing capacity and provided our earthwork recommendations are implemented, foundation settlement due to structural loads is anticipated to be on the order of 1-inch. Differential static settlement may be taken as half of the static settlement (i.e., ½-inch over a horizontal span of 40 feet). Liquefaction recommendations are provided in reference geotechnical report (LGC Geotechnical, 2018). Liquefaction potential and potential for liquefaction-induced settlement is considered very low.

3.2.5 Foundation Construction

The foundation is to be excavated into competent compacted artificial fill placed during grading operations. It is recommended that the foundation subgrade soils be evaluated by the geotechnical engineer prior to steel and/or concrete placement.

The geotechnical parameters provided herein assume that if the areas adjacent to the foundations are planted and irrigated, these areas will be designed with proper drainage and adequately maintained so that ponding, which causes significant moisture changes below the foundation, does not occur. Our recommendations do not account for excessive irrigation and/or incorrect landscape design. Plants should only be provided with sufficient irrigation for life and not overwatered to saturate subgrade soils. Sunken planters placed adjacent to the foundation should either be designed with an efficient drainage system or liners to prevent moisture infiltration below the foundation.

3.2.6 Lateral Load Resistance

Resistance to lateral loads can be provided by friction acting at the base of foundations and by passive earth pressure. For concrete/soil frictional resistance, an allowable coefficient of friction of 0.35 may be assumed with dead-load forces. An allowable passive lateral earth pressure of 250 psf per foot of depth (or pcf) to a maximum of 2,500 psf may be used for the sides of footings poured against properly compacted fill. Allowable passive pressure may be increased to 340 pcf (maximum of 3,400 psf) for short duration seismic loading. This passive pressure is applicable for level (ground slope equal to or flatter than 5H:1V) conditions. Frictional resistance and passive pressure may be used in combination without reduction. We recommend that the upper foot of passive resistance be neglected if finished grade will not be covered with concrete or asphalt. The provided allowable passive pressures are based on a factor of safety of 1.5 and 1.1 for static and seismic loading conditions, respectively.

3.3 Lateral Earth Pressures for Retaining Walls

The following preliminary lateral earth pressures may be used for any minor site retaining walls 8 feet or less. Lateral earth pressures are provided as equivalent fluid unit weights, in pound per square foot (psf) per foot of depth or pcf. These values do not contain an appreciable factor of safety, so the retaining wall designer should apply the applicable factors of safety and/or load factors during design.

The following lateral earth pressures are presented on Table 3 on the following page for approved select granular soils with a maximum of 35 percent fines (passing the No. 200 sieve per ASTM D-421/422) and Very Low expansion potential (EI of 20 or less per ASTM D4829). The wall designer should clearly indicate on the retaining wall plans the required sandy soil backfill criteria.

TABLE 3

Lateral Earth Pressures – Select Sandy Backfill

Conditions	Equivalent Fluid Unit Weight (pcf)	
	Level Backfill	2:1 Backfill Sloping Upwards
	Sandy Backfill	Sandy Backfill
Active	35	55
At-Rest	55	75

If the wall can yield enough to mobilize the full shear strength of the soil, it can be designed for "active" pressure. If the wall cannot yield under the applied load, the earth pressure will be higher. Such walls should be designed for "at-rest." The equivalent fluid pressure values assume free-draining conditions. Retaining wall structures should be provided with appropriate drainage and appropriately waterproofed (Refer to Figure 3). Please note that waterproofing and outlet systems are not the purview of the geotechnical consultant. If conditions other than those assumed above are anticipated, the equivalent fluid pressure values should be provided on an individual-case basis by the geotechnical consultant.

Surcharge loading effects from any adjacent structures should be evaluated by the retaining wall designer. In general, structural loads within a 1:1 (horizontal to vertical) upward projection from the bottom of the proposed retaining wall footing will surcharge the proposed retaining structure. In addition to the recommended earth pressure, retaining walls adjacent to streets should be designed to resist vehicular traffic if applicable. Uniform surcharges may be estimated using the applicable coefficient of lateral earth pressure using a rectangular distribution. A factor of 0.5 and 0.33 may be used for at-rest and active conditions, respectively. The vertical traffic surcharge may be determined by the structural designer. The structural designer should contact the geotechnical engineer for any required geotechnical input in estimating any applicable surcharge loads.

If required, the retaining wall designer may use a seismic lateral earth pressure increment of 10 pcf. This increment should be applied in addition to the provided static lateral earth pressure using a "normal" triangular distribution with the resultant acting at H/3 in relation to the base of the retaining structure (where H is the retained height). For the restrained, at-rest condition, the seismic increment may be added to the applicable active lateral earth pressure (in lieu of the at-rest lateral earth pressure) when analyzing short duration seismic loading. Per Section 1803.5.12 of the 2019 CBC, the seismic lateral earth pressure is applicable to structures assigned to Seismic Design Category D through F for retaining wall structures supporting more than 6 feet of backfill height. This seismic lateral earth pressure is estimated using the procedure outlined by the Structural Engineers Association of California (Lew, et al, 2010).

Soil bearing and lateral resistance (friction coefficient and passive resistance) are provided in the "Foundation Design Parameters" Section. Earthwork considerations (temporary backcuts, backfill, compaction, etc.) for retaining walls are provided in the reference geotechnical report

(LGC Geotechnical 2018).

3.4 Preliminary Asphalt Concrete Pavement Sections

For the purposes of these preliminary recommendations, we used an estimated R-value of 40 and calculated pavement sections for Traffic Indices of 5.0 (or less) and 7.0. R-value testing of the drive aisle and parking subgrade will need to be performed to confirm our preliminary testing results/assumptions once the drive aisles and parking areas have been graded to finish subgrade elevations and the final Traffic Index is determined by the Civil Engineer. Determination of the Traffic Index is not the purview of the geotechnical consultant. The City of Menifee may have more stringent minimum pavement sections. Final street sections should be confirmed by the project civil engineer based upon the projected design Traffic Index. If requested, LGC Geotechnical will provide sections for alternate TI values.

TABLE 4

Preliminary Asphalt Concrete Pavement Sections

Assumed Traffic Index	5.0 (or less)	7.0
R -Value Subgrade	40	40
AC Thickness	4.0 inches	4.0 inches
CAB Thickness	4.0 inches	7.0 inches

The thicknesses shown are minimum thicknesses. Increasing the thickness of any or all of the above layers will reduce the likelihood of the pavement experiencing distress during its service life. The above recommendations are based on the assumption that proper maintenance and irrigation of the areas adjacent to the roadway will occur through the design life of the pavement. Failure to maintain a proper maintenance and/or irrigation program may jeopardize the integrity of the pavement.

Aggregate base material (crushed aggregate base and crushed miscellaneous base) should be compacted to a minimum of 95 percent relative compaction at or slightly above optimum moisture content per ASTM D1557. Subgrade below aggregate base should be compacted to a minimum of 90 percent relative compaction, or the City of Menifee specifications, at or slightly above optimum moisture content per ASTM D1557. Earthwork recommendations are provided in the reference report (LGC Geotechnical, 2018).

3.5 Preliminary Portland Cement Concrete Pavement Sections

For the purposes of these preliminary recommendations, we used an estimated R-value of 40. Preliminary minimum Portland Cement Concrete (PCC) pavement street sections are provided in Table 5 on the following page for Traffic Indices of 5.0 (or less), 6.0, and 7.0 and may be utilized in the design of the truck parking/circulation areas or loading docks. These recommendations must be confirmed with R-value testing of representative near-surface soils at the completion of grading and after underground utilities have been installed and backfilled. Final street sections

should be confirmed by the project civil engineer based upon the projected design Traffic Index. If requested, LGC Geotechnical will provide sections for alternate TI values. The appropriate paving section must be selected by the project civil engineer/client based on design traffic indexes.

TABLE 5

Preliminary PCC Pavement Sections

Provided Traffic Index	5.0 (or less)	6.0	7.0
R -Value Subgrade	40	40	40
PCC Thickness	5.0 inches	6.0 inches	7.0 inches
95% Compacted Subgrade	12.0 inches	12.0 inches	12.0 inches

For preliminary planning purposes, the PCC pavement sections may consist of a minimum of concrete over subgrade soils compacted to 95 percent relative compaction (see Table 5 for section thicknesses). The concrete should have a minimum compressive strength of 3,000 psi and a minimum flexural strength of 475 psi at the time the pavement is subjected to traffic. Steel reinforcement is not required (ACI, 2017). The provided pavement sections assume that edge restraints like a curb and gutter will be provided. To reduce the potential (but not eliminate) for cracking, paving should provide control joints at regular intervals in each direction. The maximum joint spacing within all PCC pavements is recommended to be equal to or less than 30 times the pavement thickness; however, we recommend joint spacing not exceed 15 feet in each direction. Joints should be a depth of 1/3 of the concrete thickness. Decreasing the spacing of these joints will further reduce, but not eliminate the potential for unsightly cracking.

If semi-trailers are to be disconnected from the tractors from dolly jacks the design should consider concentrated loads imposed on the concrete pavement. These loads typically exceed the axle loads of the semi-trailer combination and are applied to smaller contact areas, especially if applied near joint locations. If these irregular loadings are confined to specific areas of the site, the pavement section required thickness can be economized. These and other factors (e.g., traffic patterns, irregular loading, doweled vs un-doweled joints, etc.) outlined in ACI, 2017 should be addressed for the final design.

The thicknesses shown are minimum thicknesses. Increasing the thickness of any or all of the above layers will reduce the likelihood of the pavement experiencing distress during its service life. The above recommendations are based on the assumption that proper maintenance and irrigation of the areas adjacent to the roadway will occur through the design life of the pavement. Failure to maintain a proper maintenance and/or irrigation program may jeopardize the integrity of the pavement.

Subgrade below the PCC pavement should be compacted to a minimum of 95 percent relative compaction per ASTM D1557 near optimum moisture content (generally within optimum and 2 percent above optimum moisture content). Earthwork recommendations are provided in the reference report (LGC Geotechnical, 2018).

3.6 Soil Corrosivity

Although not corrosion engineers (LGC Geotechnical is not a corrosion consultant), several governing agencies in Southern California require the geotechnical consultant to determine the corrosion potential of soils to buried concrete and metal facilities. However, grading within the subject site has yet to be completed and is likely to be/has been graded using multiple sources of imported materials. Therefore, testing should be performed at the completion of grading.

3.7 Nonstructural Concrete Flatwork

Nonstructural concrete (such as flatwork, sidewalks, etc.) has a potential for cracking due to changes in soil volume related to soil-moisture fluctuations. To reduce the potential for excessive cracking and lifting, concrete should be designed in accordance with the minimum guidelines outlined below. These guidelines will reduce the potential for irregular cracking and promote cracking along construction joints but will not eliminate all cracking or lifting. Thickening the concrete and/or adding additional reinforcement will further reduce cosmetic distress.

Nonstructural and non-vehicular concrete flatwork placed on compacted non-expansive subgrade may be a minimum 4-inches in thickness with crack control joints spaced 8 feet apart for flatwork slabs and 6 feet apart for flatwork sidewalks. Crack control joints should be sawcut or deep open tool joint to a minimum of 1/3 the concrete thickness. The compacted subgrade below the nonstructural and non-vehicular concrete flatwork should be wet down prior to placing concrete.

To reduce the potential for nonstructural concrete flatwork to separate from entryways and doorways, the owner may elect to install dowels to tie these two elements together.

3.8 Surface Drainage and Landscaping

3.8.1 Precise Grading

From a geotechnical perspective, we recommend that compacted finished grade soils adjacent to proposed structures be sloped away from the proposed building structures and towards an approved drainage device or unobstructed swale. Drainage swales, wherever feasible, should not be constructed within 5 feet of buildings. Where lot and building geometry necessitates that drainage swales be routed closer than 5 feet to structural foundations, we recommend the use of area drains together with drainage swales. Drainage swales used in conjunction with area drains should be designed by the project civil engineer so that a properly constructed and maintained system will prevent ponding within 5 feet of the foundation. Code compliance of grades is not the purview of the geotechnical consultant.

Planters with open bottoms adjacent to buildings should be avoided. Planters should not be designed adjacent to buildings unless provisions for drainage, such as catch basins, liners, and/or area drains, are made. Overwatering must be avoided.

3.8.2 Landscaping

Planters adjacent to a building or structure should be avoided wherever possible or be properly designed (e.g., lined with a membrane), to reduce the penetration of water into the adjacent footing subgrades and thereby reduce moisture-related damage to the foundation. Planting areas at grade should be provided with appropriate positive drainage. Wherever possible, exposed soil areas should be above adjacent paved grades to facilitate drainage. Planters should not be depressed below adjacent paved grades unless provisions for drainage, such as multiple depressed area drains, are constructed. Adequate drainage gradients, devices, and curbing should be provided to prevent runoff from adjacent pavement or walks into the planting areas. Irrigation methods should promote uniformity of moisture in planters and beneath adjacent concrete flatwork. Overwatering and underwatering of landscape areas must be avoided. Irrigation levels should be kept to the absolute minimum level necessary to maintain healthy plant life.

Area drain inlets should be maintained and kept clear of debris in order to properly function. Owners and property management personnel should also be made aware that excessive irrigation of neighboring properties can cause seepage and moisture conditions. Owners and property management personnel should be furnished with these recommendations communicating the importance of maintaining positive drainage away from structures, towards streets, when they design their improvements.

The impact of heavy irrigation or inadequate runoff gradients can create perched water conditions. This may result in seepage or shallow groundwater conditions where previously none existed. Maintaining adequate surface drainage and controlled irrigation will significantly reduce the potential for nuisance-type moisture problems. To reduce differential earth movements such as heaving and shrinkage due to the change in moisture content of foundation soils, which may cause distress to a structure and associated improvements, moisture content of the soils surrounding the structure should be kept as relatively constant as possible.

3.9 Subsurface Water Infiltration

Recent regulatory changes have occurred that mandate that storm water be infiltrated below grade rather than collected in a conventional storm drain system. Typically, a combination of methods is implemented to reduce surface water runoff and increase infiltration including; permeable pavements/pavers for roadways and walkways, directing surface water runoff to grass-lined swales, retention areas, and/or drywells, etc.

It should be noted that collecting and concentrating surface water for the purpose of intentional infiltration below grade, conflicts with the geotechnical engineering objective of directing surface water away from slopes, structures and other improvements. The geotechnical stability and integrity of a site is reliant upon appropriately handling surface water. In general, the vast

majority of geotechnical distress issues are directly related to improper drainage. In general, distress in the form of movement of improvements could occur as a result of soil saturation and loss of soil support, expansion, internal soil erosion, collapse and/or settlement.

At completion, the proposed development will consist almost entirely of compacted fill soils, we do not recommend that surface water be intentionally infiltrated into subsurface soils.

3.10 Geotechnical Plan Review

Grading, foundation and any retaining wall plans, and final project drawings should be reviewed by this office prior to construction to verify that our geotechnical recommendations, provided herein, have been appropriately incorporated. Additional or modified geotechnical recommendations may be required based on the proposed layout.

3.11 Geotechnical Observation and Testing During Construction

The recommendations provided in this report are based on limited subsurface observations and geotechnical analysis. The interpolated subsurface conditions should be checked in the field during construction by a representative of LGC Geotechnical. Geotechnical observation and testing are required per Section 1705 of the 2019 California Building Code (CBC).

Geotechnical observation and/or testing should be performed by LGC Geotechnical at the following stages:

- During grading (removal bottoms, fill placement, etc.);
- During utility trench and any retaining wall backfill and compaction;
- Preparation of pavement subgrade and placement of aggregate base;
- After building/wall foundation excavation and prior to placing reinforcement and/or concrete; and
- When any unusual soil conditions are encountered during any construction operation subsequent to issuance of this report.

4.0 LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable engineers and geologists practicing in this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report. The samples taken and submitted for laboratory testing, the observations made, and the in-situ field testing performed are believed representative of the entire project; however, soil and geologic conditions revealed by excavation may be different than our preliminary findings. If this occurs, the changed conditions must be evaluated by the project soils engineer and geologist and design(s) adjusted as required or alternate design(s) recommended.

This report is issued with the understanding that it is the responsibility of the owner, or of his/her representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and/or project engineer and incorporated into the plans, and the necessary steps are taken to see that the contractor and/or subcontractor properly implements the recommendations in the field. The contractor and/or subcontractor should notify the owner if they consider any of the recommendations presented herein to be unsafe.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can and do occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. Therefore, the findings, conclusions, and recommendations presented in this report can be relied upon only if LGC Geotechnical has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site.

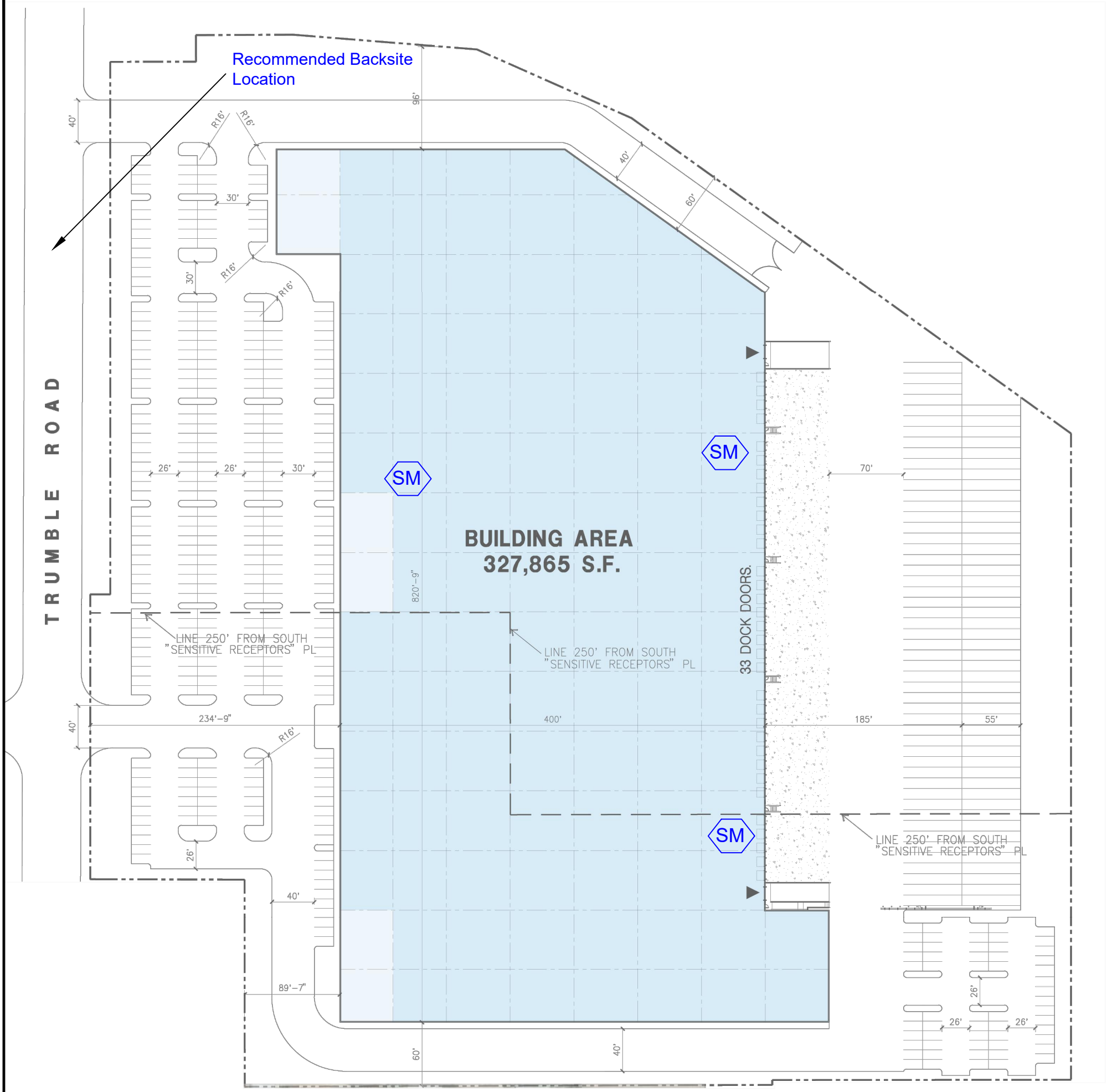
In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and modification, and should not be relied upon after a period of 3 years.



LGC Geotechnical, Inc.

FIGURE 1
Site Location Map

PROJECT NAME	Lovett Industrial - Trumble Road
PROJECT NO.	17172-02
ENG. / GEOL.	RLD/KBC
SCALE	Not to Scale
DATE	May 2022



LEGEND

SM — Approximate Location of Recommended Settlement Monuments

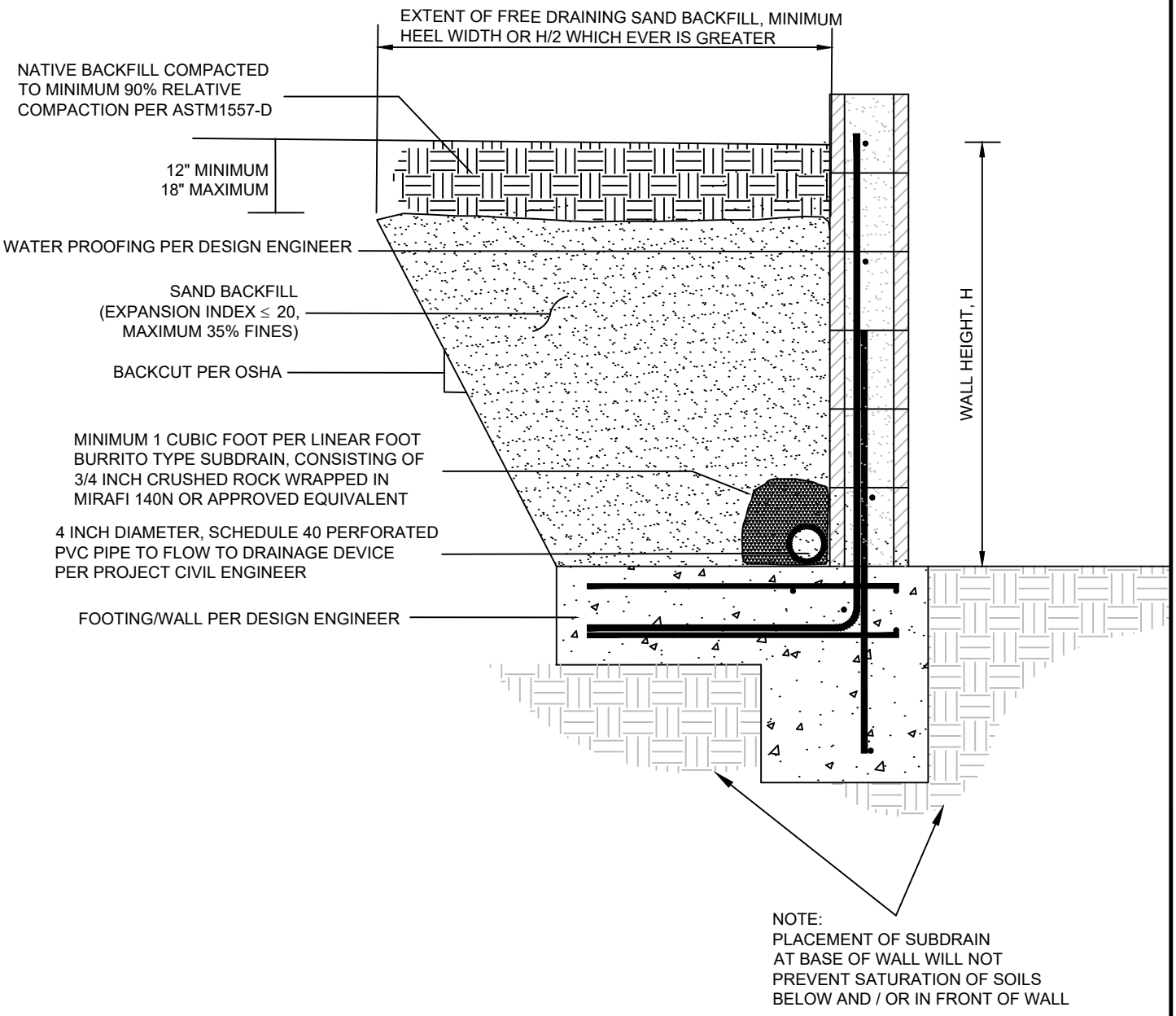
SCALE: 1"=100'

100' 0 100' 200'

LGC Geotechnical, Inc.
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San Clemente, CA 92672
TEL (949) 369-6141 FAX (949) 369-6142

FIGURE 2 - Settlement Monument Location Map

PROJECT NAME	Lovett Industrial - Trumble Road
PROJECT NO.	17172-02
ENG. / GEOL.	RLD/KBC
SCALE	1" = 100'
DATE	May 2022



LGC Geotechnical, Inc.

FIGURE 3
Retaining Wall Backfill Detail

PROJECT NAME	Lovett Industrial - Trumble Road
PROJECT NO.	17172-02
ENG. / GEOL	RLD/KBC
SCALE	Not to Scale
DATE	May 2022

Appendix A
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APPENDIX A

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Appendix E

Preliminary Water Quality Management Plan

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING

PRELIMINARY HYDROLOGY CALCULATIONS

FOR

LOVETT 215
APNs: 329-240-046, -048 AND -051

PREPARED FOR

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MARCH 15, 2024
REVISED MAY 1, 2024
REVISED SEPTEMBER 17, 2024
REVISED JULY 10, 2025
REVISED AUGUST 7, 2025

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PRELIMINARY HYDROLOGY CALCULATIONS

FOR

LOVETT 215

APNs: 329-240-046, -048 AND -051

PREPARED UNDER THE SUPERVISION OF:



8/7/2025

REINHARD STENZEL — DATE
R.C.E. 56155
EXP. 12/31/2026

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INTRODUCTION

A: PROJECT LOCATION

The project site is located on Trumble Road approximately 200 feet south of Watson Road and Sherman Road in Menifee, California. Please see the next page for a vicinity map.

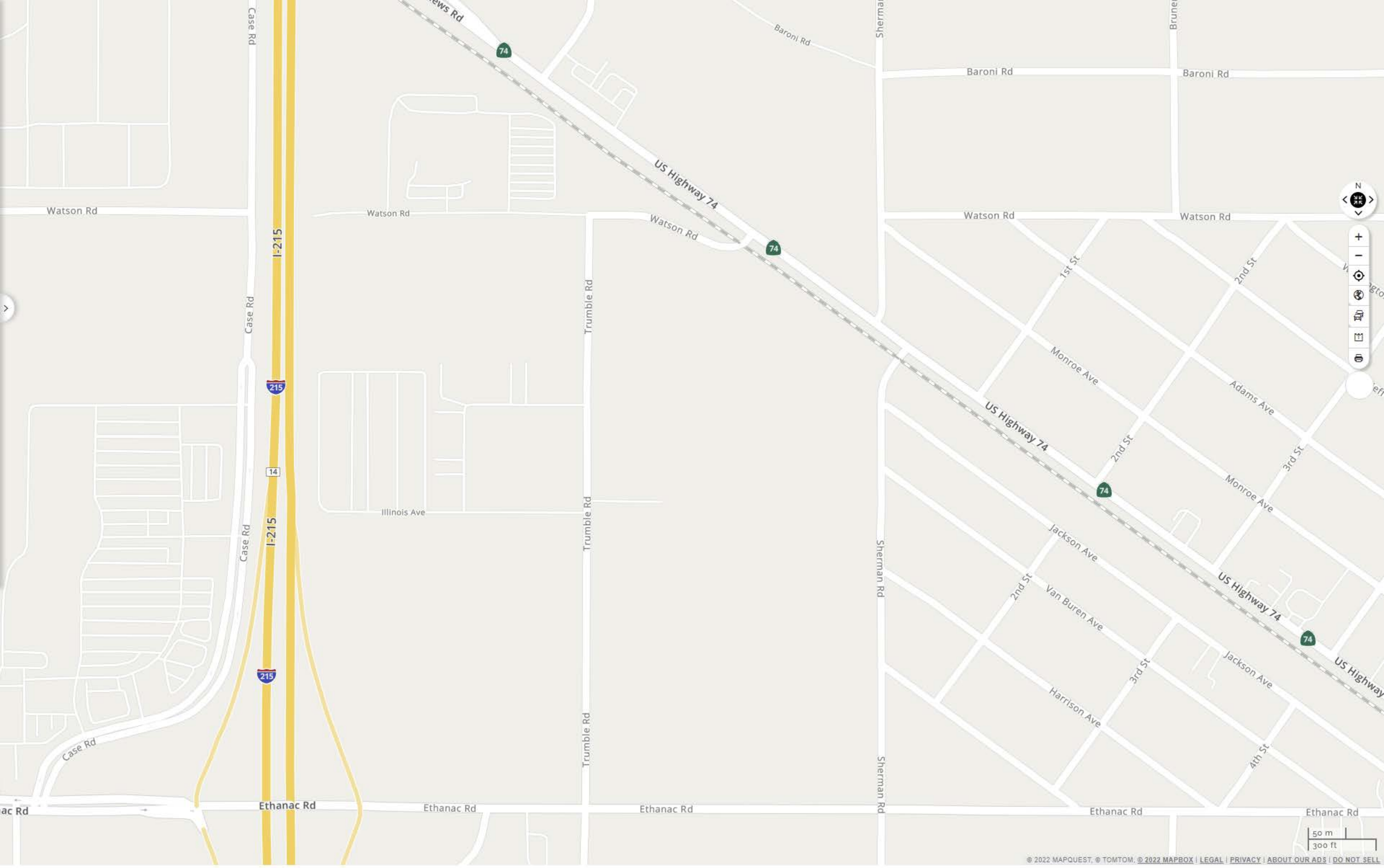
B: STUDY PURPOSE

The purpose of this study is to determine the 100-year peak flow rate for the project site that will ultimately discharge to an existing box culvert running underneath the Interstate 215 Freeway.

C: PROJECT STAFF:

Thienes Engineering staff involved in this study include:

Reinhard Stenzel
Morgan Holve



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DISCUSSION

Project Description

The project site encompasses approximately 17.20 acres. Proposed improvements include one warehouse-style building of approximately 328,208 square feet. There is a truck yard east of the building with trailer parking and vehicle parking to the west and south of the building. There will be landscaping along the northerly property line and located throughout the site.

FEMA Flood Zone

The project site is located in FEMA Flood Zone X, "area of minimal flood hazard", per FEMA FIRM Map 06065C1445H effective August 8, 2014.

See Appendix "A" for referenced materials.

Public Storm Drain

The project site is tabeled to an existing 6'x5' Caltrans concrete box culvert (RCB) that runs underneath the Interstate 215 Freeway. There is an existing public storm drain, Line "A", that runs southerly parallel to Trumble Road and continues westerly in Illinois Avenue. This storm drain system, designed by Albert A. Webb Associates (City File No. P8-921), discharges into the existing RCB. It appears the site is not tabled to discharge into the existing Line "A". The existing pipe is also full, therefore, any additional flow added to the pipe will cause negative downstream hydraulic impacts.

However, it is assumed that the site is tabled to drain to the existing Caltrans drain, and furthermore, that the drain is designed to handle flows from the site and surrounding parcels. The westerly adjacent site has connected directly to the box via a proposed storm drain and parcels adjacent to Trumble Road enter the box via street flow in the existing condition. Therefore, it is assumed that there are no downstream hydraulic impacts to the existing RCB with the inclusion of the project site.

The project site will instead drain to the existing box culvert via a proposed 30" RCP public storm drain system. The onsite storm drain system will "bubble out" into the public storm drain system. Once sufficient head is lost, a proposed pump will dry the pipe. The storm drain will convey flows southerly in Trumble Road then westerly through Illinois Avenue, running parallel to the existing Line "A". A proposed headwall will allow for both Line "A" and the proposed RCP to connect to the RCB.

See Appendix "A" for pertinent reference materials.

Existing Condition

The site is currently a roughly graded, undeveloped open pit. Most of the site (Nodes 100-111 on the existing condition hydrology map) sheet flow easterly into the open pit and is detained onsite. The 100-year peak flow rate to this area is approximately 24.3 cfs.

A portion of the site along Trumble Road and the southerly property line (Nodes 120-122) sheet flows southerly through the site and sits in a low spot along the southerly property line. A temporary solid fence prevents runoff from entering the residential houses to the south of the site. The 100-year peak flow rate from this area is approximately 1.0 cfs.

The total 100-year peak flow rate from the project site is approximately 25.8 cfs.

A portion of the northerly adjacent site (Nodes 200-201) sheet flow westerly onto the project site. These flows comingle with onsite runoff and are similarly detained onsite. The 100-year peak flow rate from this area is approximately 2.1 cfs.

See Appendix "B" for existing condition hydrology calculations and Appendix "D" for existing condition hydrology map.

Proposed Condition

As previously mentioned, the site will discharge to the existing Caltrans RCB via a proposed public storm drain.

The easterly portion of the proposed building and easterly truckyard area (Nodes 100-115 on the proposed condition hydrology map) drain to catch basins located in the easterly truck yard. A proposed onsite storm drain system will convey flows southerly then westerly around the proposed building. The southerly drive aisle (Nodes 116-117) will be confluenced in the system as it continues westerly. The westerly portion of the proposed building, northerly drive aisle and northerly landscaped area (Nodes 200-213) drain to catch basins located in the westerly vehicle parking area. Flows will confluence with runoff from the east and ultimately discharge into the proposed public storm drain system. The 100-year peak flow rate from the project site is approximately 45.7 cfs.

The northerly offsite run-on will be captured in a v-gutter along the northerly property line and conveyed southerly through the site. Flows will ultimately discharge into the onsite storm drain past the water quality "bleed off" point.

The total 100-year peak flow rate to the proposed public storm drain system (including offsite runoff) is approximately 47.8 cfs.

See Appendix "B" for proposed condition hydrology calculations and Appendix "D" for proposed condition hydrology map.

Detention

For final design, Riverside County typically requires detention analysis for the 1-hour, 3-hour, 6-hour and 24-hour duration events for the 2-year, 5-year and 10-year return frequencies. Detention basin and outlet sizing will ensure that none of these storm events has a higher peak discharge in the post-development condition than in the pre-development condition. Therefore, there will be no negative impact on existing downstream drainage facilities.

Hydrographs for the above-described events were established for both existing (pre-developed) and proposed (commercial) development conditions. Hydrograph parameters are as follows:

- For the 2-year and 5-year events, the loss rate will be determined using an AMC I condition. For the 10-year event, AMC II was used.
- Undeveloped condition Low Loss=90%
- Basin site Low Loss=10%
- Rainfall values from the Riverside County Hydrology Manual

For preliminary design purposes, sizing may be based on the largest difference in runoff hydrograph volume between the "developed" condition and the "pre-developed" conditions.

Hydrographs were established using the area tributary to each underground system (site only, no offsite area) for the existing and proposed condition for the 1-hour, 3-hour, 6-hour and 24-hour events for the 10-year storm frequencies. The following table summarizes the volumes for the specified storm events:

Table 1: Easterly Truck Yard

Storm Duration	Existing Condition Volume (ac-ft)	Proposed Condition Volume (ac-ft)	Difference (ac-ft)
10 Year 1-Hour	0.4667	0.4947	0.028
10 Year 3-Hour	0.6568	0.7738	0.1171
10 Year 6-Hour	0.7548	1.0258	0.271
10 Year 24-Hour	**0.8417**	**1.6281**	**0.7864**

From the above table, the largest difference in volume occurs during the 10-year, 24-hour storm event and is approximately 0.7864 acre-feet. This volume can be stored at the surface of the truck year at a depth of approximately 0.74'.

Truck yard detention does not pose flooding risks to the proposed building or onsite operations. The proposed building has a finished floor of approximately 1429.26, while the detention water surface elevation is at approximately 1425.22. This leaves approximately 4.04' of freeboard with the proposed building. Furthermore, there are no

pedestrian pathways within the detention area, allowing site operations to continue while detained water is present on the surface.

Table 2: Westerly Parking Lot

Storm Duration	Existing Condition Volume (ac-ft)	Proposed Condition Volume (ac-ft)	Difference (ac-ft)
10 Year 1-Hour	0.4901	0.5194	0.0293
10 Year 3-Hour	0.6897	0.8125	0.1228
10 Year 6-Hour	0.7926	1.0771	0.2845
10 Year 24-Hour	**0.8838**	**1.7096**	**0.8258**

From the above table, the largest difference in volume occurs during the 10-year, 24-hour storm event and is approximately 0.8258 acre-feet. This volume will be solely stored in the underground chamber systems located in the westerly truck yard.

The following table summarizes pre- and post-development peak flow rates for the specified events:

Table 3: Easterly Truck Yard

Storm Duration	Existing Condition Discharge (cfs)	Proposed Condition Discharge (cfs)	Difference (cfs)
10 Year 1-Hour	12.9	17.7	4.8
10 Year 3-Hour	8.3	9.2	0.9
10 Year 6-Hour	7.3	8.2	0.9
10 Year 24-Hour	2.3	2.7	0.4

Table 4: Westerly Truck Yard

Storm Duration	Existing Condition Discharge (cfs)	Proposed Condition Discharge (cfs)	Difference (cfs)
10 Year 1-Hour	14.0	17.7	3.7
10 Year 3-Hour	8.4	9.6	1.2
10 Year 6-Hour	7.4	8.5	1.1
10 Year 24-Hour	2.4	2.8	0.4

As previously stated, truck yard detention will be utilized such that the post-development peak flow rate does not exceed the pre-development peak flow rate. Therefore, there will be no negative impacts to existing downstream facilities, nor any adverse flooding affects in adjacent streets.

See Appendix “C” for existing and proposed condition hydrographs.

Water Quality

Water quality requirements will be met with a system of low flow lines that convey required flows to proposed underground detention systems located in the easterly truck yard and westerly parking area. From here, low flows will be routed through a proposed modular wetland system before confluencing back into the proposed onsite storm drain system via a proposed sump pump.

The underground detention systems are also sized for peak flow detention and hydrologic conditions of concern (HCOC) mitigation. Separate pumps are also proposed to allow the appropriate discharge of HCOC and peak flows.

Methodology

Hydrology calculations were computed using the Riverside County Rational Method program (by AES Software). The soil type is “D” per the Riverside County Hydrology Manual. Hydrograph calculations were run in the CivilD hydrograph program. See Appendix “A” for pertinent reference materials.

APPENDIX	DESCRIPTION
A	REFERENCE MATERIAL
B	HYDROLOGY CALCULATIONS
C	DETENTION ANALYSIS
D	HYDROLOGY MAPS
E	CONCEPTUAL STORM DRAIN PLANS
F	CITY OF MENIFEE DETENTION MEMO

APPENDIX A

REFERENCE MATERIALS

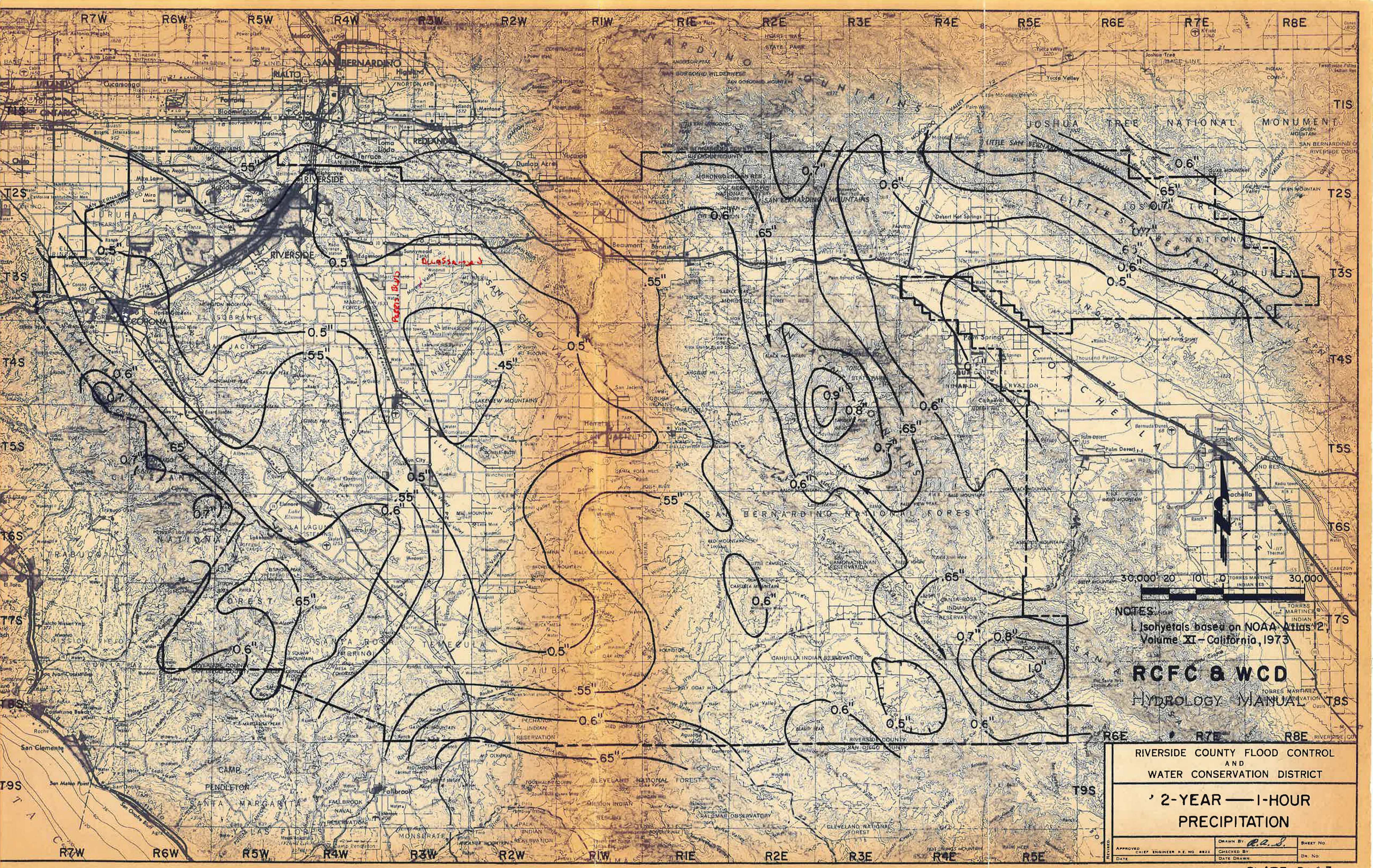
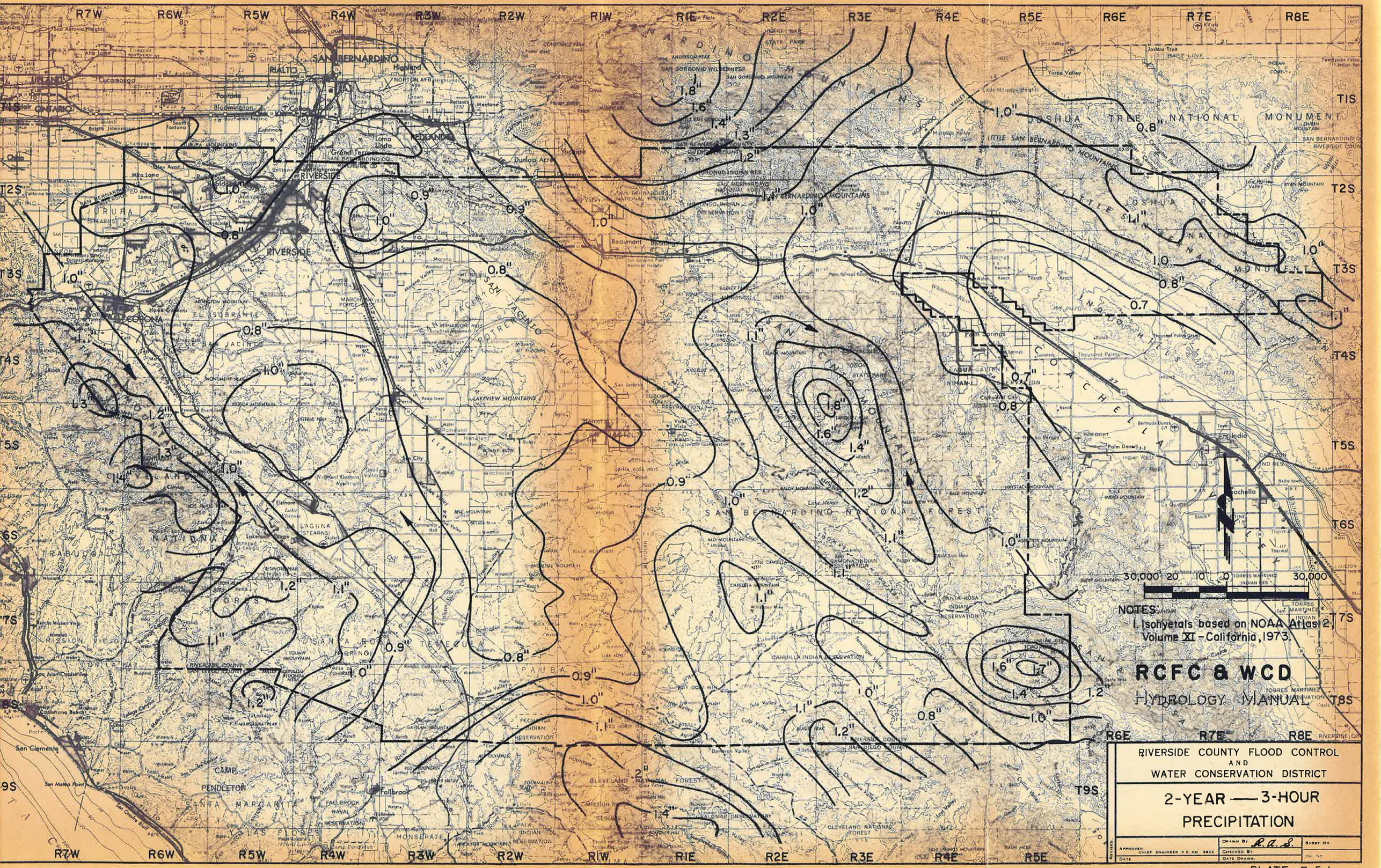

R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO
RIALTO
RIVERSIDE
CORONA
REDLANDS
Beaumont
Banning
Hemet
Palm Springs
Palm Desert
Indio
Fallbrook
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
30,000 20 10 0 30,000
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 1-HOUR PRECIPITATION
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
DRAWN BY R.A.S.
CHECKED BY
DATE DRAWN
SHEET NO.
DR. NO.

PLATE D-4,3



NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973.

RCFC & WCD
HYDROLOGY MANUAL

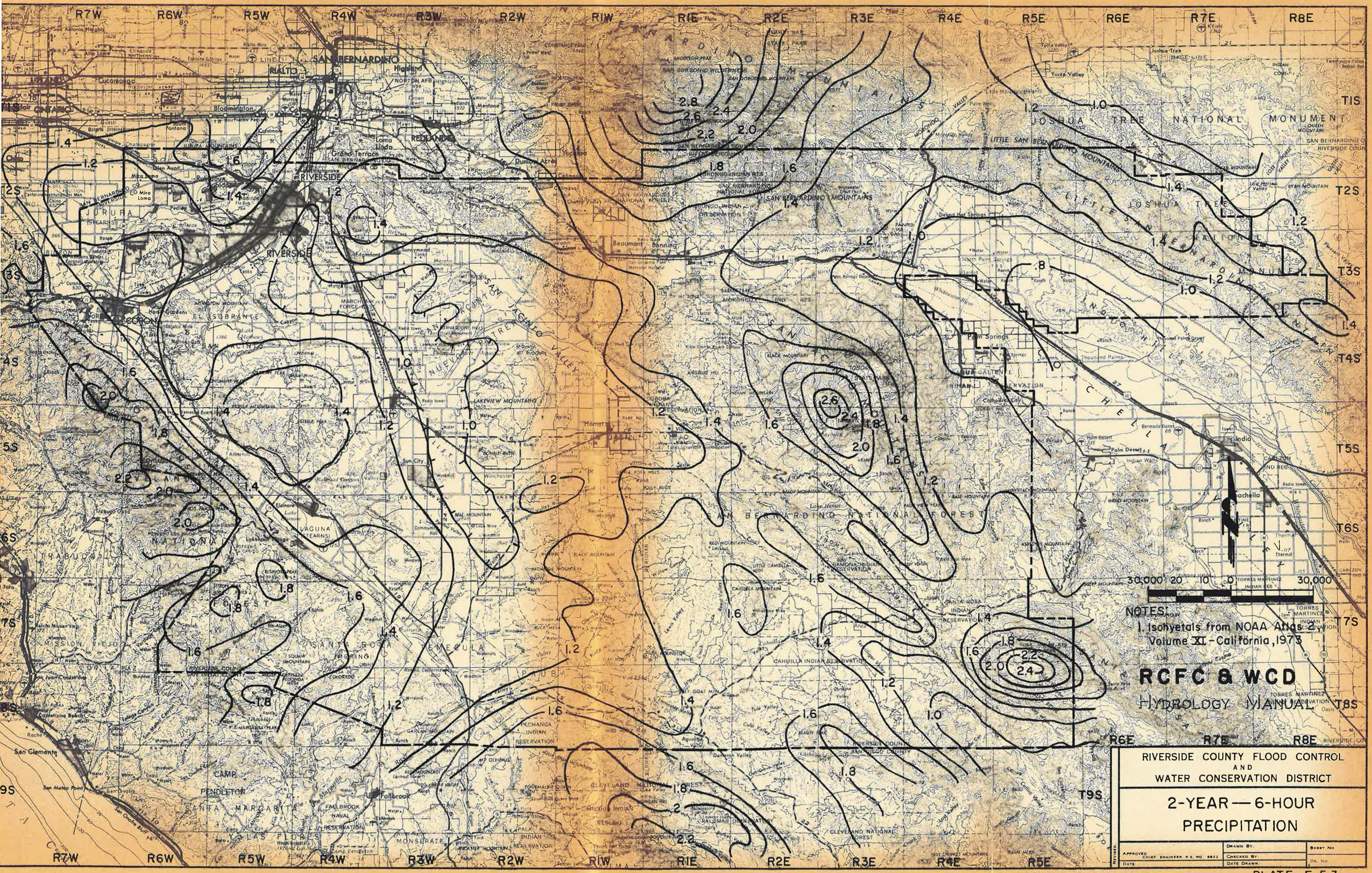
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

2-YEAR — 3-HOUR PRECIPITATION

APPROVED CHIEF ENGINEER R.E. NO. 8822	DRAWN BY R.A.S.	SHEET NO
DATE	CHECKED BY	
	DATE DRAWN	DR. NO

REVISED

PLATE E-5.1



NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973

RCFC & WCD

HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

2-YEAR — 6-HOUR PRECIPITATION

APPROVED CHIEF ENGINEER R.E. NO. 8822	DRAWN BY	SHEET NO
DATE	CHECKED BY	DR. NO
	DATE DRAWN	

PLATE E-5.3

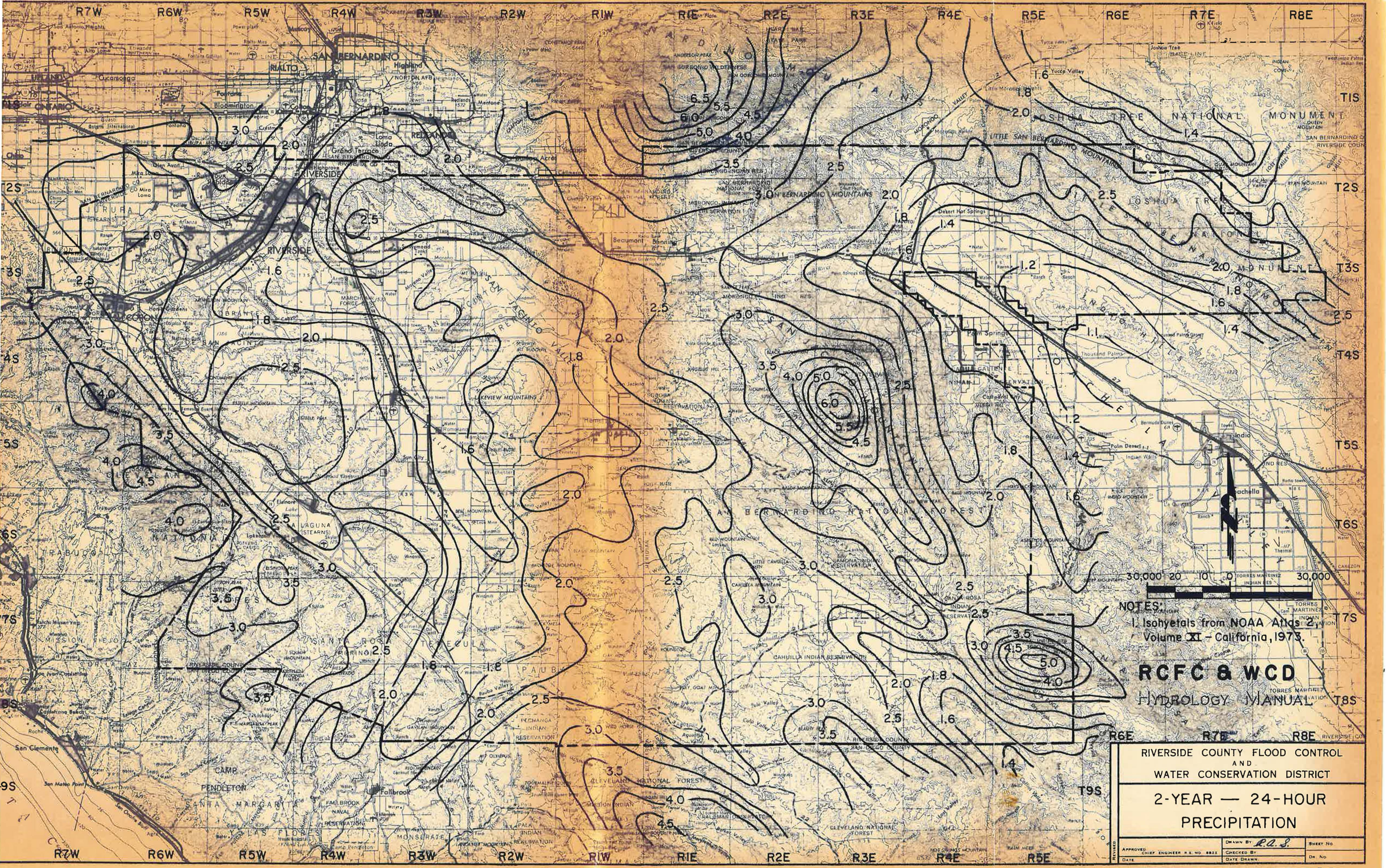

R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E R4E R5E R6E R7E R8E
T1S T2S T3S T4S T5S T6S T7S T8S T9S
SAN BERNARDINO
RIALTO
RIVERSIDE
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
CAMP PENDLETON
30,000 20 10 0 30,000
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 24-HOUR PRECIPITATION
DRAWN BY R.A.S.
APPROVED CHIEF ENGINEER
CHECKED BY
DATE DRAWN
SHEET NO
DR. NO

PLATE E-5.5

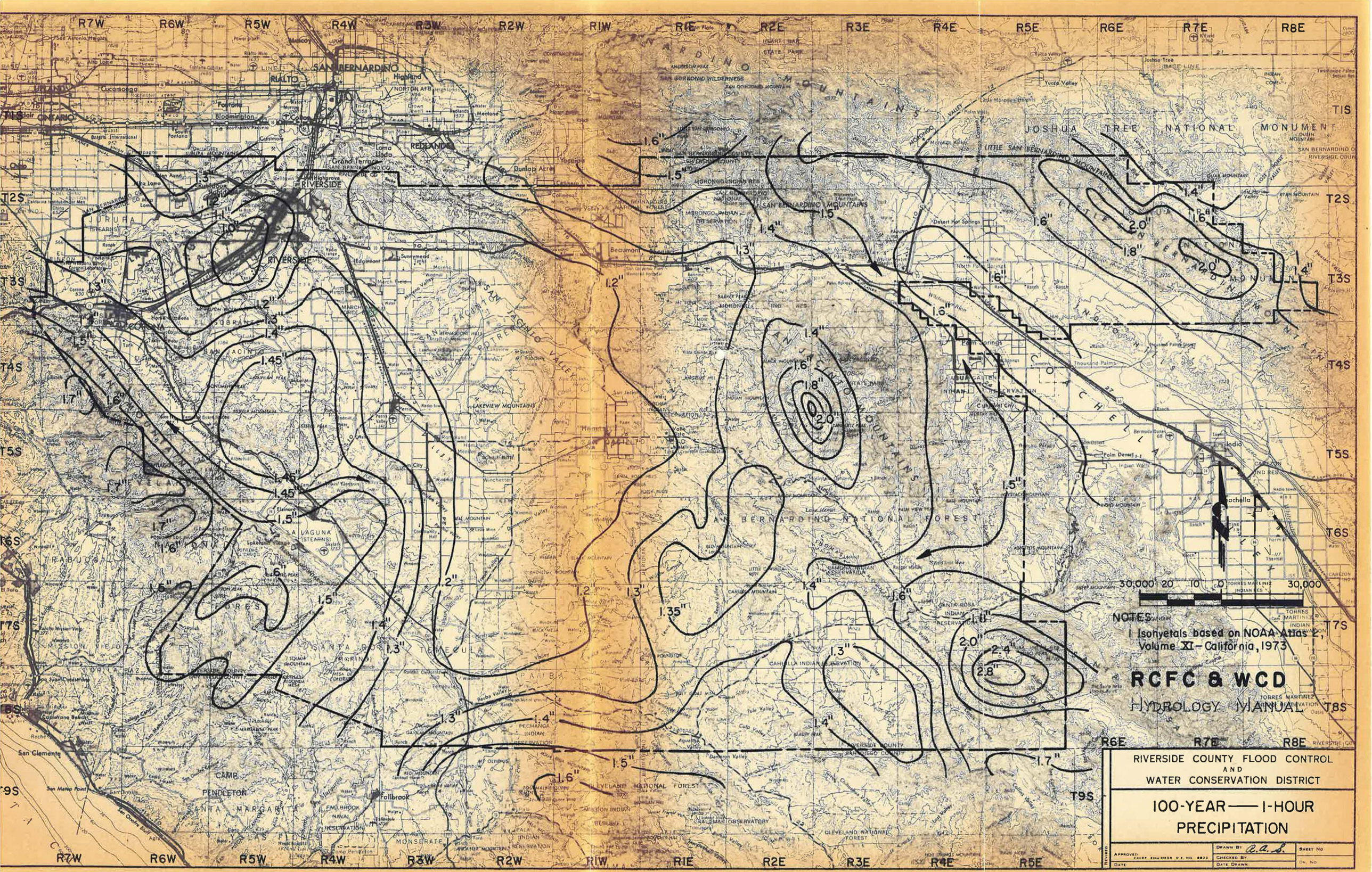
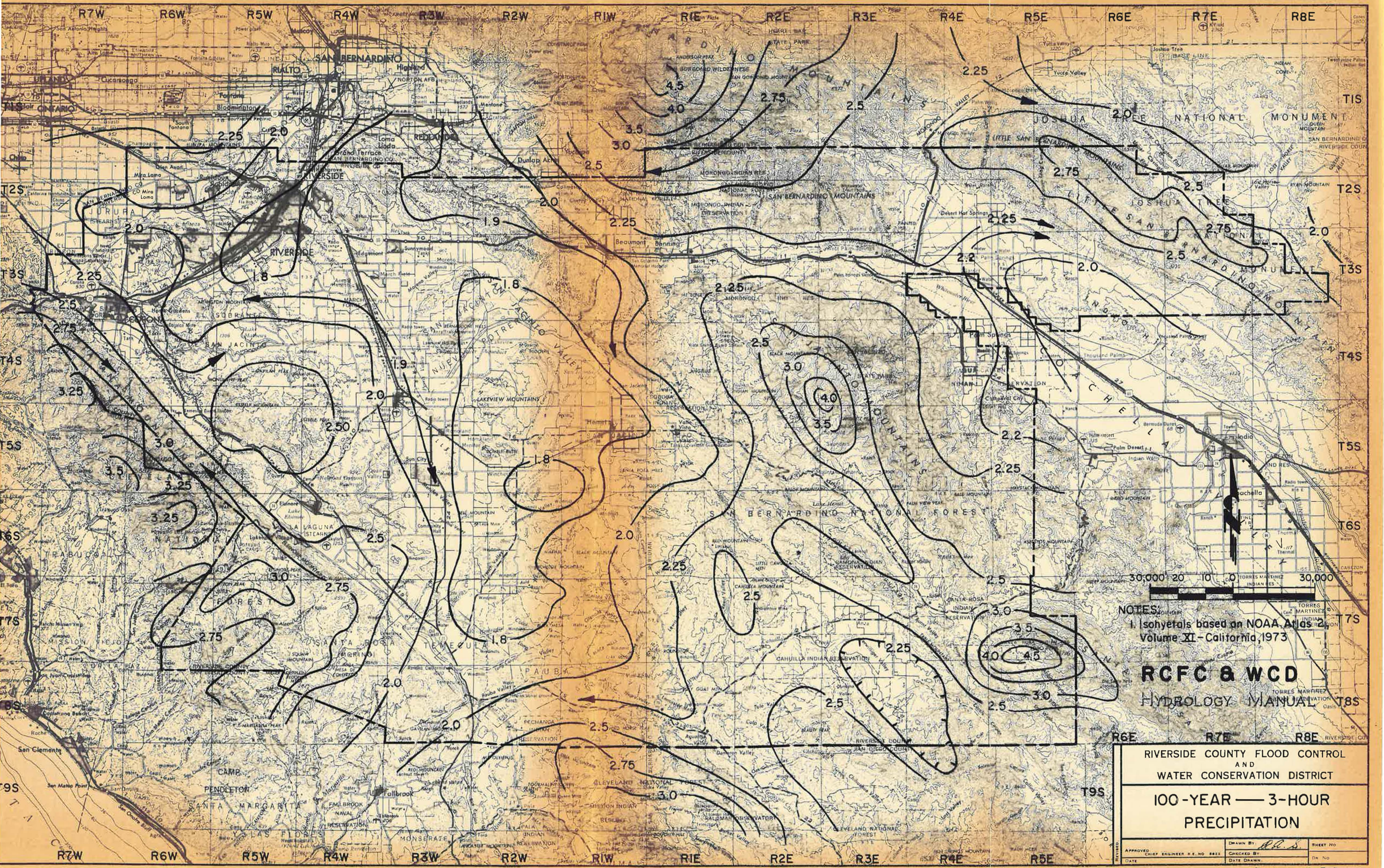

R7W
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T6S
T7S
T8S
T9S
SAN BERNARDINO MOUNTAINS
JOSHUA TREE NATIONAL MONUMENT
SAN JACINTO MOUNTAINS
SAN JACINTO VALLEY
SAN BERNARDINO NATIONAL FOREST
COACHELLA
SAN BERNARDINO
RIALTO
RIVERSIDE
REDLANDS
Palm Springs
Indio
Fallbrook
1.6"
1.5"
1.4"
1.3"
1.2"
1.7"
1.8"
2.0"
2.4"
2.8"
1.45"
1.35"
30,000 20 10 0 30,000
NOTES
1 Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 1-HOUR PRECIPITATION
DRAWN BY: A.A.S.
CHECKED BY:
DATE DRAWN:
SHEET NO
DR. NO
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED

PLATE D-4.4



NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973

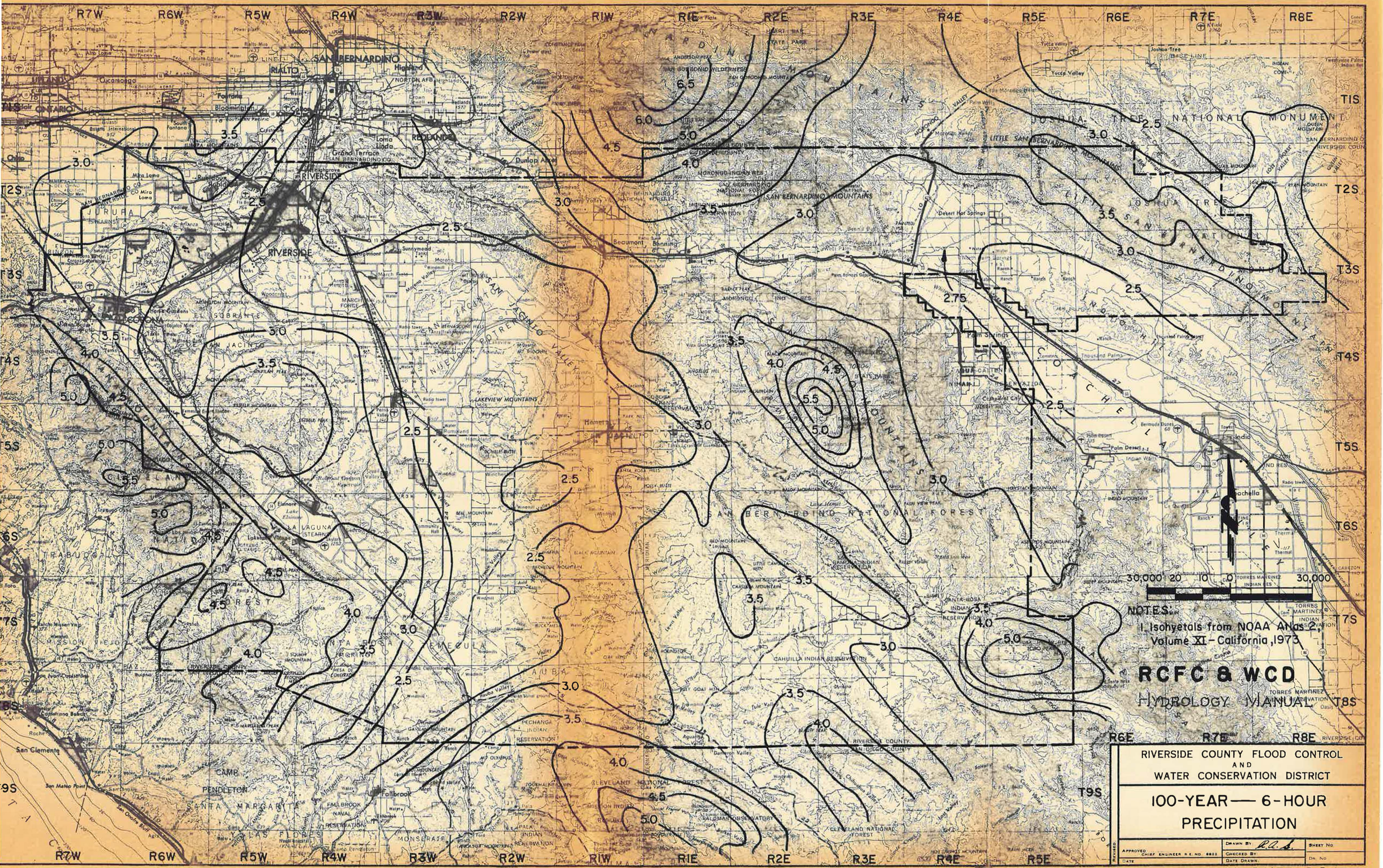
RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

100-YEAR — 3-HOUR PRECIPITATION

APPROVED: CHIEF ENGINEER R.E. NO. 8825	DRAWN BY: R.C.S.	SHEET NO
DATE	CHECKED BY:	DR NO
	DATE DRAWN:	

PLATE E-5.2



NOTES:

1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973

RCFC & WCD

HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

100-YEAR — 6-HOUR PRECIPITATION

APPROVED CHIEF ENGINEER R.E. NO. 6822	DRAWN BY R.A.S.	SHEET NO.
DATE	CHECKED BY	DR. NO.
REVISED	DATE DRAWN	

PLATE E-5.4

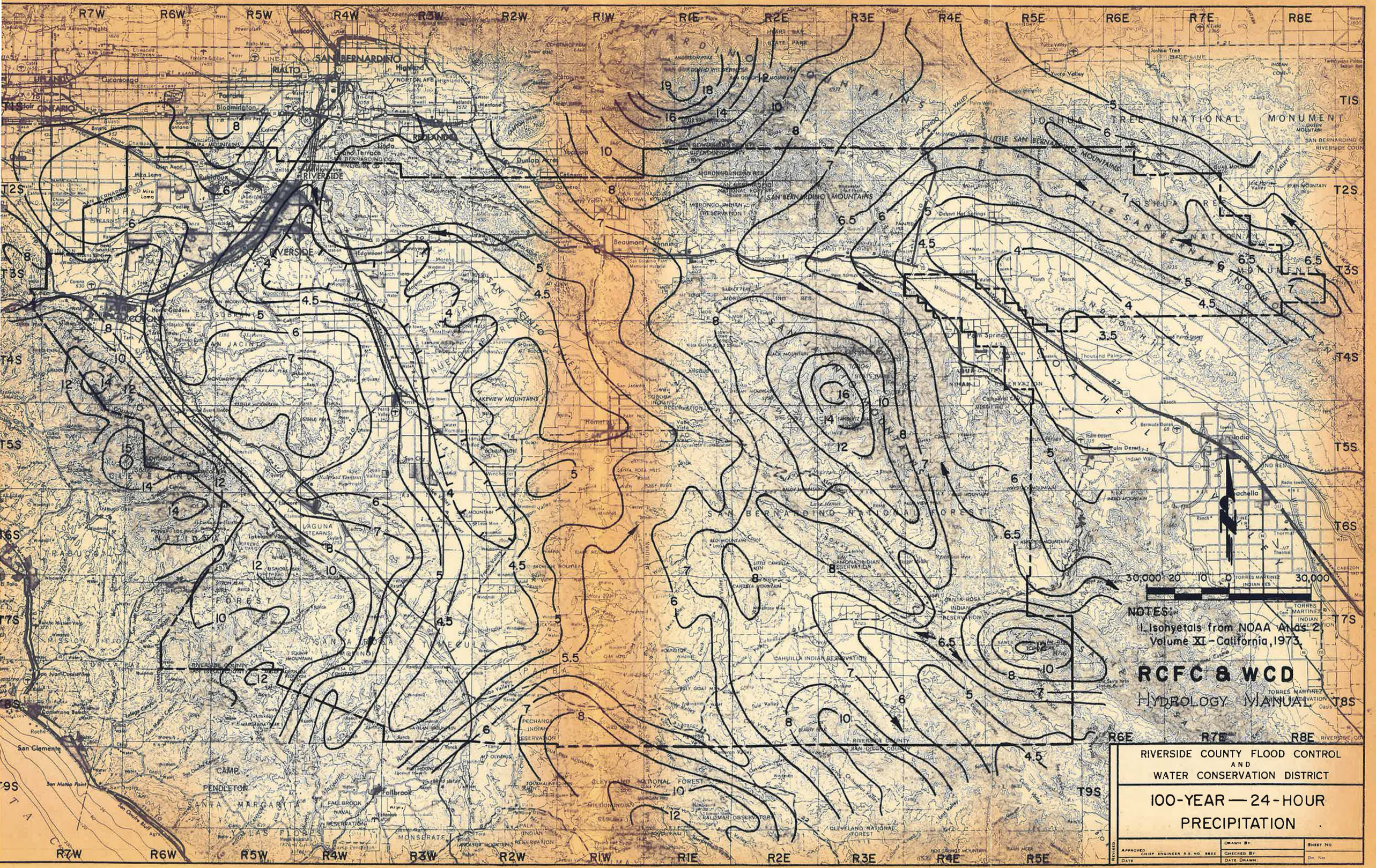

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T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO
RIVERSIDE
RIALTO
REDLANDS
Beaumont
Banning
Palm Springs
Indio
Coachella
Hemet
San Jacinto
Fallbrook
Temecula
San Clemente
CAMP PENDLETON
SAN BERNARDINO MOUNTAINS
SAN JACINTO MOUNTAINS
SAN JACINTO VALLEY
SAN JACINTO FAULT
SAN ANDREAS FAULT
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
CAHUILLA INDIAN RESERVATION
AGUA CALIENTE INDIAN RESERVATION
SOBOBA INDIAN RESERVATION
PECHANGA INDIAN RESERVATION
MORONGO INDIAN RESERVATION
SANTA ROSA INDIAN RESERVATION
TORRES MARTINEZ INDIAN RESERVATION
30,000 20 10 0 30,000
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 24-HOUR PRECIPITATION
DRAWN BY:
CHECKED BY:
DATE DRAWN:
SHEET NO
DR. NO
APPROVED CHIEF ENGINEER R.E. NO. 6825
DATE
REVISED

PLATE E-5.6



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC & WCD

HYDROLOGY MANUAL

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR ROMOLAND

PLATE C-1.42

National Flood Hazard Layer FIRMette

FEMA

117°11'19"W 33°45'9"N



117°10'41"W 33°44'39"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/5/2022 at 3:32 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

STORM DRAIN IMPROVEMENT PLANS FOR:

CLASSIC PACIFIC BUSINESS PARK (PM 34082)

IN THE CITY OF PERRIS, CALIFORNIA

STORM DRAIN GENERAL NOTES

1. THE CONTRACTOR SHALL CONSTRUCT THE FLOOD CONTROL IMPROVEMENTS SHOWN ON THE DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT'S MEMORANDUM OF UNDERSTANDING STANDARD SPECIFICATIONS DATED SEPTEMBER 1984 AND DESIGN MANUAL STANDARD DRAWINGS DATED MAY 1971.
2. ALL STATIONING REFERS TO THE CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED.
3. STATIONING FOR LATERALS AND CONNECTOR PIPES REFER TO THE CENTERLINE– CENTERLINE INTERSECTION STATION, UNLESS OTHERWISE NOTED.
4. FORTY–EIGHT HOURS BEFORE EXCAVATION, CALL UNDERGROUND SERVICE ALERT 1–800–227–2600.
5. ALL ELEVATIONS SHOWN ARE IN FEET AND DECIMALS THEREOF BASED ON U.S.C. & G.S. DATUM.
6. ALL CROSS SECTIONS ARE TAKEN LOOKING DOWNSTREAM.
7. ELEVATIONS OF UTILITIES ARE APPROXIMATE UNLESS OTHERWISE NOTED.
8. OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES, OR SIMILAR STRUCTURES TO BE ABANDONED SHALL BE SEALED WITH 8" OF CLASS "B" CONCRETE.
9. "V" IS THE DEPTH OF INLET OF CATCH BASINS MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CONNECTOR PIPE.
10. ALL CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND OTHER EXISTING IMPROVEMENTS TO BE RECONSTRUCTED IN KIND AND AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS UNLESS OTHERWISE NOTED.
11. ROAD CLOSURES SHALL BE PERMITTED FOR A SHORT PERIOD ONLY. THE CONTRACTOR IS TO SUBMIT A DETOUR PLAN TO THE CITY ENGINEER FOR APPROVAL AND PLACE SIGNS PER APPROVED PLANS PRIOR TO BEGINNING CONSTRUCTION.
12. VIDEO OF STORM DRAIN FACILITIES SHOWN ON THESE PLANS MUST BE SUBMITTED TO CITY ENGINEER FOR REVIEW.
13. TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL.
14. ALL MANHOLE COVERS FOR STORM DRAIN LOCATED OUTSIDE OF DEDICATED RIGHT–OF–WAY SHALL BE LOCKED PRESSURE TYPE, AND SHALL READ "CITY OF PERRIS S.D."
15. VIDEO OF ALL ON–SITE AND OFF–SITE STORM DRAIN SHALL BE SUBMITTED TO CITY ENGINEER FOR REVIEW AND APPROVAL.

NOTICE TO CONTRACTOR:

THE EXISTENCE AND LOCATIONS OF ALL UNDERGROUND UTILITIES (UTILITY PIPES, STRUCTURES, ETC.) SHOWN ON THESE PLANS (MAIN LINES ONLY – NO SERVICE LATERALS) WERE ASCERTAINED BY A REVIEW OF RECORDS PROVIDED BY THESE MEMBER AGENCIES AND ARE APPROXIMATE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY FOR UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN.

THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. LOCATIONS OF UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.

BASIS OF BEARINGS

BASIS OF BEARING IS THE CENTERLINE OF PERRIS BOULEVARD TAKEN AS N00°16'30"E, AS SHOWN BY AMENDED PARCEL MAP 16950 PER P.M. 113/62–70, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

NOTE

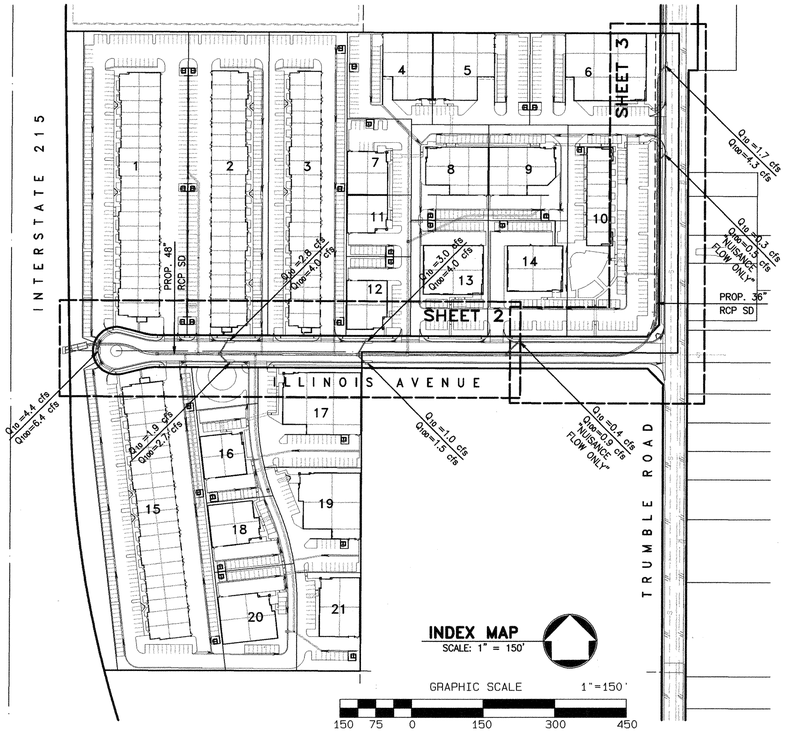
ALL ON–SITE STORM DRAIN AND PRIVATE LATERALS REFERRED TO ON THESE PLANS ARE TO BE CONSTRUCTED PER SEPARATE ON–SITE DRAINAGE PLANS AND CONCURRENTLY WITH PUBLIC STORM DRAIN SHOWN HEREON.

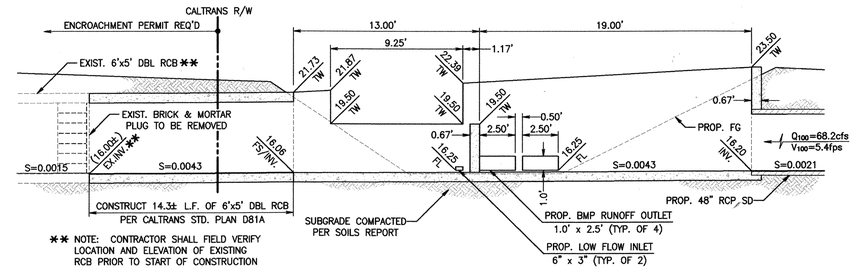
CONSTRUCTION NOTES

		QUANTITIES	
(1)	INSTALL 48" RCP, D–LOAD PER PLAN	661	LF
(2)	INSTALL 36" RCP, D–LOAD PER PLAN	638	LF
(3)	INTENTIONALLY LEFT BLANK	–	–
(4)	INSTALL 24" RCP, D–LOAD PER PLAN	437	LF
(5)	INSTALL 18" RCP, D–LOAD PER PLAN	180	LF
(6)	CONSTRUCT CURB OPENING CATCH BASIN PER APWA STD. PLAN 300–2 (H=4" – W NOTED ON PLANS)	5	EA
(7)	CONSTRUCT LOCAL DEPRESSION PER AWA STD. PLAN 313–1 CASE B	5	EA
(8)	CONSTRUCT MANHOLE NO. 2 PER RCFCD STD. DWG. NO. MH252	4	EA
(9)	CONSTRUCT MANHOLE NO. 4 PER RCFCD STD. DWG. NO. MH254	1	EA
(10)	INTENTIONALLY LEFT BLANK	–	–
(11)	CONSTRUCT MANHOLE NO. 1 PER RCFCD STD. DWG. NO. MH251	1	EA
(12)	CONSTRUCT JUNCTION STRUCTURE NO. 2 PER RCFCD STD. DWG. NO. JS227	4	EA
(13)	CONSTRUCT TRANSITION STRUCTURE NO. 3 PER RCFCD STD. DWG. NO. TS303	2	EA
(14)	CONSTRUCT JUNCTION STRUCTURE NO. 4 PER RCFCD STD. DWG. NO. JS229	2	EA

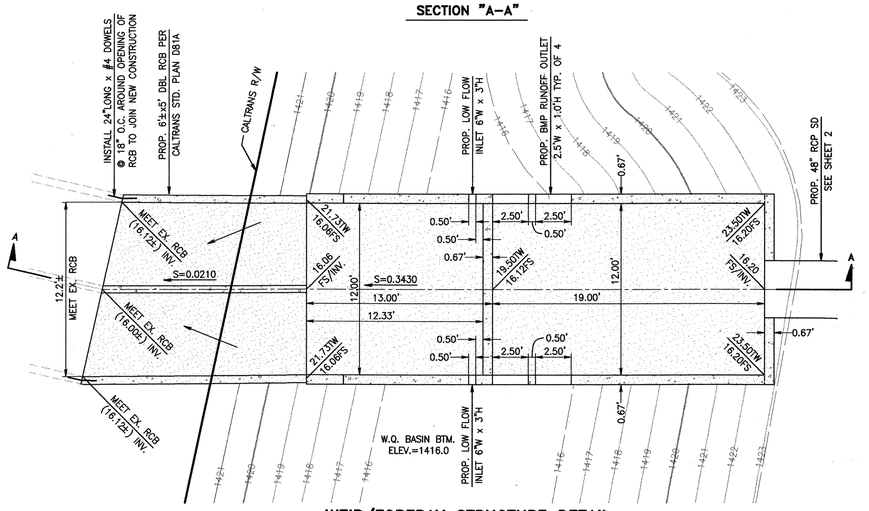
AS BUILT
THESE PLANS REFLECT ANY SUBSTANTIAL DESIGN MODIFICATIONS AS PROVIDED TO WEBB ASSOCIATES BY THE CONTRACTOR.
SCOTT R. HILDEBRANDT R.C.E. C44762 DATE 9/30/08

REGISTERED PROFESSIONAL ENGINEER SCOTT R. HILDEBRANDT NO. C44762 Exp. 3/31/10 CIVIL STATE OF CALIFORNIA



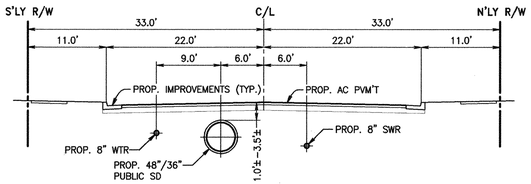


SECTION "A–A"



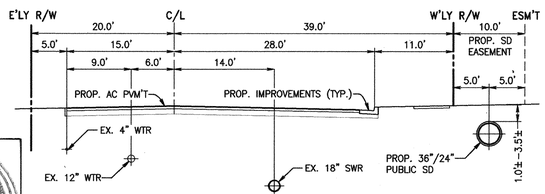
WEIR/FOREBAY STRUCTURE DETAIL

SCALE: 1" = 5'



UNDERGROUND UTILITIES TYPICAL SECTION ILLINOIS AVENUE

NOT TO SCALE

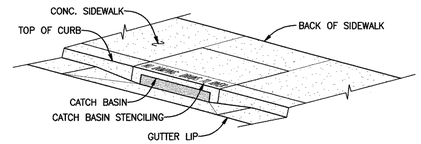


UNDERGROUND UTILITIES TYPICAL SECTION TRUMBLE ROAD

NOT TO SCALE

LIST OF ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
BC	BEGINNING OF CURVE
BCR	BEGINNING OF CURVE RETURN
BTM	BOTTOM
BVC	BEGINNING OF VERTICAL CURVE
CB	CATCH BASIN
C/L	CENTERLINE
C&G	CURB & GUTTER
EC	END OF CURVE
ECC.	ECCENTRIC
ECR	END OF CURVE RETURN
ESMT	EASEMENT
EVC	END OF VERTICAL CURVE
FH	FIRE HYDRANT
FL	FLOWLINE
FS	FINISH SURFACE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
INV	INVERT ELEVATION
JS	JUNCTION STRUCTURE
LAT.	LATERAL
LF	LINEAR FEET
LP	LOW POINT
MC	MEDIAN CURB
MH	MANHOLE
MVC	MIDDLE OF VERTICAL CURVE
NTS	NOT TO SCALE
PCC	PORTLAND CEMENT CONCRETE
PRC	POINT OF REVERSE CURVE
RCP	REINFORCED CONCRETE PIPE
RED.	REDUCER
R/W	RIGHT OF WAY
SCE	SOUTHERN CALIFORNIA EDISON
SEP.	SEPARATE
S/W	SIDEWALK
TC	TOP OF CURB
TS	TRANSITION STRUCTURE
XING	CROSSING



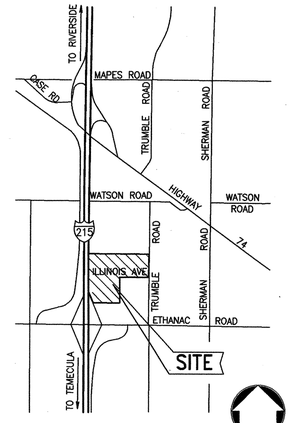
CATCH BASIN STENCILING DETAIL

NOT TO SCALE

A. STENCILS TO HAVE 2" LETTERS AS FOLLOW:
NO DUMPING
DRAINS TO RIVER
B. PLACE BOTH STENCILS CENTERED WITHIN THE CATCHBASIN OPENING AND WITHIN THE TOP OF CURB.
C. SPRAY BOTH STENCILS WITH WHITE PAINT.
D. REMOVE STENCILS WHEN PAINT IS DRY.

INDEX OF SHEETS

SHEET 1	TITLE SHEET
SHEET 2	STA 10+00 TO 19+00 – PLAN & PROFILE
SHEET 3	STA 19+00 TO 28+06 – PLAN & PROFILE



VICINITY MAP

T.5S., R3W., SECTION 18
N.T.S.

BENCHMARK

RIVERSIDE COUNTY B.M. M–26–2, BRASS DISC ON BRIDGE
ELEV = 1423.462, DATUM NGVD29.
AT THE SOUTHWEST CORNER OF THE BRIDGE SO 14–P OVER THE SAN JACINTO RIVER AT NUEVO ROAD; 14.0 FEET SOUTH OF NUEVO ROAD; A BRASS DISK SET IN THE TOP OF A CONCRETE BRIDGE ABUTMENT AND MARKED M–26–2 1963.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER CITY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.

DIGALERT
DIAL BEFORE YOU DIG TOLL FREE
A PUBLIC SEVICE BY UNDERGROUND SERVICE ALERT
TWO WORKING DAYS BEFORE YOU DIG 1–800–227–2600

DATE	BY	MARK	REVISIONS	APPR.	DATE
9/30/08	RR	1	AS BUILT		

ENGINEER | CITY

DESIGNED BY: RB DRAWN BY: BTE CHECKED BY: RB

SEAL

SEAL

REGISTERED PROFESSIONAL ENGINEER SCOTT R. HILDEBRANDT NO. C44762 EXP. 3–31–08 CIVIL STATE OF CALIFORNIA

APPROVED BY: DATE: 2-15-07
CITY ENGINEER

PREPARED UNDER THE SUPERVISION OF: DATE: 2-9-07
SCOTT R. HILDEBRANDT
R.C.E. NO. C44762 EXP. DATE 3–31–08

ALBERT A. WEBB ASSOCIATES ENGINEERING CONSULTANTS
CIVIL ENGINEERS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH: (951) 686–1070
FAX: (951) 788–1256

SCALE: AS SHOWN
DATE: Feb 2007

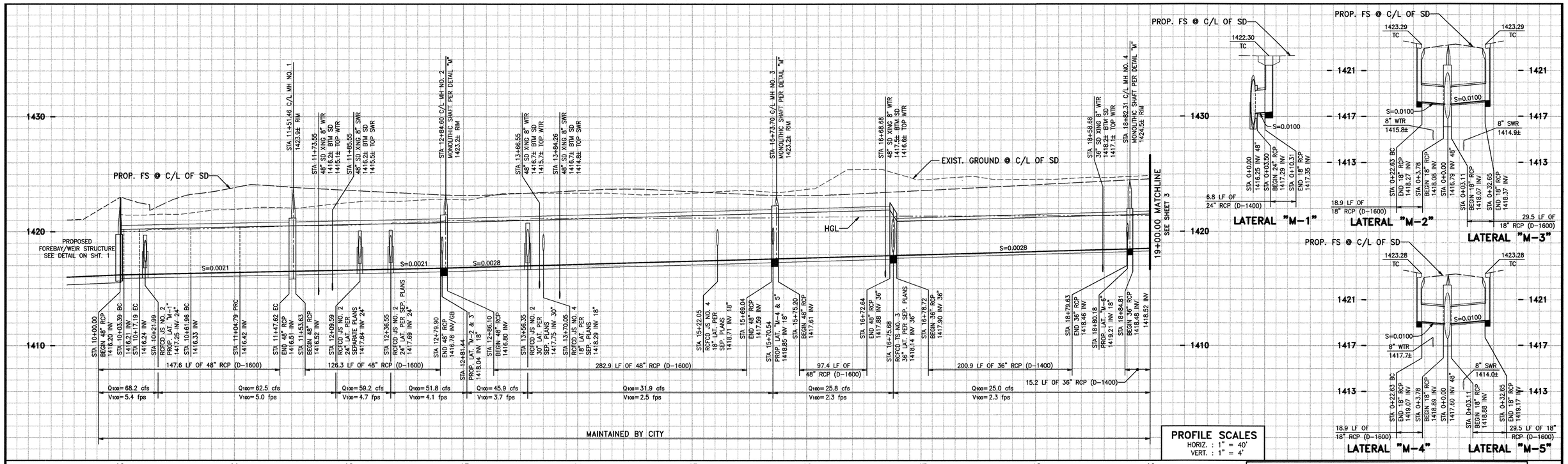
CITY OF PERRIS
STORM DRAIN PLANS
CLASSIC PACIFIC BUSINESS PARK (PM 34082)
TITLE SHEET
INDEX MAP

FOR: CLASSIC PACIFIC W.O. 04–0425

SHEET 1 OF 3 SHEETS
CITY FILE NO: P8–921

G:\2004\04–0425\Varsa&scroll\Design\04–425sd.prn8/9/2007|10:55:49AM

P-412



JS STA 10+21.99	
ANGLE A	90°00'00"
B	24"
C	3.50'
D	48"
E	1.44'
F	1.84'
G	1.59'
L	2.88'
ELEV. R	1417.39
ELEV. S	1417.27

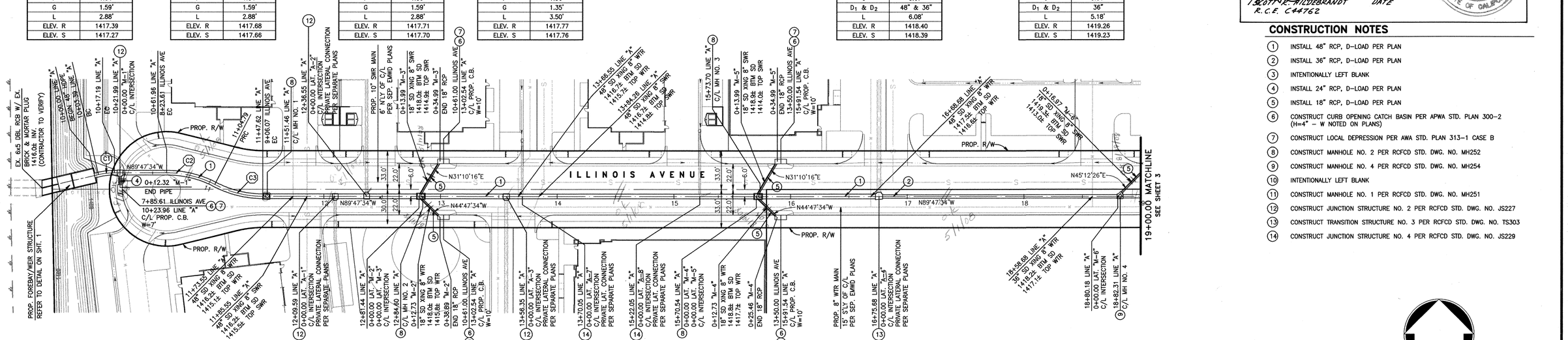
JS STA 12+09.59	
ANGLE A	90°00'00"
B	24"
C	3.50'
D	48"
E	1.44'
F	1.84'
G	1.59'
L	2.88'
ELEV. R	1417.68
ELEV. S	1417.66

JS STA 12+36.55	
ANGLE A	90°00'00"
B	24"
C	3.50'
D	48"
E	1.44'
F	1.85'
G	1.59'
L	2.88'
ELEV. R	1417.71
ELEV. S	1417.70

JS STA 13+56.35	
ANGLE A	90°00'00"
B	30"
C	3.50'
D	48"
E	2.25'
F	1.56'
G	1.35'
L	3.50'
ELEV. R	1417.77
ELEV. S	1417.76

TS STA 16+75.68	
ANGLE A	90°00'00"
B	36"
C	3.67'
D_1 & D_2	48" & 36"
L	6.08'
ELEV. R	1418.40
ELEV. S	1418.39

MH STA 18+80.18	
ANGLE A	45°00'00"
B	18"
C	5.01'
D_1 & D_2	36"
L	5.18'
ELEV. R	1419.26
ELEV. S	1419.23



CURVE DATA TABLE	RADIUS	DELTA	LENGTH	TANGENT
C1	60.00'	13°10'44"	13.80'	6.93'
C2	90.00'	27°15'58"	42.83'	21.83'
C3	90.00'	27°15'58"	42.83'	21.83'

AS BUILT
THESE PLANS REFLECT ANY SUBSTANTIAL FIELD MODIFICATIONS AS PROVIDED TO ME BY ASSOCIATES AND THE CONTRACTOR
SCOTT R. HILDEBRANDT R.C.E. C44762
16-3-08 DATE

REGISTERED PROFESSIONAL ENGINEER SCOTT R. HILDEBRANDT No. C44762 Exp. 3/31/10 CIVIL STATE OF CALIFORNIA

CONSTRUCTION NOTES

1. INSTALL 48" RCP, D-LOAD PER PLAN
2. INSTALL 36" RCP, D-LOAD PER PLAN
3. INTENTIONALLY LEFT BLANK
4. INSTALL 24" RCP, D-LOAD PER PLAN
5. INSTALL 18" RCP, D-LOAD PER PLAN
6. CONSTRUCT CURB OPENING CATCH BASIN PER APWA STD. PLAN 300-2 (H=4" – W NOTED ON PLANS)
7. CONSTRUCT LOCAL DEPRESSION PER AWA STD. PLAN 313-1 CASE B
8. CONSTRUCT MANHOLE NO. 2 PER RCFCD STD. DWG. NO. MH252
9. CONSTRUCT MANHOLE NO. 4 PER RCFCD STD. DWG. NO. MH254
10. INTENTIONALLY LEFT BLANK
11. CONSTRUCT MANHOLE NO. 1 PER RCFCD STD. DWG. NO. MH251
12. CONSTRUCT JUNCTION STRUCTURE NO. 2 PER RCFCD STD. DWG. NO. JS227
13. CONSTRUCT TRANSITION STRUCTURE NO. 3 PER RCFCD STD. DWG. NO. TS303
14. CONSTRUCT JUNCTION STRUCTURE NO. 4 PER RCFCD STD. DWG. NO. JS229

NOTE

ALL ON-SITE STORM DRAIN AND PRIVATE LATERALS REFERRED TO ON THESE PLANS ARE TO BE CONSTRUCTED PER SEPARATE ON-SITE DRAINAGE PLANS AND CONCURRENTLY WITH PUBLIC STORM DRAIN SHOWN HEREON.

GRAPHIC SCALE 1"=40'
40 20 0 40 80 120

BENCHMARK

RIVERSIDE COUNTY B.M. M-26-2, BRASS DISC ON BRIDGE
ELEV = 1423.462, DATUM NGVD29.
AT THE SOUTHWEST CORNER OF THE BRIDGE SO 14-P OVER THE SAN JACINTO RIVER AT NUEVO ROAD; 14.0 FEET SOUTH OF NUEVO ROAD; A BRASS DISK SET IN THE TOP OF A CONCRETE BRIDGE ABUTMENT AND MARKED M-26-2 1963.

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER CITY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.

DIGALERT — DIAL BEFORE YOU DIG TOLL FREE — TWO WORKING DAYS BEFORE YOU DIG — A PUBLIC SEVICE BY 1-800-227-2600 UNDERGROUND SERVICE ALERT

DATE	BY	MARK	REVISIONS	APPR.	DATE
9-30-08	RR	1	AS BUILT		

ENGINEER — CITY

DESIGNED BY: RB DRAWN BY: BTE CHECKED BY: RB

SEAL

SEAL — REGISTERED PROFESSIONAL ENGINEER SCOTT R. HILDEBRANDT NO. C44762 EXP. 3-31-08 CIVIL STATE OF CALIFORNIA

APPROVED BY: DATE: 2-9-07
CITY ENGINEER

PREPARED UNDER THE SUPERVISION OF: DATE: 2-9-07
SCOTT R. HILDEBRANDT
R.C.E. NO. C44762 EXP. DATE 3-31-08

ALBERT A. WEBB ASSOCIATES — ENGINEERING CONSULTANTS
CIVIL ENGINEERS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH: (951) 686-1070
FAX: (951) 788-1256

SCALE: AS SHOWN
DATE: Feb 2007

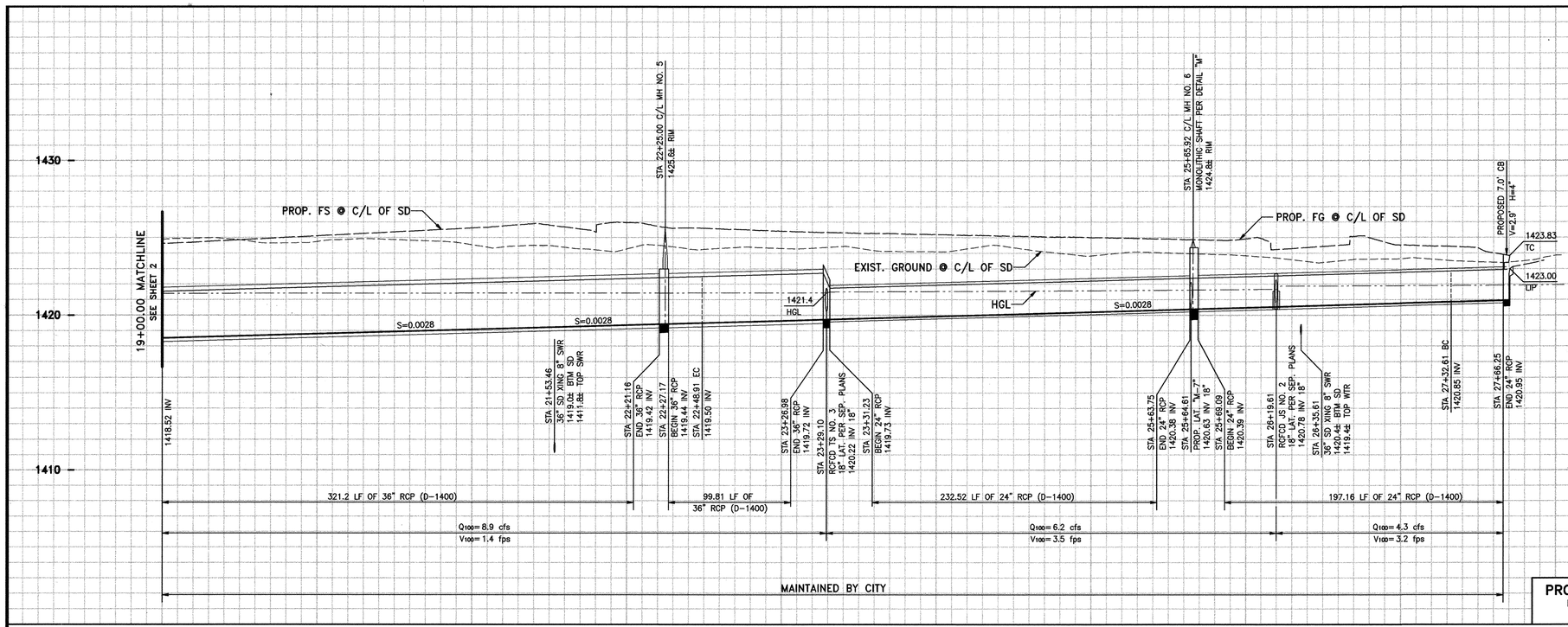
CITY OF PERRIS
STORM DRAIN PLANS
CLASSIC PACIFIC BUSINESS PARK (PM 34082)
PLAN AND PROFILE
STA. 10+00 TO STA. 19+00

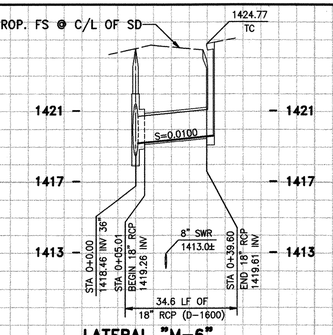
FOR: CLASSIC PACIFIC
W.O. 04-0425

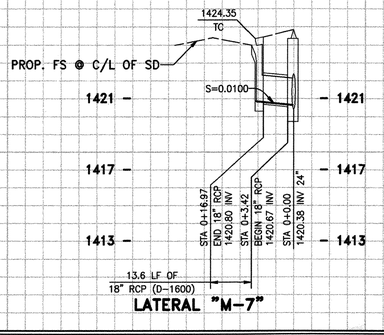
SHEET 2 OF 3 SHEETS
CITY FILE NO: P8-921

P-412

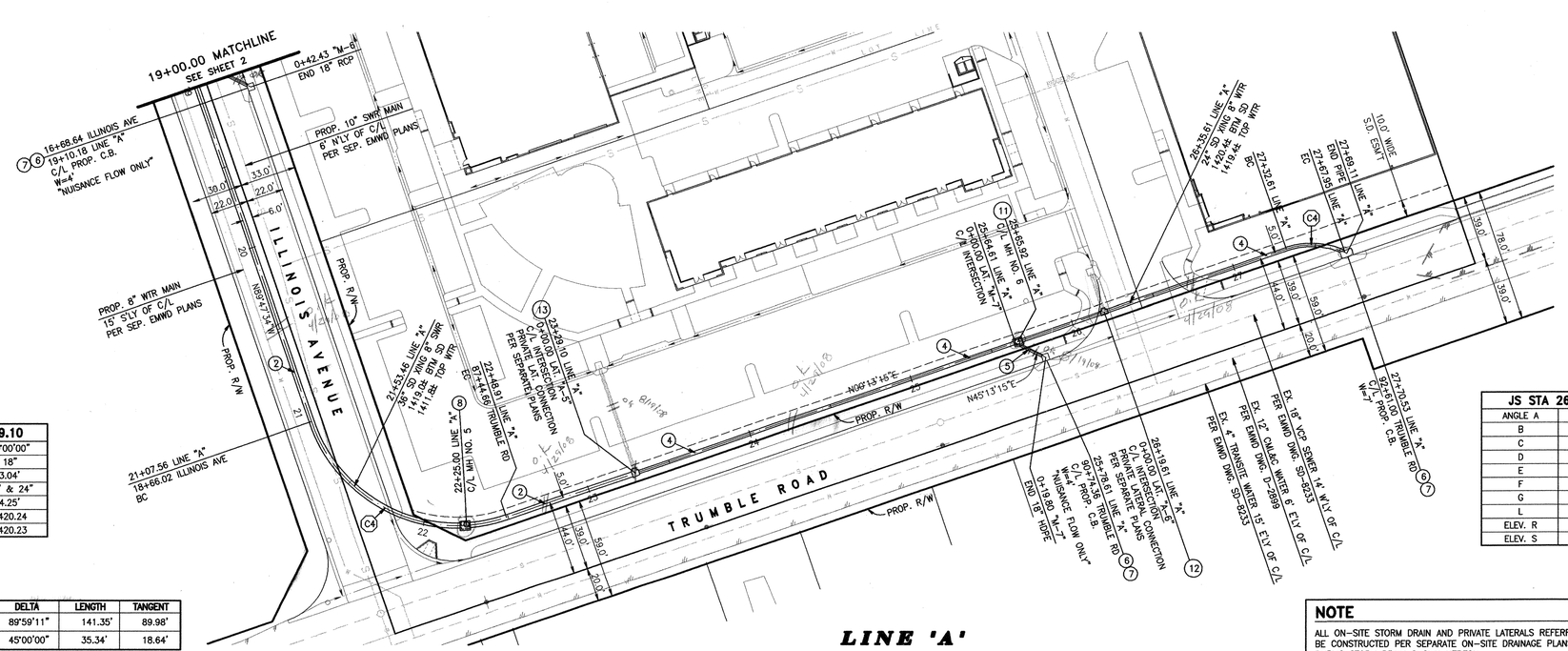
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PROFILE SCALES
HORIZ. : 1" = 40'
VERT. : 1" = 4'



TS STA 23+29.10	
ANGLE A	90°00'00"
B	18"
C	3.04'
D_1 & D_2	36" & 24"
L	4.25'
ELEV. R	1420.24
ELEV. S	1420.23

JS STA 26+19.61	
ANGLE A	90°00'00"
B	18"
C	2.33'
D	24"
E	1.13'
F	0.75'
G	0.65'
L	2.25'
ELEV. R	1420.81
ELEV. S	1420.79

CURVE DATA TABLE	RADIUS	DELTA	LENGTH	TANGENT
C4	90.00'	89°59'11"	141.35'	89.98'
C5	45.00'	45°00'00"	35.34'	18.64'

AS BUILT
THESE PLANS REFLECT ANY SUBSTANTIAL DESIGN MODIFICATIONS AS PROVIDED TO WEBB ASSOCIATES BY THE CONTRACTOR
SCOTT R. HILDEBRANDT
R.C.E. C44762
DATE 10-3-08

REGISTERED PROFESSIONAL ENGINEER
SCOTT R. HILDEBRANDT
NO. C44762
EXP. 3/31/10
CIVIL
STATE OF CALIFORNIA

CONSTRUCTION NOTES

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GRAPHIC SCALE 1"=40'
40 20 0 40 80 120

BENCHMARK
RIVERSIDE COUNTY B.M. M-26-2, BRASS DISC ON BRIDGE
ELEV = 1423.462, DATUM NGVD29.
AT THE SOUTHWEST CORNER OF THE BRIDGE SO 14-P OVER THE SAN JACINTO RIVER AT NUEVO ROAD; 14.0 FEET SOUTH OF NUEVO ROAD; A BRASS DISK SET IN THE TOP OF A CONCRETE BRIDGE ABUTMENT AND MARKED M-26-2 1963.

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DIGALERT
DIAL BEFORE YOU DIG TOLL FREE
A PUBLIC SEVICE BY UNDERGROUND SERVICE ALERT
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

DATE	BY	MARK	REVISIONS	APPR.	DATE
9-30-08	RR	1	AS BUILT	CITY	

DESIGNED BY: RB DRAWN BY: BTE CHECKED BY: RB

SEAL

SEAL
REGISTERED PROFESSIONAL ENGINEER
SCOTT R. HILDEBRANDT
NO. C44762
EXP. 3-31-08
CIVIL
STATE OF CALIFORNIA

APPROVED BY: DATE: 2.7.07
CITY ENGINEER
PREPARED UNDER THE SUPERVISION OF: DATE: 2-9-07
SCOTT R. HILDEBRANDT
R.C.E. NO. C44762 EXP. DATE 3-31-08

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
CIVIL ENGINEERS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH: (951) 686-1070
FAX: (951) 788-1256

SCALE: AS SHOWN
DATE: Feb 2007

CITY OF PERRIS
STORM DRAIN PLANS
CLASSIC PACIFIC BUSINESS PARK (PM 34082)
PLAN AND PROFILE
STA. 19+00 TO STA. 28+06

FOR: CLASSIC PACIFIC
W.O. 04-0425

SHEET 3 OF 3 SHEETS
CITY FILE NO: P8-921

P-412

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APPENDIX B

HYDROLOGY CALCULATIONS

```
______________________________________________________________________________
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                      (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2016 Advanced Engineering Software (aes)
                      (Rational Tabling Version 23.0)
                  Release Date: 07/01/2016  License ID 1435

                           Analysis prepared by:

                         THIENES ENGINEERING, INC.
                            14349 FIRESTONE BLVD
                            LA MIRIADA, CA 90638
                                714-521-4811

 ************************ DESCRIPTION OF STUDY ************************
* TEI JOB NUMBER 4100                                                    *
* EXISTING CONDITIONS                                                    *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: W:\4100\X100.DAT
  TIME/DATE OF STUDY: 13:41 03/14/2024
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =  100.00   1-HOUR INTENSITY(INCH/HOUR) =   1.200
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   829.00
  UPSTREAM ELEVATION(FEET) =   1427.57
  DOWNSTREAM ELEVATION(FEET) =   1383.71
  ELEVATION DIFFERENCE(FEET) =     43.86
  TC = 0.533*[(  829.00**3)/(    43.86)]**.2 =   14.097
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.476
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7630
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =     13.26
  TOTAL AREA(ACRES) =      7.02   TOTAL RUNOFF(CFS) =     13.26
==============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        7.0  TC(MIN.) =     14.10
  PEAK FLOW RATE(CFS)   =      13.26
==============================================================================
==============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
______________________________________________________________________________
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                      (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2016 Advanced Engineering Software (aes)
                      (Rational Tabling Version 23.0)
                  Release Date: 07/01/2016  License ID 1435

                           Analysis prepared by:

                         THIENES ENGINEERING, INC.
                            14349 FIRESTONE BLVD
                            LA MIRIADA, CA 90638
                                714-521-4811

 ************************ DESCRIPTION OF STUDY ************************
* TEI JOB NUMBER 4100                                                    *
* EXISTING CONDITIONS                                                    *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: W:\4100\X110.DAT
  TIME/DATE OF STUDY: 16:41 06/13/2022
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   12.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   12.00   1-HOUR INTENSITY(INCH/HOUR) =   0.798
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    111.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   719.00
  UPSTREAM ELEVATION(FEET) =   1430.44
  DOWNSTREAM ELEVATION(FEET) =   1383.71
  ELEVATION DIFFERENCE(FEET) =     46.73
  TC = 0.533*[(  719.00**3)/(    46.73)]**.2 =   12.780
    12 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.730
  USER-SPECIFIED RUNOFF COEFFICIENT = .7160
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =     10.99
  TOTAL AREA(ACRES) =      8.87   TOTAL RUNOFF(CFS) =     10.99
==============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        8.9  TC(MIN.) =     12.78
  PEAK FLOW RATE(CFS)   =      10.99
==============================================================================
==============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
______________________________________________________________________________
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                      (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2016 Advanced Engineering Software (aes)
                      (Rational Tabling Version 23.0)
                  Release Date: 07/01/2016  License ID 1435

                           Analysis prepared by:

                         THIENES ENGINEERING, INC.
                            14349 FIRESTONE BLVD
                            LA MIRIADA, CA 90638
                                714-521-4811

 ************************ DESCRIPTION OF STUDY ************************
* TEI JOB NUMBER 4100                                                    *
* EXISTING CONDITIONS                                                    *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: W:\4100\X120.DAT
  TIME/DATE OF STUDY: 16:45 06/13/2022
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   12.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   12.00   1-HOUR INTENSITY(INCH/HOUR) =   0.798
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    121.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   515.00
  UPSTREAM ELEVATION(FEET) =   1428.54
  DOWNSTREAM ELEVATION(FEET) =   1427.76
  ELEVATION DIFFERENCE(FEET) =      0.78
  TC = 0.533*[(  515.00**3)/(     0.78)]**.2 =   23.717
    12 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.270
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6667
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      0.28
  TOTAL AREA(ACRES) =      0.33   TOTAL RUNOFF(CFS) =      0.28

******************************************************************************
  FLOW PROCESS FROM NODE    121.00 TO NODE    122.00 IS CODE =  52
------------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1427.76  DOWNSTREAM(FEET) =   1427.52
  CHANNEL LENGTH THRU SUBAREA(FEET) =   186.00   CHANNEL SLOPE =  0.0013
```

```
  NOTE: CHANNEL FLOW OF 1. CFS WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       0.28
  FLOW VELOCITY(FEET/SEC) =   0.54 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   5.75   Tc(MIN.) =   29.47
  LONGEST FLOWPATH FROM NODE    120.00 TO NODE    122.00 =     701.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    122.00 TO NODE    122.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    12 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.139
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6474
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.98   SUBAREA RUNOFF(CFS) =    0.72
  TOTAL AREA(ACRES) =        1.3   TOTAL RUNOFF(CFS) =       1.00
  TC(MIN.) =   29.47
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        1.3  TC(MIN.) =     29.47
  PEAK FLOW RATE(CFS)   =       1.00
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
______________________________________________________________________________
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                      (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2016 Advanced Engineering Software (aes)
                      (Rational Tabling Version 23.0)
                  Release Date: 07/01/2016  License ID 1435

                           Analysis prepared by:

                         THIENES ENGINEERING, INC.
                            14349 FIRESTONE BLVD
                            LA MIRIADA, CA 90638
                                714-521-4811

 ************************ DESCRIPTION OF STUDY ************************
* TEI JOB NUMBER 4100                                                    *
* EXISTING OFFSITE CONDITIONS                                            *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: W:\4100\X200.DAT
  TIME/DATE OF STUDY: 14:00 03/14/2024
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   12.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   12.00   1-HOUR INTENSITY(INCH/HOUR) =   0.798
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    201.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   675.00
  UPSTREAM ELEVATION(FEET) =   1431.36
  DOWNSTREAM ELEVATION(FEET) =   1428.21
  ELEVATION DIFFERENCE(FEET) =      3.15
  TC = 0.533*[(  675.00**3)/(     3.15)]**.2 =   21.102
    12 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.346
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6766
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      2.08
  TOTAL AREA(ACRES) =      2.28   TOTAL RUNOFF(CFS) =      2.08
==============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        2.3  TC(MIN.) =     21.10
  PEAK FLOW RATE(CFS)   =       2.08
==============================================================================
==============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
******************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                    (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2016 Advanced Engineering Software (aes)
                    (Rational Tabling Version 23.0)
                Release Date: 07/01/2016  License ID 1435

                        Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* TEI JOB NUMBER 4100                                                    *
* PROPOSED CONDITIONS                                                    *
* 100-YEAR STORM EVENT                                                   *
 ************************************************************************

  FILE NAME: Z:\4100\P100.DAT
  TIME/DATE OF STUDY: 14:33 08/06/2025
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.450
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.200
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =  100.00   1-HOUR INTENSITY(INCH/HOUR) =   1.200
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: CONSIDER ALL CONFLUENCE STREAM COMBINATIONS
        FOR ALL DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   224.00
  UPSTREAM ELEVATION(FEET) =   1426.03
  DOWNSTREAM ELEVATION(FEET) =   1422.50
  ELEVATION DIFFERENCE(FEET) =      3.53
  TC = 0.303*[(  224.00**3)/(     3.53)]**.2 =    6.056
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.777
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8905
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      6.26
```

```
  TOTAL AREA(ACRES) =      1.86   TOTAL RUNOFF(CFS) =      6.26

****************************************************************************
  FLOW PROCESS FROM NODE    101.00 TO NODE    101.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.777
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8905
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.16   SUBAREA RUNOFF(CFS) =    0.54
  TOTAL AREA(ACRES) =        2.0   TOTAL RUNOFF(CFS) =       6.79
  TC(MIN.) =    6.06

****************************************************************************
  FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.97  DOWNSTREAM(FEET) =  1419.76
  FLOW LENGTH(FEET) =   100.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  15.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.60
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       6.79
  PIPE TRAVEL TIME(MIN.) =   0.46    Tc(MIN.) =    6.52
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    102.00 =     324.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.641
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8902
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    1.05   SUBAREA RUNOFF(CFS) =    3.40
  TOTAL AREA(ACRES) =        3.1   TOTAL RUNOFF(CFS) =      10.20
  TC(MIN.) =    6.52

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.641
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8902
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.22   SUBAREA RUNOFF(CFS) =    0.71
  TOTAL AREA(ACRES) =        3.3   TOTAL RUNOFF(CFS) =      10.91
  TC(MIN.) =    6.52

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    103.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.76  DOWNSTREAM(FEET) =  1419.56
  FLOW LENGTH(FEET) =   100.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  17.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.03
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      10.91
  PIPE TRAVEL TIME(MIN.) =   0.41    Tc(MIN.) =    6.93
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    103.00 =     424.00 FEET.

****************************************************************************
```

```
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.530
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8899
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    1.05   SUBAREA RUNOFF(CFS) =    3.30
  TOTAL AREA(ACRES) =        4.3   TOTAL RUNOFF(CFS) =      14.21
  TC(MIN.) =    6.93

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.530
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8899
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.22   SUBAREA RUNOFF(CFS) =    0.69
  TOTAL AREA(ACRES) =        4.6   TOTAL RUNOFF(CFS) =      14.90
  TC(MIN.) =    6.93

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    104.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.56  DOWNSTREAM(FEET) =  1419.35
  FLOW LENGTH(FEET) =   100.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  22.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.30
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      14.90
  PIPE TRAVEL TIME(MIN.) =   0.39    Tc(MIN.) =    7.32
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    104.00 =     524.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    104.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.436
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8897
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    1.05   SUBAREA RUNOFF(CFS) =    3.21
  TOTAL AREA(ACRES) =        5.6   TOTAL RUNOFF(CFS) =      18.11
  TC(MIN.) =    7.32

****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    104.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.436
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8897
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.22   SUBAREA RUNOFF(CFS) =    0.67
  TOTAL AREA(ACRES) =        5.8   TOTAL RUNOFF(CFS) =      18.78
  TC(MIN.) =    7.32

****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    105.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.35  DOWNSTREAM(FEET) =  1419.12
```

```
  FLOW LENGTH(FEET) =   119.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  24.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.42
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      18.78
  PIPE TRAVEL TIME(MIN.) =   0.45    Tc(MIN.) =    7.77
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    105.00 =     643.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    105.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.335
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8894
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    2.09   SUBAREA RUNOFF(CFS) =    6.20
  TOTAL AREA(ACRES) =        7.9   TOTAL RUNOFF(CFS) =      24.98
  TC(MIN.) =    7.77

****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    105.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.335
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8894
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.47   SUBAREA RUNOFF(CFS) =    1.39
  TOTAL AREA(ACRES) =        8.4   TOTAL RUNOFF(CFS) =      26.38
  TC(MIN.) =    7.77

****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    106.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1419.12  DOWNSTREAM(FEET) =  1418.77
  FLOW LENGTH(FEET) =   174.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  25.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.00
  ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      26.38
  PIPE TRAVEL TIME(MIN.) =   0.58    Tc(MIN.) =    8.35
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    106.00 =     817.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    106.00 TO NODE    106.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.217
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8891
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.88   SUBAREA RUNOFF(CFS) =    2.52
  TOTAL AREA(ACRES) =        9.3   TOTAL RUNOFF(CFS) =      28.89
  TC(MIN.) =    8.35

****************************************************************************
  FLOW PROCESS FROM NODE    106.00 TO NODE    107.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1418.77  DOWNSTREAM(FEET) =  1417.64
  FLOW LENGTH(FEET) =   564.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  27.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.06
```

```
  ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      28.89
  PIPE TRAVEL TIME(MIN.) =   1.86    Tc(MIN.) =   10.21
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    107.00 =    1381.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    107.00 TO NODE    107.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.910
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8881
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    0.76   SUBAREA RUNOFF(CFS) =    1.96
  TOTAL AREA(ACRES) =       10.0   TOTAL RUNOFF(CFS) =      30.86
  TC(MIN.) =   10.21

****************************************************************************
  FLOW PROCESS FROM NODE    107.00 TO NODE    214.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1417.64  DOWNSTREAM(FEET) =  1417.12
  FLOW LENGTH(FEET) =   258.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  28.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.10
  ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      30.86
  PIPE TRAVEL TIME(MIN.) =   0.84    Tc(MIN.) =   11.05
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    214.00 =    1639.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    214.00 TO NODE    214.00 IS CODE =  10
----------------------------------------------------------------------------
  >>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<
============================================================================

****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    201.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   256.00
  UPSTREAM ELEVATION(FEET) =   1425.92
  DOWNSTREAM ELEVATION(FEET) =   1424.65
  ELEVATION DIFFERENCE(FEET) =      1.27
  TC = 0.303*[(  256.00**3)/(     1.27)]**.2 =    8.049
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.276
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8892
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      2.07
  TOTAL AREA(ACRES) =      0.71   TOTAL RUNOFF(CFS) =      2.07

****************************************************************************
  FLOW PROCESS FROM NODE    201.00 TO NODE    202.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1422.48  DOWNSTREAM(FEET) =  1420.79
  FLOW LENGTH(FEET) =   339.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   7.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.75
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.07
```

```
  PIPE TRAVEL TIME(MIN.) =   1.51    Tc(MIN.) =    9.56
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    202.00 =     595.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    202.00 TO NODE    202.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.007
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8884
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    1.57   SUBAREA RUNOFF(CFS) =    4.19
  TOTAL AREA(ACRES) =        2.3   TOTAL RUNOFF(CFS) =       6.26
  TC(MIN.) =    9.56

****************************************************************************
  FLOW PROCESS FROM NODE    202.00 TO NODE    213.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1420.79  DOWNSTREAM(FEET) =  1420.69
  FLOW LENGTH(FEET) =   347.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  21.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   1.68
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       6.26
  PIPE TRAVEL TIME(MIN.) =   3.44    Tc(MIN.) =   12.99
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    213.00 =     942.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    212.00 TO NODE    212.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   12.99
  RAINFALL INTENSITY(INCH/HR) =   2.58
  TOTAL STREAM AREA(ACRES) =     2.28
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      6.26

****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    211.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   292.00
  UPSTREAM ELEVATION(FEET) =   1427.01
  DOWNSTREAM ELEVATION(FEET) =   1424.61
  ELEVATION DIFFERENCE(FEET) =      2.40
  TC = 0.303*[(  292.00**3)/(     2.40)]**.2 =    7.670
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.356
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8895
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      7.16
  TOTAL AREA(ACRES) =      2.40   TOTAL RUNOFF(CFS) =      7.16

****************************************************************************
  FLOW PROCESS FROM NODE    211.00 TO NODE    212.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1421.61  DOWNSTREAM(FEET) =  1420.89
  FLOW LENGTH(FEET) =   144.00   MANNING'S N =  0.012
```

```
  DEPTH OF FLOW IN  18.0 INCH PIPE IS  13.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.03
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       7.16
  PIPE TRAVEL TIME(MIN.) =   0.48    Tc(MIN.) =    8.15
  LONGEST FLOWPATH FROM NODE    210.00 TO NODE    212.00 =     436.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    212.00 TO NODE    212.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.257
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8892
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    2.47   SUBAREA RUNOFF(CFS) =    7.15
  TOTAL AREA(ACRES) =        4.9   TOTAL RUNOFF(CFS) =      14.32
  TC(MIN.) =    8.15

****************************************************************************
  FLOW PROCESS FROM NODE    212.00 TO NODE    213.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1420.89  DOWNSTREAM(FEET) =  1420.69
  FLOW LENGTH(FEET) =    40.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  17.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.03
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      14.32
  PIPE TRAVEL TIME(MIN.) =   0.11    Tc(MIN.) =    8.26
  LONGEST FLOWPATH FROM NODE    210.00 TO NODE    213.00 =     476.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    213.00 TO NODE    213.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.26
  RAINFALL INTENSITY(INCH/HR) =   3.23
  TOTAL STREAM AREA(ACRES) =     4.87
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     14.32

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        6.26    12.99        2.579          2.28
      2       14.32     8.26        3.235          4.87

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       18.30     8.26       3.235
      2       17.68    12.99       2.579

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      18.30   Tc(MIN.) =    8.26
  TOTAL AREA(ACRES) =        7.1
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    213.00 =     942.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    213.00 TO NODE    214.00 IS CODE =  31
```

```
------------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1420.69  DOWNSTREAM(FEET) =  1417.12
  FLOW LENGTH(FEET) =   293.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  17.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.75
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      18.30
  PIPE TRAVEL TIME(MIN.) =   0.56    Tc(MIN.) =    8.81
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    214.00 =    1235.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    214.00 TO NODE    214.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<
==============================================================================

  ** MAIN STREAM CONFLUENCE DATA **
  STREAM     RUNOFF      Tc      INTENSITY     AREA
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)   (ACRE)
      1       18.30     8.81       3.131        7.15
      2       17.68    13.55       2.525        7.15
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    214.00 =    1235.00 FEET.

  ** MEMORY BANK #  1 CONFLUENCE DATA **
  STREAM     RUNOFF      Tc      INTENSITY     AREA
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)   (ACRE)
      1       30.86    11.05       2.796       10.03
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    214.00 =    1639.00 FEET.

  ** PEAK FLOW RATE TABLE **
  STREAM    RUNOFF       Tc      INTENSITY
  NUMBER     (CFS)     (MIN.)   (INCH/HOUR)
      1      42.92       8.81        3.131
      2      47.20      11.05        2.796
      3      45.54      13.55        2.525

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      47.20   Tc(MIN.) =   11.05
  TOTAL AREA(ACRES) =       17.2
==============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       17.2  TC(MIN.) =     11.05
  PEAK FLOW RATE(CFS)   =      47.20
  *** PEAK FLOW RATE TABLE ***
         Q(CFS)   Tc(MIN.)
  1       42.92       8.81
  2       47.20      11.05
  3       45.54      13.55
==============================================================================
==============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

APPENDIX C

DETENTION CALCULATIONS

LOVETT 215
PONDING IN EASTERLY TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	Σ Volume (c.f.)	Σ Volume (ac-ft)
1424.48	0.00	0			
			372	372	0.01
1424.60	0.12	6200			
			1363	1,735	0.04
1424.70	0.22	21065			
			3150	4,885	0.11
1424.80	0.32	41936			
			4993	9,878	0.23
1424.90	0.42	57915			
			6390	16,268	0.37
1425.00	0.52	69880			
			7594	23,861	0.55
1425.10	0.62	81997			
			8813	32,675	0.75
1425.20	0.72	94268			
			1910	34,585	0.79
1425.22	0.74	96741			
			8135	42,720	0.98
1425.30	0.82	106640			
			11281	54,001	1.24
1425.40	0.92	118978			

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U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100EX10B110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.051 Hr.
Lag time = 3.04 Min.
25% of lag time = 0.76 Min.
40% of lag time = 1.22 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	0.45	3.78

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.20	10.07

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.450(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 0.759(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.758(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
          8.390           93.00         0.000
 Total Area Entered =      8.39(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                  Sum (F) =   0.091
 Area averaged mean soil loss (F) (In/Hr) =  0.091
 Minimum soil loss rate ((In/Hr)) =  0.045
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.900
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5000
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------------
     1   0.083        164.477         36.504             3.087
     2   0.167        328.955         45.930             3.884
     3   0.250        493.432         10.407             0.880
     4   0.333        657.909          4.440             0.375
     5   0.417        822.386          2.719             0.230
                                Sum = 100.000   Sum=       8.456
-------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.382          0.091    (  0.344)        0.291
   2   0.17     4.30      0.391          0.091    (  0.352)        0.300
   3   0.25     5.00      0.455          0.091    (  0.410)        0.364
   4   0.33     5.00      0.455          0.091    (  0.410)        0.364
   5   0.42     5.80      0.528          0.091    (  0.475)        0.437
   6   0.50     6.50      0.592          0.091    (  0.532)        0.501
   7   0.58     7.40      0.674          0.091    (  0.606)        0.583
   8   0.67     8.60      0.783          0.091    (  0.704)        0.692
   9   0.75    12.30      1.120          0.091    (  1.008)        1.029
  10   0.83    29.10      2.649          0.091    (  2.384)        2.558
  11   0.92     6.80      0.619          0.091    (  0.557)        0.528
  12   1.00     5.00      0.455          0.091    (  0.410)        0.364
               (Loss Rate Not Used)
     Sum =     100.0                                 Sum =     8.0
        Flood volume = Effective rainfall      0.67(In)
         times area       8.4(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
        Total soil loss =      0.09(In)
        Total soil loss =     0.064(Ac.Ft)
        Total rainfall =      0.76(In)
        Flood volume =       20329.1 Cubic Feet
        Total soil loss =        2771.5 Cubic Feet
        ------------------------------------------------------------------
         Peak flow rate of this hydrograph =     12.868(CFS)
        ------------------------------------------------------------------
        ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
        ------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

        ------------------------------------------------------------------
```

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0062	0.90	VQ				
0+10	0.0204	2.06	V Q				
0+15	0.0379	2.55	V Q				
0+20	0.0580	2.91	VQ				
0+25	0.0805	3.26	Q				
0+30	0.1064	3.77	Q V				
0+35	0.1364	4.35	Q V				
0+40	0.1714	5.09	Q V				
0+45	0.2173	6.67	Q V				
0+50	0.3058	12.84			QV		
0+55	0.3944	12.87			Q	V	
1+ 0	0.4355	5.97	Q			V	
1+ 5	0.4567	3.08	Q				V
1+10	0.4643	1.11	Q				V
1+15	0.4661	0.26	Q				V
1+20	0.4667	0.08	Q				V

U n i t H y d r o g r a p h A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

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10-YEAR STORM EVENT

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Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.051 Hr.
Lag time = 3.04 Min.
25% of lag time = 0.76 Min.
40% of lag time = 1.22 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	0.80	6.71

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.80	15.10

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
     8.390          93.00         0.000
 Total Area Entered =      8.39(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        164.477         36.504              3.087
    2   0.167        328.955         45.930              3.884
    3   0.250        493.432         10.407              0.880
    4   0.333        657.909          4.440              0.375
    5   0.417        822.386          2.719              0.230
                              Sum = 100.000   Sum=       8.456
------------------------------------------------------------------------
```

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.189	0.091	(0.170)	0.098
2	0.17	1.30	0.189	0.091	(0.170)	0.098
3	0.25	1.10	0.160	0.091	(0.144)	0.069
4	0.33	1.50	0.218	0.091	(0.196)	0.127
5	0.42	1.50	0.218	0.091	(0.196)	0.127
6	0.50	1.80	0.262	0.091	(0.235)	0.171
7	0.58	1.50	0.218	0.091	(0.196)	0.127
8	0.67	1.80	0.262	0.091	(0.235)	0.171
9	0.75	1.80	0.262	0.091	(0.235)	0.171
10	0.83	1.50	0.218	0.091	(0.196)	0.127
11	0.92	1.60	0.233	0.091	(0.209)	0.142
12	1.00	1.80	0.262	0.091	(0.235)	0.171
13	1.08	2.20	0.320	0.091	(0.288)	0.229
14	1.17	2.20	0.320	0.091	(0.288)	0.229
15	1.25	2.20	0.320	0.091	(0.288)	0.229
16	1.33	2.00	0.291	0.091	(0.262)	0.200
17	1.42	2.60	0.378	0.091	(0.340)	0.287
18	1.50	2.70	0.392	0.091	(0.353)	0.301
19	1.58	2.40	0.349	0.091	(0.314)	0.258
20	1.67	2.70	0.392	0.091	(0.353)	0.301
21	1.75	3.30	0.480	0.091	(0.432)	0.389
22	1.83	3.10	0.451	0.091	(0.406)	0.360
23	1.92	2.90	0.422	0.091	(0.379)	0.331
24	2.00	3.00	0.436	0.091	(0.392)	0.345
25	2.08	3.10	0.451	0.091	(0.406)	0.360
26	2.17	4.20	0.611	0.091	(0.549)	0.520
27	2.25	5.00	0.727	0.091	(0.654)	0.636
28	2.33	3.50	0.509	0.091	(0.458)	0.418
29	2.42	6.80	0.988	0.091	(0.890)	0.897
30	2.50	7.30	1.061	0.091	(0.955)	0.970
31	2.58	8.20	1.192	0.091	(1.073)	1.101
32	2.67	5.90	0.858	0.091	(0.772)	0.767
33	2.75	2.00	0.291	0.091	(0.262)	0.200

```
34   2.83     1.80      0.262          0.091    (  0.235)        0.171
35   2.92     1.80      0.262          0.091    (  0.235)        0.171
36   3.00     0.60      0.087       (  0.091)       0.078        0.009
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    11.3
      Flood volume = Effective rainfall      0.94(In)
       times area       8.4(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
      Total soil loss =      0.27(In)
      Total soil loss =     0.190(Ac.Ft)
      Total rainfall =      1.21(In)
      Flood volume =       28610.3 Cubic Feet
      Total soil loss =        8282.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.263(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
---------------------------------------------------------------------------
  0+ 5       0.0021      0.30  VQ        |         |         |         |
  0+10       0.0068      0.68  V Q       |         |         |         |
  0+15       0.0115      0.68  V Q       |         |         |         |
  0+20       0.0169      0.78  |V Q      |         |         |         |
  0+25       0.0238      1.01  |V  Q     |         |         |         |
  0+30       0.0319      1.18  |V  Q     |         |         |         |
  0+35       0.0404      1.23  | V Q     |         |         |         |
  0+40       0.0490      1.25  | V Q     |         |         |         |
  0+45       0.0586      1.40  |  V Q    |         |         |         |
  0+50       0.0675      1.29  |   VQ    |         |         |         |
  0+55       0.0756      1.17  |   Q     |         |         |         |
  1+ 0       0.0845      1.29  |    Q    |         |         |         |
  1+ 5       0.0954      1.58  |    VQ   |         |         |         |
  1+10       0.1080      1.83  |     VQ  |         |         |         |
  1+15       0.1210      1.89  |      Q  |         |         |         |
  1+20       0.1336      1.83  |      QV |         |         |         |
  1+25       0.1474      2.00  |       Q |         |         |         |
  1+30       0.1637      2.36  |        Q|         |         |         |
  1+35       0.1799      2.35  |        QV         |         |         |
  1+40       0.1961      2.35  |        Q|V        |         |         |
  1+45       0.2152      2.78  |         |Q V      |         |         |
  1+50       0.2362      3.05  |         | Q V     |         |         |
  1+55       0.2564      2.93  |         |Q   V    |         |         |
  2+ 0       0.2763      2.88  |         |Q    V   |         |         |
  2+ 5       0.2967      2.97  |         |Q      V |         |         |
  2+10       0.3209      3.51  |         |   Q    V|         |         |
  2+15       0.3519      4.50  |         |       Q |V        |         |
  2+20       0.3824      4.43  |         |      Q  |  V      |         |
  2+25       0.4185      5.23  |         |         Q    V    |         |
  2+30       0.4681      7.21  |         |         |       Q |         |
  2+35       0.5250      8.26  |         |         |         |V Q      |
  2+40       0.5797      7.93  |         |         |         |Q   V    |
  2+45       0.6150      5.14  |         |         Q         |      V  |
  2+50       0.6331      2.61  |         Q         |         |       V |
  2+55       0.6462      1.91  |      Q  |         |         |        V|
  3+ 0       0.6537      1.09  |   Q     |         |         |        V|
  3+ 5       0.6557      0.29  |Q        |         |         |        V|
  3+10       0.6565      0.11  Q         |         |         |        V|
  3+15       0.6568      0.04  Q         |         |         |        V|
  3+20       0.6568      0.00  Q         |         |         |         V
---------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100EX10B610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.051 Hr.
Lag time = 3.04 Min.
25% of lag time = 0.76 Min.
40% of lag time = 1.22 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.00	8.39

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	2.50	20.98

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
     8.390          93.00         0.000
 Total Area Entered =      8.39(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

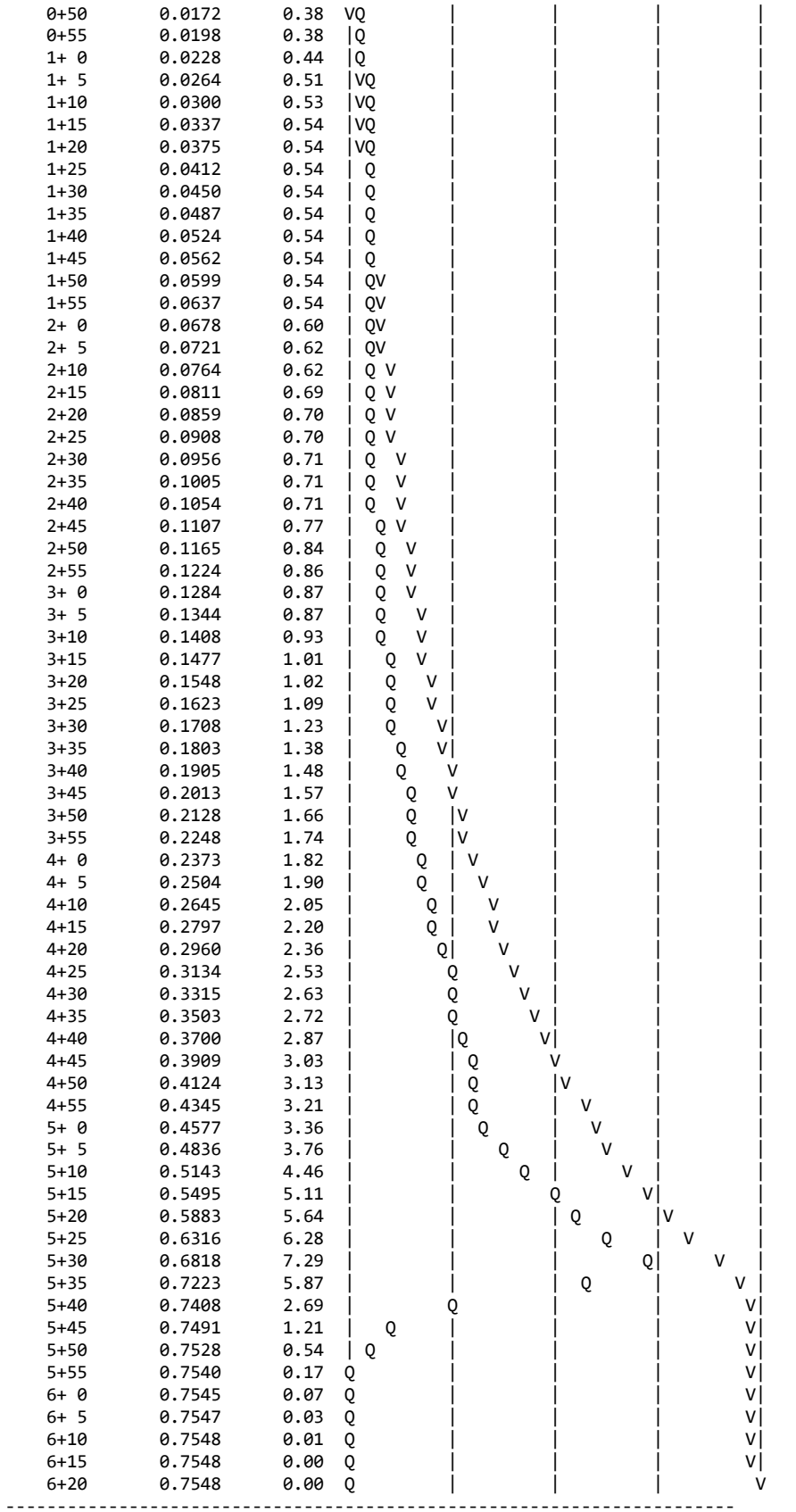
               U n i t  H y d r o g r a p h
                      VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        164.477         36.504              3.087
    2   0.167        328.955         45.930              3.884
    3   0.250        493.432         10.407              0.880
    4   0.333        657.909          4.440              0.375
    5   0.417        822.386          2.719              0.230
                              Sum = 100.000   Sum=       8.456
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     0.50      0.097       (  0.091)      0.087        0.010
   2   0.17     0.60      0.116          0.091    (  0.105)        0.025
   3   0.25     0.60      0.116          0.091    (  0.105)        0.025
   4   0.33     0.60      0.116          0.091    (  0.105)        0.025
   5   0.42     0.60      0.116          0.091    (  0.105)        0.025
   6   0.50     0.70      0.136          0.091    (  0.122)        0.045
   7   0.58     0.70      0.136          0.091    (  0.122)        0.045
   8   0.67     0.70      0.136          0.091    (  0.122)        0.045
   9   0.75     0.70      0.136          0.091    (  0.122)        0.045
  10   0.83     0.70      0.136          0.091    (  0.122)        0.045
  11   0.92     0.70      0.136          0.091    (  0.122)        0.045
  12   1.00     0.80      0.155          0.091    (  0.140)        0.064
  13   1.08     0.80      0.155          0.091    (  0.140)        0.064
  14   1.17     0.80      0.155          0.091    (  0.140)        0.064
  15   1.25     0.80      0.155          0.091    (  0.140)        0.064
  16   1.33     0.80      0.155          0.091    (  0.140)        0.064
  17   1.42     0.80      0.155          0.091    (  0.140)        0.064
  18   1.50     0.80      0.155          0.091    (  0.140)        0.064
  19   1.58     0.80      0.155          0.091    (  0.140)        0.064
  20   1.67     0.80      0.155          0.091    (  0.140)        0.064
  21   1.75     0.80      0.155          0.091    (  0.140)        0.064
  22   1.83     0.80      0.155          0.091    (  0.140)        0.064
  23   1.92     0.80      0.155          0.091    (  0.140)        0.064
  24   2.00     0.90      0.175          0.091    (  0.157)        0.084
  25   2.08     0.80      0.155          0.091    (  0.140)        0.064
  26   2.17     0.90      0.175          0.091    (  0.157)        0.084
  27   2.25     0.90      0.175          0.091    (  0.157)        0.084
  28   2.33     0.90      0.175          0.091    (  0.157)        0.084
  29   2.42     0.90      0.175          0.091    (  0.157)        0.084
  30   2.50     0.90      0.175          0.091    (  0.157)        0.084
  31   2.58     0.90      0.175          0.091    (  0.157)        0.084
  32   2.67     0.90      0.175          0.091    (  0.157)        0.084
  33   2.75     1.00      0.194          0.091    (  0.175)        0.103
```

```
34   2.83     1.00      0.194          0.091    (  0.175)        0.103
35   2.92     1.00      0.194          0.091    (  0.175)        0.103
36   3.00     1.00      0.194          0.091    (  0.175)        0.103
37   3.08     1.00      0.194          0.091    (  0.175)        0.103
38   3.17     1.10      0.213          0.091    (  0.192)        0.122
39   3.25     1.10      0.213          0.091    (  0.192)        0.122
40   3.33     1.10      0.213          0.091    (  0.192)        0.122
41   3.42     1.20      0.233          0.091    (  0.210)        0.142
42   3.50     1.30      0.252          0.091    (  0.227)        0.161
43   3.58     1.40      0.272          0.091    (  0.245)        0.181
44   3.67     1.40      0.272          0.091    (  0.245)        0.181
45   3.75     1.50      0.291          0.091    (  0.262)        0.200
46   3.83     1.50      0.291          0.091    (  0.262)        0.200
47   3.92     1.60      0.310          0.091    (  0.279)        0.219
48   4.00     1.60      0.310          0.091    (  0.279)        0.219
49   4.08     1.70      0.330          0.091    (  0.297)        0.239
50   4.17     1.80      0.349          0.091    (  0.314)        0.258
51   4.25     1.90      0.369          0.091    (  0.332)        0.278
52   4.33     2.00      0.388          0.091    (  0.349)        0.297
53   4.42     2.10      0.408          0.091    (  0.367)        0.317
54   4.50     2.10      0.408          0.091    (  0.367)        0.317
55   4.58     2.20      0.427          0.091    (  0.384)        0.336
56   4.67     2.30      0.446          0.091    (  0.402)        0.355
57   4.75     2.40      0.466          0.091    (  0.419)        0.375
58   4.83     2.40      0.466          0.091    (  0.419)        0.375
59   4.92     2.50      0.485          0.091    (  0.437)        0.394
60   5.00     2.60      0.505          0.091    (  0.454)        0.414
61   5.08     3.10      0.602          0.091    (  0.541)        0.511
62   5.17     3.60      0.699          0.091    (  0.629)        0.608
63   5.25     3.90      0.757          0.091    (  0.681)        0.666
64   5.33     4.20      0.815          0.091    (  0.734)        0.724
65   5.42     4.70      0.912          0.091    (  0.821)        0.821
66   5.50     5.60      1.087          0.091    (  0.978)        0.996
67   5.58     1.90      0.369          0.091    (  0.332)        0.278
68   5.67     0.90      0.175          0.091    (  0.157)        0.084
69   5.75     0.60      0.116          0.091    (  0.105)        0.025
70   5.83     0.50      0.097       (  0.091)       0.087        0.010
71   5.92     0.30      0.058       (  0.091)       0.052        0.006
72   6.00     0.20      0.039       (  0.091)       0.035        0.004
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    13.0
      Flood volume = Effective rainfall      1.08(In)
       times area       8.4(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.54(In)
      Total soil loss =     0.376(Ac.Ft)
      Total rainfall =      1.62(In)
      Flood volume =       32879.0 Cubic Feet
      Total soil loss =       16369.8 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.292(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.03  Q         |         |         |         |
  0+10       0.0010      0.12  Q         |         |         |         |
  0+15       0.0023      0.19  Q         |         |         |         |
  0+20       0.0037      0.20  Q         |         |         |         |
  0+25       0.0051      0.21  Q         |         |         |         |
  0+30       0.0070      0.28  VQ        |         |         |         |
  0+35       0.0095      0.35  VQ        |         |         |         |
  0+40       0.0120      0.37  VQ        |         |         |         |
  0+45       0.0146      0.37  VQ        |         |         |         |
```


0+50 0.0172 0.38
0+55 0.0198 0.38
1+ 0 0.0228 0.44
1+ 5 0.0264 0.51
1+10 0.0300 0.53
1+15 0.0337 0.54
1+20 0.0375 0.54
1+25 0.0412 0.54
1+30 0.0450 0.54
1+35 0.0487 0.54
1+40 0.0524 0.54
1+45 0.0562 0.54
1+50 0.0599 0.54
1+55 0.0637 0.54
2+ 0 0.0678 0.60
2+ 5 0.0721 0.62
2+10 0.0764 0.62
2+15 0.0811 0.69
2+20 0.0859 0.70
2+25 0.0908 0.70
2+30 0.0956 0.71
2+35 0.1005 0.71
2+40 0.1054 0.71
2+45 0.1107 0.77
2+50 0.1165 0.84
2+55 0.1224 0.86
3+ 0 0.1284 0.87
3+ 5 0.1344 0.87
3+10 0.1408 0.93
3+15 0.1477 1.01
3+20 0.1548 1.02
3+25 0.1623 1.09
3+30 0.1708 1.23
3+35 0.1803 1.38
3+40 0.1905 1.48
3+45 0.2013 1.57
3+50 0.2128 1.66
3+55 0.2248 1.74
4+ 0 0.2373 1.82
4+ 5 0.2504 1.90
4+10 0.2645 2.05
4+15 0.2797 2.20
4+20 0.2960 2.36
4+25 0.3134 2.53
4+30 0.3315 2.63
4+35 0.3503 2.72
4+40 0.3700 2.87
4+45 0.3909 3.03
4+50 0.4124 3.13
4+55 0.4345 3.21
5+ 0 0.4577 3.36
5+ 5 0.4836 3.76
5+10 0.5143 4.46
5+15 0.5495 5.11
5+20 0.5883 5.64
5+25 0.6316 6.28
5+30 0.6818 7.29
5+35 0.7223 5.87
5+40 0.7408 2.69
5+45 0.7491 1.21
5+50 0.7528 0.54
5+55 0.7540 0.17
6+ 0 0.7545 0.07
6+ 5 0.7547 0.03
6+10 0.7548 0.01
6+15 0.7548 0.00
6+20 0.7548 0.00

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100EX10B2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.051 Hr.
Lag time = 3.04 Min.
25% of lag time = 0.76 Min.
40% of lag time = 1.22 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.60	13.42

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	4.00	33.56

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          8.390           93.00         0.000
 Total Area Entered =      8.39(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                  Sum (F) =   0.091
 Area averaged mean soil loss (F) (In/Hr) =  0.091
 Minimum soil loss rate ((In/Hr)) =  0.045
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.900
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        164.477         36.504              3.087
     2   0.167        328.955         45.930              3.884
     3   0.250        493.432         10.407              0.880
     4   0.333        657.909          4.440              0.375
     5   0.417        822.386          2.719              0.230
                               Sum = 100.000   Sum=       8.456
-------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     0.07      0.021       (  0.161)       0.019        0.002
    2   0.17     0.07      0.021       (  0.161)       0.019        0.002
    3   0.25     0.07      0.021       (  0.160)       0.019        0.002
    4   0.33     0.10      0.031       (  0.159)       0.028        0.003
    5   0.42     0.10      0.031       (  0.159)       0.028        0.003
    6   0.50     0.10      0.031       (  0.158)       0.028        0.003
    7   0.58     0.10      0.031       (  0.158)       0.028        0.003
    8   0.67     0.10      0.031       (  0.157)       0.028        0.003
    9   0.75     0.10      0.031       (  0.156)       0.028        0.003
   10   0.83     0.13      0.041       (  0.156)       0.037        0.004
   11   0.92     0.13      0.041       (  0.155)       0.037        0.004
   12   1.00     0.13      0.041       (  0.155)       0.037        0.004
   13   1.08     0.10      0.031       (  0.154)       0.028        0.003
   14   1.17     0.10      0.031       (  0.153)       0.028        0.003
   15   1.25     0.10      0.031       (  0.153)       0.028        0.003
   16   1.33     0.10      0.031       (  0.152)       0.028        0.003
   17   1.42     0.10      0.031       (  0.151)       0.028        0.003
   18   1.50     0.10      0.031       (  0.151)       0.028        0.003
   19   1.58     0.10      0.031       (  0.150)       0.028        0.003
   20   1.67     0.10      0.031       (  0.150)       0.028        0.003
   21   1.75     0.10      0.031       (  0.149)       0.028        0.003
   22   1.83     0.13      0.041       (  0.148)       0.037        0.004
   23   1.92     0.13      0.041       (  0.148)       0.037        0.004
   24   2.00     0.13      0.041       (  0.147)       0.037        0.004
   25   2.08     0.13      0.041       (  0.147)       0.037        0.004
   26   2.17     0.13      0.041       (  0.146)       0.037        0.004
   27   2.25     0.13      0.041       (  0.145)       0.037        0.004
   28   2.33     0.13      0.041       (  0.145)       0.037        0.004
   29   2.42     0.13      0.041       (  0.144)       0.037        0.004
   30   2.50     0.13      0.041       (  0.144)       0.037        0.004
   31   2.58     0.17      0.052       (  0.143)       0.047        0.005
   32   2.67     0.17      0.052       (  0.143)       0.047        0.005
   33   2.75     0.17      0.052       (  0.142)       0.047        0.005
```

34	2.83	0.17	0.052	(	0.141)	0.047		0.005
35	2.92	0.17	0.052	(	0.141)	0.047		0.005
36	3.00	0.17	0.052	(	0.140)	0.047		0.005
37	3.08	0.17	0.052	(	0.140)	0.047		0.005
38	3.17	0.17	0.052	(	0.139)	0.047		0.005
39	3.25	0.17	0.052	(	0.138)	0.047		0.005
40	3.33	0.17	0.052	(	0.138)	0.047		0.005
41	3.42	0.17	0.052	(	0.137)	0.047		0.005
42	3.50	0.17	0.052	(	0.137)	0.047		0.005
43	3.58	0.17	0.052	(	0.136)	0.047		0.005
44	3.67	0.17	0.052	(	0.136)	0.047		0.005
45	3.75	0.17	0.052	(	0.135)	0.047		0.005
46	3.83	0.20	0.062	(	0.134)	0.056		0.006
47	3.92	0.20	0.062	(	0.134)	0.056		0.006
48	4.00	0.20	0.062	(	0.133)	0.056		0.006
49	4.08	0.20	0.062	(	0.133)	0.056		0.006
50	4.17	0.20	0.062	(	0.132)	0.056		0.006
51	4.25	0.20	0.062	(	0.132)	0.056		0.006
52	4.33	0.23	0.072	(	0.131)	0.065		0.007
53	4.42	0.23	0.072	(	0.131)	0.065		0.007
54	4.50	0.23	0.072	(	0.130)	0.065		0.007
55	4.58	0.23	0.072	(	0.129)	0.065		0.007
56	4.67	0.23	0.072	(	0.129)	0.065		0.007
57	4.75	0.23	0.072	(	0.128)	0.065		0.007
58	4.83	0.27	0.083	(	0.128)	0.075		0.008
59	4.92	0.27	0.083	(	0.127)	0.075		0.008
60	5.00	0.27	0.083	(	0.127)	0.075		0.008
61	5.08	0.20	0.062	(	0.126)	0.056		0.006
62	5.17	0.20	0.062	(	0.126)	0.056		0.006
63	5.25	0.20	0.062	(	0.125)	0.056		0.006
64	5.33	0.23	0.072	(	0.124)	0.065		0.007
65	5.42	0.23	0.072	(	0.124)	0.065		0.007
66	5.50	0.23	0.072	(	0.123)	0.065		0.007
67	5.58	0.27	0.083	(	0.123)	0.075		0.008
68	5.67	0.27	0.083	(	0.122)	0.075		0.008
69	5.75	0.27	0.083	(	0.122)	0.075		0.008
70	5.83	0.27	0.083	(	0.121)	0.075		0.008
71	5.92	0.27	0.083	(	0.121)	0.075		0.008
72	6.00	0.27	0.083	(	0.120)	0.075		0.008
73	6.08	0.30	0.093	(	0.120)	0.084		0.009
74	6.17	0.30	0.093	(	0.119)	0.084		0.009
75	6.25	0.30	0.093	(	0.119)	0.084		0.009
76	6.33	0.30	0.093	(	0.118)	0.084		0.009
77	6.42	0.30	0.093	(	0.117)	0.084		0.009
78	6.50	0.30	0.093	(	0.117)	0.084		0.009
79	6.58	0.33	0.103	(	0.116)	0.093		0.010
80	6.67	0.33	0.103	(	0.116)	0.093		0.010
81	6.75	0.33	0.103	(	0.115)	0.093		0.010
82	6.83	0.33	0.103	(	0.115)	0.093		0.010
83	6.92	0.33	0.103	(	0.114)	0.093		0.010
84	7.00	0.33	0.103	(	0.114)	0.093		0.010
85	7.08	0.33	0.103	(	0.113)	0.093		0.010
86	7.17	0.33	0.103	(	0.113)	0.093		0.010
87	7.25	0.33	0.103	(	0.112)	0.093		0.010
88	7.33	0.37	0.114	(	0.112)	0.102		0.011
89	7.42	0.37	0.114	(	0.111)	0.102		0.011
90	7.50	0.37	0.114	(	0.111)	0.102		0.011
91	7.58	0.40	0.124		0.110	(	0.112)	0.014
92	7.67	0.40	0.124		0.110	(	0.112)	0.014
93	7.75	0.40	0.124		0.109	(	0.112)	0.015
94	7.83	0.43	0.135		0.109	(	0.121)	0.026
95	7.92	0.43	0.135		0.108	(	0.121)	0.026
96	8.00	0.43	0.135		0.108	(	0.121)	0.027
97	8.08	0.50	0.155		0.107	(	0.140)	0.048
98	8.17	0.50	0.155		0.107	(	0.140)	0.049
99	8.25	0.50	0.155		0.106	(	0.140)	0.049
100	8.33	0.50	0.155		0.106	(	0.140)	0.050
101	8.42	0.50	0.155		0.105	(	0.140)	0.050
102	8.50	0.50	0.155		0.105	(	0.140)	0.051

103	8.58	0.53	0.166	0.104	(	0.149)	0.061
104	8.67	0.53	0.166	0.104	(	0.149)	0.062
105	8.75	0.53	0.166	0.103	(	0.149)	0.062
106	8.83	0.57	0.176	0.103	(	0.158)	0.073
107	8.92	0.57	0.176	0.102	(	0.158)	0.074
108	9.00	0.57	0.176	0.102	(	0.158)	0.074
109	9.08	0.63	0.197	0.101	(	0.177)	0.095
110	9.17	0.63	0.197	0.101	(	0.177)	0.096
111	9.25	0.63	0.197	0.100	(	0.177)	0.096
112	9.33	0.67	0.207	0.100	(	0.186)	0.107
113	9.42	0.67	0.207	0.099	(	0.186)	0.108
114	9.50	0.67	0.207	0.099	(	0.186)	0.108
115	9.58	0.70	0.217	0.098	(	0.196)	0.119
116	9.67	0.70	0.217	0.098	(	0.196)	0.119
117	9.75	0.70	0.217	0.097	(	0.196)	0.120
118	9.83	0.73	0.228	0.097	(	0.205)	0.131
119	9.92	0.73	0.228	0.097	(	0.205)	0.131
120	10.00	0.73	0.228	0.096	(	0.205)	0.132
121	10.08	0.50	0.155	0.096	(	0.140)	0.060
122	10.17	0.50	0.155	0.095	(	0.140)	0.060
123	10.25	0.50	0.155	0.095	(	0.140)	0.061
124	10.33	0.50	0.155	0.094	(	0.140)	0.061
125	10.42	0.50	0.155	0.094	(	0.140)	0.061
126	10.50	0.50	0.155	0.093	(	0.140)	0.062
127	10.58	0.67	0.207	0.093	(	0.186)	0.114
128	10.67	0.67	0.207	0.092	(	0.186)	0.115
129	10.75	0.67	0.207	0.092	(	0.186)	0.115
130	10.83	0.67	0.207	0.092	(	0.186)	0.115
131	10.92	0.67	0.207	0.091	(	0.186)	0.116
132	11.00	0.67	0.207	0.091	(	0.186)	0.116
133	11.08	0.63	0.197	0.090	(	0.177)	0.106
134	11.17	0.63	0.197	0.090	(	0.177)	0.107
135	11.25	0.63	0.197	0.089	(	0.177)	0.107
136	11.33	0.63	0.197	0.089	(	0.177)	0.108
137	11.42	0.63	0.197	0.088	(	0.177)	0.108
138	11.50	0.63	0.197	0.088	(	0.177)	0.109
139	11.58	0.57	0.176	0.088	(	0.158)	0.088
140	11.67	0.57	0.176	0.087	(	0.158)	0.089
141	11.75	0.57	0.176	0.087	(	0.158)	0.089
142	11.83	0.60	0.186	0.086	(	0.168)	0.100
143	11.92	0.60	0.186	0.086	(	0.168)	0.100
144	12.00	0.60	0.186	0.085	(	0.168)	0.101
145	12.08	0.83	0.259	0.085	(	0.233)	0.174
146	12.17	0.83	0.259	0.085	(	0.233)	0.174
147	12.25	0.83	0.259	0.084	(	0.233)	0.175
148	12.33	0.87	0.269	0.084	(	0.242)	0.185
149	12.42	0.87	0.269	0.083	(	0.242)	0.186
150	12.50	0.87	0.269	0.083	(	0.242)	0.186
151	12.58	0.93	0.290	0.082	(	0.261)	0.207
152	12.67	0.93	0.290	0.082	(	0.261)	0.208
153	12.75	0.93	0.290	0.082	(	0.261)	0.208
154	12.83	0.97	0.300	0.081	(	0.270)	0.219
155	12.92	0.97	0.300	0.081	(	0.270)	0.219
156	13.00	0.97	0.300	0.080	(	0.270)	0.220
157	13.08	1.13	0.352	0.080	(	0.317)	0.272
158	13.17	1.13	0.352	0.080	(	0.317)	0.272
159	13.25	1.13	0.352	0.079	(	0.317)	0.273
160	13.33	1.13	0.352	0.079	(	0.317)	0.273
161	13.42	1.13	0.352	0.078	(	0.317)	0.274
162	13.50	1.13	0.352	0.078	(	0.317)	0.274
163	13.58	0.77	0.238	0.078	(	0.214)	0.160
164	13.67	0.77	0.238	0.077	(	0.214)	0.161
165	13.75	0.77	0.238	0.077	(	0.214)	0.161
166	13.83	0.77	0.238	0.076	(	0.214)	0.162
167	13.92	0.77	0.238	0.076	(	0.214)	0.162
168	14.00	0.77	0.238	0.076	(	0.214)	0.162
169	14.08	0.90	0.279	0.075	(	0.251)	0.204
170	14.17	0.90	0.279	0.075	(	0.251)	0.205
171	14.25	0.90	0.279	0.074	(	0.251)	0.205

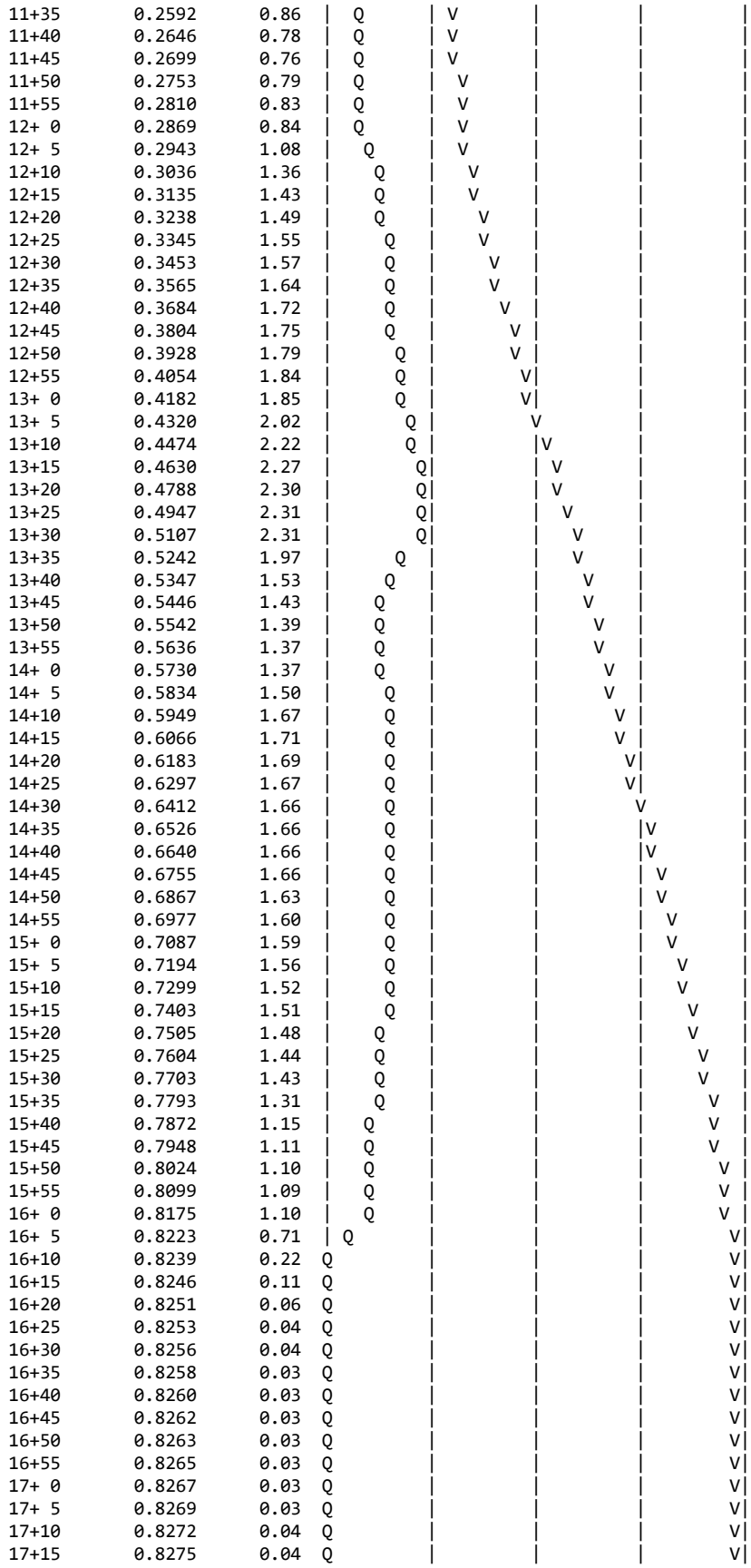
172	14.33	0.87	0.269		0.074	(	0.242)	0.195
173	14.42	0.87	0.269		0.074	(	0.242)	0.195
174	14.50	0.87	0.269		0.073	(	0.242)	0.196
175	14.58	0.87	0.269		0.073	(	0.242)	0.196
176	14.67	0.87	0.269		0.073	(	0.242)	0.197
177	14.75	0.87	0.269		0.072	(	0.242)	0.197
178	14.83	0.83	0.259		0.072	(	0.233)	0.187
179	14.92	0.83	0.259		0.071	(	0.233)	0.187
180	15.00	0.83	0.259		0.071	(	0.233)	0.188
181	15.08	0.80	0.248		0.071	(	0.224)	0.178
182	15.17	0.80	0.248		0.070	(	0.224)	0.178
183	15.25	0.80	0.248		0.070	(	0.224)	0.178
184	15.33	0.77	0.238		0.070	(	0.214)	0.168
185	15.42	0.77	0.238		0.069	(	0.214)	0.169
186	15.50	0.77	0.238		0.069	(	0.214)	0.169
187	15.58	0.63	0.197		0.069	(	0.177)	0.128
188	15.67	0.63	0.197		0.068	(	0.177)	0.128
189	15.75	0.63	0.197		0.068	(	0.177)	0.129
190	15.83	0.63	0.197		0.068	(	0.177)	0.129
191	15.92	0.63	0.197		0.067	(	0.177)	0.129
192	16.00	0.63	0.197		0.067	(	0.177)	0.130
193	16.08	0.13	0.041	(	0.066)		0.037	0.004
194	16.17	0.13	0.041	(	0.066)		0.037	0.004
195	16.25	0.13	0.041	(	0.066)		0.037	0.004
196	16.33	0.13	0.041	(	0.065)		0.037	0.004
197	16.42	0.13	0.041	(	0.065)		0.037	0.004
198	16.50	0.13	0.041	(	0.065)		0.037	0.004
199	16.58	0.10	0.031	(	0.064)		0.028	0.003
200	16.67	0.10	0.031	(	0.064)		0.028	0.003
201	16.75	0.10	0.031	(	0.064)		0.028	0.003
202	16.83	0.10	0.031	(	0.063)		0.028	0.003
203	16.92	0.10	0.031	(	0.063)		0.028	0.003
204	17.00	0.10	0.031	(	0.063)		0.028	0.003
205	17.08	0.17	0.052	(	0.063)		0.047	0.005
206	17.17	0.17	0.052	(	0.062)		0.047	0.005
207	17.25	0.17	0.052	(	0.062)		0.047	0.005
208	17.33	0.17	0.052	(	0.062)		0.047	0.005
209	17.42	0.17	0.052	(	0.061)		0.047	0.005
210	17.50	0.17	0.052	(	0.061)		0.047	0.005
211	17.58	0.17	0.052	(	0.061)		0.047	0.005
212	17.67	0.17	0.052	(	0.060)		0.047	0.005
213	17.75	0.17	0.052	(	0.060)		0.047	0.005
214	17.83	0.13	0.041	(	0.060)		0.037	0.004
215	17.92	0.13	0.041	(	0.059)		0.037	0.004
216	18.00	0.13	0.041	(	0.059)		0.037	0.004
217	18.08	0.13	0.041	(	0.059)		0.037	0.004
218	18.17	0.13	0.041	(	0.059)		0.037	0.004
219	18.25	0.13	0.041	(	0.058)		0.037	0.004
220	18.33	0.13	0.041	(	0.058)		0.037	0.004
221	18.42	0.13	0.041	(	0.058)		0.037	0.004
222	18.50	0.13	0.041	(	0.057)		0.037	0.004
223	18.58	0.10	0.031	(	0.057)		0.028	0.003
224	18.67	0.10	0.031	(	0.057)		0.028	0.003
225	18.75	0.10	0.031	(	0.057)		0.028	0.003
226	18.83	0.07	0.021	(	0.056)		0.019	0.002
227	18.92	0.07	0.021	(	0.056)		0.019	0.002
228	19.00	0.07	0.021	(	0.056)		0.019	0.002
229	19.08	0.10	0.031	(	0.056)		0.028	0.003
230	19.17	0.10	0.031	(	0.055)		0.028	0.003
231	19.25	0.10	0.031	(	0.055)		0.028	0.003
232	19.33	0.13	0.041	(	0.055)		0.037	0.004
233	19.42	0.13	0.041	(	0.055)		0.037	0.004
234	19.50	0.13	0.041	(	0.054)		0.037	0.004
235	19.58	0.10	0.031	(	0.054)		0.028	0.003
236	19.67	0.10	0.031	(	0.054)		0.028	0.003
237	19.75	0.10	0.031	(	0.054)		0.028	0.003
238	19.83	0.07	0.021	(	0.053)		0.019	0.002
239	19.92	0.07	0.021	(	0.053)		0.019	0.002
240	20.00	0.07	0.021	(	0.053)		0.019	0.002

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241  20.08     0.10      0.031       (  0.053)       0.028        0.003
242  20.17     0.10      0.031       (  0.052)       0.028        0.003
243  20.25     0.10      0.031       (  0.052)       0.028        0.003
244  20.33     0.10      0.031       (  0.052)       0.028        0.003
245  20.42     0.10      0.031       (  0.052)       0.028        0.003
246  20.50     0.10      0.031       (  0.051)       0.028        0.003
247  20.58     0.10      0.031       (  0.051)       0.028        0.003
248  20.67     0.10      0.031       (  0.051)       0.028        0.003
249  20.75     0.10      0.031       (  0.051)       0.028        0.003
250  20.83     0.07      0.021       (  0.051)       0.019        0.002
251  20.92     0.07      0.021       (  0.050)       0.019        0.002
252  21.00     0.07      0.021       (  0.050)       0.019        0.002
253  21.08     0.10      0.031       (  0.050)       0.028        0.003
254  21.17     0.10      0.031       (  0.050)       0.028        0.003
255  21.25     0.10      0.031       (  0.050)       0.028        0.003
256  21.33     0.07      0.021       (  0.049)       0.019        0.002
257  21.42     0.07      0.021       (  0.049)       0.019        0.002
258  21.50     0.07      0.021       (  0.049)       0.019        0.002
259  21.58     0.10      0.031       (  0.049)       0.028        0.003
260  21.67     0.10      0.031       (  0.049)       0.028        0.003
261  21.75     0.10      0.031       (  0.049)       0.028        0.003
262  21.83     0.07      0.021       (  0.048)       0.019        0.002
263  21.92     0.07      0.021       (  0.048)       0.019        0.002
264  22.00     0.07      0.021       (  0.048)       0.019        0.002
265  22.08     0.10      0.031       (  0.048)       0.028        0.003
266  22.17     0.10      0.031       (  0.048)       0.028        0.003
267  22.25     0.10      0.031       (  0.048)       0.028        0.003
268  22.33     0.07      0.021       (  0.047)       0.019        0.002
269  22.42     0.07      0.021       (  0.047)       0.019        0.002
270  22.50     0.07      0.021       (  0.047)       0.019        0.002
271  22.58     0.07      0.021       (  0.047)       0.019        0.002
272  22.67     0.07      0.021       (  0.047)       0.019        0.002
273  22.75     0.07      0.021       (  0.047)       0.019        0.002
274  22.83     0.07      0.021       (  0.047)       0.019        0.002
275  22.92     0.07      0.021       (  0.047)       0.019        0.002
276  23.00     0.07      0.021       (  0.046)       0.019        0.002
277  23.08     0.07      0.021       (  0.046)       0.019        0.002
278  23.17     0.07      0.021       (  0.046)       0.019        0.002
279  23.25     0.07      0.021       (  0.046)       0.019        0.002
280  23.33     0.07      0.021       (  0.046)       0.019        0.002
281  23.42     0.07      0.021       (  0.046)       0.019        0.002
282  23.50     0.07      0.021       (  0.046)       0.019        0.002
283  23.58     0.07      0.021       (  0.046)       0.019        0.002
284  23.67     0.07      0.021       (  0.046)       0.019        0.002
285  23.75     0.07      0.021       (  0.046)       0.019        0.002
286  23.83     0.07      0.021       (  0.046)       0.019        0.002
287  23.92     0.07      0.021       (  0.046)       0.019        0.002
288  24.00     0.07      0.021       (  0.046)       0.019        0.002
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    14.4
       Flood volume = Effective rainfall      1.20(In)
        times area       8.4(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
       Total soil loss =      1.38(In)
       Total soil loss =     0.967(Ac.Ft)
       Total rainfall =      2.59(In)
       Flood volume =       36664.5 Cubic Feet
       Total soil loss =       42134.7 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.314(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           24 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
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0+ 5	0.0000	0.01	Q	|	|	|	|
0+10	0.0001	0.01	Q	|	|	|	|
0+15	0.0003	0.02	Q	|	|	|	|
0+20	0.0004	0.02	Q	|	|	|	|
0+25	0.0006	0.02	Q	|	|	|	|
0+30	0.0007	0.03	Q	|	|	|	|
0+35	0.0009	0.03	Q	|	|	|	|
0+40	0.0011	0.03	Q	|	|	|	|
0+45	0.0013	0.03	Q	|	|	|	|
0+50	0.0015	0.03	Q	|	|	|	|
0+55	0.0017	0.03	Q	|	|	|	|
1+ 0	0.0020	0.03	Q	|	|	|	|
1+ 5	0.0022	0.03	Q	|	|	|	|
1+10	0.0024	0.03	Q	|	|	|	|
1+15	0.0025	0.03	Q	|	|	|	|
1+20	0.0027	0.03	Q	|	|	|	|
1+25	0.0029	0.03	Q	|	|	|	|
1+30	0.0031	0.03	Q	|	|	|	|
1+35	0.0033	0.03	Q	|	|	|	|
1+40	0.0035	0.03	Q	|	|	|	|
1+45	0.0036	0.03	Q	|	|	|	|
1+50	0.0038	0.03	Q	|	|	|	|
1+55	0.0041	0.03	Q	|	|	|	|
2+ 0	0.0043	0.03	Q	|	|	|	|
2+ 5	0.0045	0.03	Q	|	|	|	|
2+10	0.0048	0.04	Q	|	|	|	|
2+15	0.0050	0.04	Q	|	|	|	|
2+20	0.0053	0.04	Q	|	|	|	|
2+25	0.0055	0.04	Q	|	|	|	|
2+30	0.0058	0.04	Q	|	|	|	|
2+35	0.0060	0.04	Q	|	|	|	|
2+40	0.0063	0.04	Q	|	|	|	|
2+45	0.0066	0.04	Q	|	|	|	|
2+50	0.0069	0.04	Q	|	|	|	|
2+55	0.0072	0.04	Q	|	|	|	|
3+ 0	0.0075	0.04	Q	|	|	|	|
3+ 5	0.0078	0.04	Q	|	|	|	|
3+10	0.0081	0.04	Q	|	|	|	|
3+15	0.0084	0.04	Q	|	|	|	|
3+20	0.0087	0.04	Q	|	|	|	|
3+25	0.0090	0.04	Q	|	|	|	|
3+30	0.0093	0.04	Q	|	|	|	|
3+35	0.0096	0.04	Q	|	|	|	|
3+40	0.0099	0.04	Q	|	|	|	|
3+45	0.0102	0.04	Q	|	|	|	|
3+50	0.0105	0.05	Q	|	|	|	|
3+55	0.0109	0.05	Q	|	|	|	|
4+ 0	0.0113	0.05	Q	|	|	|	|
4+ 5	0.0116	0.05	Q	|	|	|	|
4+10	0.0120	0.05	Q	|	|	|	|
4+15	0.0123	0.05	Q	|	|	|	|
4+20	0.0127	0.06	Q	|	|	|	|
4+25	0.0131	0.06	Q	|	|	|	|
4+30	0.0135	0.06	Q	|	|	|	|
4+35	0.0140	0.06	Q	|	|	|	|
4+40	0.0144	0.06	Q	|	|	|	|
4+45	0.0148	0.06	Q	|	|	|	|
4+50	0.0153	0.06	Q	|	|	|	|
4+55	0.0157	0.07	Q	|	|	|	|
5+ 0	0.0162	0.07	Q	|	|	|	|
5+ 5	0.0166	0.06	Q	|	|	|	|
5+10	0.0170	0.06	Q	|	|	|	|
5+15	0.0174	0.05	Q	|	|	|	|
5+20	0.0178	0.06	Q	|	|	|	|
5+25	0.0182	0.06	Q	|	|	|	|
5+30	0.0186	0.06	Q	|	|	|	|
5+35	0.0191	0.06	Q	|	|	|	|
5+40	0.0195	0.07	Q	|	|	|	|
5+45	0.0200	0.07	Q	|	|	|	|

```
 5+50       0.0205      0.07  Q         |         |         |         |
 5+55       0.0210      0.07  Q         |         |         |         |
 6+ 0       0.0214      0.07  QV        |         |         |         |
 6+ 5       0.0220      0.07  QV        |         |         |         |
 6+10       0.0225      0.08  QV        |         |         |         |
 6+15       0.0230      0.08  QV        |         |         |         |
 6+20       0.0236      0.08  QV        |         |         |         |
 6+25       0.0241      0.08  QV        |         |         |         |
 6+30       0.0247      0.08  QV        |         |         |         |
 6+35       0.0252      0.08  QV        |         |         |         |
 6+40       0.0258      0.09  QV        |         |         |         |
 6+45       0.0264      0.09  QV        |         |         |         |
 6+50       0.0270      0.09  QV        |         |         |         |
 6+55       0.0276      0.09  QV        |         |         |         |
 7+ 0       0.0282      0.09  QV        |         |         |         |
 7+ 5       0.0288      0.09  QV        |         |         |         |
 7+10       0.0294      0.09  QV        |         |         |         |
 7+15       0.0300      0.09  QV        |         |         |         |
 7+20       0.0306      0.09  QV        |         |         |         |
 7+25       0.0313      0.09  QV        |         |         |         |
 7+30       0.0320      0.10  QV        |         |         |         |
 7+35       0.0327      0.10  QV        |         |         |         |
 7+40       0.0335      0.12  QV        |         |         |         |
 7+45       0.0343      0.12  QV        |         |         |         |
 7+50       0.0354      0.16  QV        |         |         |         |
 7+55       0.0368      0.20  QV        |         |         |         |
 8+ 0       0.0383      0.22  QV        |         |         |         |
 8+ 5       0.0403      0.29  |Q        |         |         |         |
 8+10       0.0429      0.38  |QV       |         |         |         |
 8+15       0.0456      0.40  |QV       |         |         |         |
 8+20       0.0485      0.41  |QV       |         |         |         |
 8+25       0.0513      0.42  |QV       |         |         |         |
 8+30       0.0543      0.42  |QV       |         |         |         |
 8+35       0.0574      0.46  |QV       |         |         |         |
 8+40       0.0609      0.50  | Q       |         |         |         |
 8+45       0.0645      0.52  | QV      |         |         |         |
 8+50       0.0683      0.56  | QV      |         |         |         |
 8+55       0.0725      0.60  | QV      |         |         |         |
 9+ 0       0.0767      0.62  | QV      |         |         |         |
 9+ 5       0.0815      0.69  | QV      |         |         |         |
 9+10       0.0868      0.78  |  QV     |         |         |         |
 9+15       0.0923      0.80  |  QV     |         |         |         |
 9+20       0.0981      0.84  |  QV     |         |         |         |
 9+25       0.1042      0.89  |  QV     |         |         |         |
 9+30       0.1105      0.90  |  Q V    |         |         |         |
 9+35       0.1170      0.94  |  Q V    |         |         |         |
 9+40       0.1238      0.99  |  Q V    |         |         |         |
 9+45       0.1307      1.00  |   Q V   |         |         |         |
 9+50       0.1379      1.04  |   Q V   |         |         |         |
 9+55       0.1454      1.09  |   Q V   |         |         |         |
10+ 0       0.1530      1.10  |   Q  V  |         |         |         |
10+ 5       0.1591      0.89  |  Q   V  |         |         |         |
10+10       0.1633      0.61  | Q    V  |         |         |         |
10+15       0.1671      0.55  | Q    V  |         |         |         |
10+20       0.1708      0.53  | Q     V |         |         |         |
10+25       0.1743      0.52  | Q     V |         |         |         |
10+30       0.1779      0.52  | Q     V |         |         |         |
10+35       0.1826      0.68  | Q     V |         |         |         |
10+40       0.1888      0.89  |  Q    V |         |         |         |
10+45       0.1952      0.94  |  Q     V|         |         |         |
10+50       0.2018      0.96  |  Q     V|         |         |         |
10+55       0.2086      0.98  |  Q     V|         |         |         |
11+ 0       0.2153      0.98  |  Q      V         |         |         |
11+ 5       0.2219      0.95  |  Q      V         |         |         |
11+10       0.2282      0.92  |  Q      V         |         |         |
11+15       0.2345      0.91  |  Q      |V        |         |         |
11+20       0.2407      0.91  |  Q      |V        |         |         |
11+25       0.2470      0.91  |  Q      |V        |         |         |
11+30       0.2533      0.92  |  Q      | V       |         |         |
```



17+20	0.8278	0.04	Q	|	|	|	V|
17+25	0.8281	0.04	Q	|	|	|	V|
17+30	0.8284	0.04	Q	|	|	|	V|
17+35	0.8287	0.04	Q	|	|	|	V|
17+40	0.8290	0.04	Q	|	|	|	V|
17+45	0.8293	0.04	Q	|	|	|	V|
17+50	0.8296	0.04	Q	|	|	|	V|
17+55	0.8298	0.04	Q	|	|	|	V|
18+ 0	0.8301	0.04	Q	|	|	|	V|
18+ 5	0.8303	0.04	Q	|	|	|	V|
18+10	0.8306	0.04	Q	|	|	|	V|
18+15	0.8308	0.04	Q	|	|	|	V|
18+20	0.8310	0.04	Q	|	|	|	V|
18+25	0.8313	0.04	Q	|	|	|	V|
18+30	0.8315	0.04	Q	|	|	|	V|
18+35	0.8318	0.03	Q	|	|	|	V|
18+40	0.8319	0.03	Q	|	|	|	V|
18+45	0.8321	0.03	Q	|	|	|	V|
18+50	0.8323	0.02	Q	|	|	|	V|
18+55	0.8324	0.02	Q	|	|	|	V|
19+ 0	0.8325	0.02	Q	|	|	|	V|
19+ 5	0.8327	0.02	Q	|	|	|	V|
19+10	0.8329	0.02	Q	|	|	|	V|
19+15	0.8330	0.03	Q	|	|	|	V|
19+20	0.8332	0.03	Q	|	|	|	V|
19+25	0.8335	0.03	Q	|	|	|	V|
19+30	0.8337	0.03	Q	|	|	|	V|
19+35	0.8339	0.03	Q	|	|	|	V|
19+40	0.8341	0.03	Q	|	|	|	V|
19+45	0.8343	0.03	Q	|	|	|	V|
19+50	0.8345	0.02	Q	|	|	|	V|
19+55	0.8346	0.02	Q	|	|	|	V|
20+ 0	0.8347	0.02	Q	|	|	|	V|
20+ 5	0.8349	0.02	Q	|	|	|	V|
20+10	0.8350	0.02	Q	|	|	|	V|
20+15	0.8352	0.03	Q	|	|	|	V|
20+20	0.8354	0.03	Q	|	|	|	V|
20+25	0.8356	0.03	Q	|	|	|	V|
20+30	0.8357	0.03	Q	|	|	|	V|
20+35	0.8359	0.03	Q	|	|	|	V|
20+40	0.8361	0.03	Q	|	|	|	V|
20+45	0.8363	0.03	Q	|	|	|	V|
20+50	0.8364	0.02	Q	|	|	|	V|
20+55	0.8366	0.02	Q	|	|	|	V|
21+ 0	0.8367	0.02	Q	|	|	|	V|
21+ 5	0.8368	0.02	Q	|	|	|	V|
21+10	0.8370	0.02	Q	|	|	|	V|
21+15	0.8372	0.03	Q	|	|	|	V|
21+20	0.8374	0.02	Q	|	|	|	V|
21+25	0.8375	0.02	Q	|	|	|	V|
21+30	0.8376	0.02	Q	|	|	|	V|
21+35	0.8378	0.02	Q	|	|	|	V|
21+40	0.8379	0.02	Q	|	|	|	V|
21+45	0.8381	0.03	Q	|	|	|	V|
21+50	0.8383	0.02	Q	|	|	|	V|
21+55	0.8384	0.02	Q	|	|	|	V|
22+ 0	0.8385	0.02	Q	|	|	|	V|
22+ 5	0.8387	0.02	Q	|	|	|	V|
22+10	0.8388	0.02	Q	|	|	|	V|
22+15	0.8390	0.03	Q	|	|	|	V|
22+20	0.8392	0.02	Q	|	|	|	V|
22+25	0.8393	0.02	Q	|	|	|	V|
22+30	0.8394	0.02	Q	|	|	|	V|
22+35	0.8395	0.02	Q	|	|	|	V|
22+40	0.8397	0.02	Q	|	|	|	V|
22+45	0.8398	0.02	Q	|	|	|	V|
22+50	0.8399	0.02	Q	|	|	|	V|
22+55	0.8400	0.02	Q	|	|	|	V|
23+ 0	0.8401	0.02	Q	|	|	|	V|

```
   23+ 5       0.8403      0.02  Q        |         |         |        V|
   23+10       0.8404      0.02  Q        |         |         |        V|
   23+15       0.8405      0.02  Q        |         |         |        V|
   23+20       0.8406      0.02  Q        |         |         |        V|
   23+25       0.8407      0.02  Q        |         |         |        V|
   23+30       0.8409      0.02  Q        |         |         |        V|
   23+35       0.8410      0.02  Q        |         |         |        V|
   23+40       0.8411      0.02  Q        |         |         |        V|
   23+45       0.8412      0.02  Q        |         |         |        V|
   23+50       0.8413      0.02  Q        |         |         |        V|
   23+55       0.8415      0.02  Q        |         |         |        V|
   24+ 0       0.8416      0.02  Q        |         |         |        V|
   24+ 5       0.8417      0.01  Q        |         |         |        V|
   24+10       0.8417      0.00  Q        |         |         |        V|
   24+15       0.8417      0.00  Q        |         |         |        V|
   24+20       0.8417      0.00  Q        |         |         |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100PR10B110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	0.45	3.78

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.20	10.07

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.450(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 0.759(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.758(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          8.390          75.00         0.900
 Total Area Entered =      8.39(Ac.)

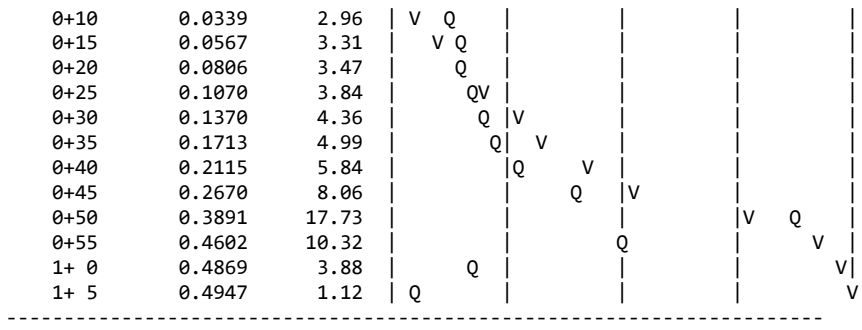

 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5000
 ------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
               Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------------
     1   0.083        438.606         67.570             5.713
     2   0.167        877.212         32.430             2.742
                                 Sum = 100.000   Sum=      8.456
-------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.382       (  0.058)       0.038        0.344
   2   0.17     4.30      0.391       (  0.058)       0.039        0.352
   3   0.25     5.00      0.455       (  0.058)       0.046        0.410
   4   0.33     5.00      0.455       (  0.058)       0.046        0.410
   5   0.42     5.80      0.528       (  0.058)       0.053        0.475
   6   0.50     6.50      0.592          0.058    (  0.059)        0.534
   7   0.58     7.40      0.674          0.058    (  0.067)        0.616
   8   0.67     8.60      0.783          0.058    (  0.078)        0.725
   9   0.75    12.30      1.120          0.058    (  0.112)        1.062
  10   0.83    29.10      2.649          0.058    (  0.265)        2.591
  11   0.92     6.80      0.619          0.058    (  0.062)        0.561
  12   1.00     5.00      0.455       (  0.058)       0.046        0.410
                (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     8.5
        Flood volume = Effective rainfall      0.71(In)
         times area       8.4(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
        Total soil loss =      0.05(In)
        Total soil loss =     0.036(Ac.Ft)
        Total rainfall =      0.76(In)
        Flood volume =       21547.1 Cubic Feet
        Total soil loss =        1553.5 Cubic Feet
        ---------------------------------------------------------------------
         Peak flow rate of this hydrograph =     17.725(CFS)
        ---------------------------------------------------------------------
        +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                            1 - H O U R    S T O R M
                       R u n o f f      H y d r o g r a p h
        ---------------------------------------------------------------------
                    Hydrograph in   5   Minute intervals ((CFS))

        ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
 ------------------------------------------------------------------------
   0+ 5       0.0135      1.97  |V Q      |         |         |         |
```


0+10 0.0339 2.96
0+15 0.0567 3.31
0+20 0.0806 3.47
0+25 0.1070 3.84
0+30 0.1370 4.36
0+35 0.1713 4.99
0+40 0.2115 5.84
0+45 0.2670 8.06
0+50 0.3891 17.73
0+55 0.4602 10.32
1+ 0 0.4869 3.88
1+ 5 0.4947 1.12

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100PR10B310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	0.80	6.71

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.80	15.10

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
          8.390           75.00         0.900
 Total Area Entered =      8.39(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        438.606         67.570              5.713
     2   0.167        877.212         32.430              2.742
                                Sum = 100.000   Sum=       8.456
-------------------------------------------------------------------------
```

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.189	(0.058)	0.019	0.170
2	0.17	1.30	0.189	(0.058)	0.019	0.170
3	0.25	1.10	0.160	(0.058)	0.016	0.144
4	0.33	1.50	0.218	(0.058)	0.022	0.196
5	0.42	1.50	0.218	(0.058)	0.022	0.196
6	0.50	1.80	0.262	(0.058)	0.026	0.235
7	0.58	1.50	0.218	(0.058)	0.022	0.196
8	0.67	1.80	0.262	(0.058)	0.026	0.235
9	0.75	1.80	0.262	(0.058)	0.026	0.235
10	0.83	1.50	0.218	(0.058)	0.022	0.196
11	0.92	1.60	0.233	(0.058)	0.023	0.209
12	1.00	1.80	0.262	(0.058)	0.026	0.235
13	1.08	2.20	0.320	(0.058)	0.032	0.288
14	1.17	2.20	0.320	(0.058)	0.032	0.288
15	1.25	2.20	0.320	(0.058)	0.032	0.288
16	1.33	2.00	0.291	(0.058)	0.029	0.262
17	1.42	2.60	0.378	(0.058)	0.038	0.340
18	1.50	2.70	0.392	(0.058)	0.039	0.353
19	1.58	2.40	0.349	(0.058)	0.035	0.314
20	1.67	2.70	0.392	(0.058)	0.039	0.353
21	1.75	3.30	0.480	(0.058)	0.048	0.432
22	1.83	3.10	0.451	(0.058)	0.045	0.406
23	1.92	2.90	0.422	(0.058)	0.042	0.379
24	2.00	3.00	0.436	(0.058)	0.044	0.392
25	2.08	3.10	0.451	(0.058)	0.045	0.406
26	2.17	4.20	0.611	0.058	(0.061)	0.553
27	2.25	5.00	0.727	0.058	(0.073)	0.669
28	2.33	3.50	0.509	(0.058)	0.051	0.458
29	2.42	6.80	0.988	0.058	(0.099)	0.931
30	2.50	7.30	1.061	0.058	(0.106)	1.004
31	2.58	8.20	1.192	0.058	(0.119)	1.134
32	2.67	5.90	0.858	0.058	(0.086)	0.800
33	2.75	2.00	0.291	(0.058)	0.029	0.262
34	2.83	1.80	0.262	(0.058)	0.026	0.235
35	2.92	1.80	0.262	(0.058)	0.026	0.235
36	3.00	0.60	0.087	(0.058)	0.009	0.078

```
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    13.3
       Flood volume = Effective rainfall      1.11(In)
        times area       8.4(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
       Total soil loss =      0.10(In)
       Total soil loss =     0.073(Ac.Ft)
       Total rainfall =      1.21(In)
       Flood volume =       33706.8 Cubic Feet
       Total soil loss =        3186.2 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      9.238(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           3 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
   ------------------------------------------------------------------------
     0+ 5       0.0067      0.97  V  Q      |         |         |         |
     0+10       0.0166      1.44  V    Q    |         |         |         |
     0+15       0.0255      1.29  |V   Q    |         |         |         |
     0+20       0.0359      1.52  |V    Q   |         |         |         |
     0+25       0.0474      1.66  | V   Q   |         |         |         |
     0+30       0.0603      1.88  |  V   Q  |         |         |         |
     0+35       0.0725      1.77  |  V   Q  |         |         |         |
     0+40       0.0855      1.88  |   V  Q  |         |         |         |
     0+45       0.0992      1.99  |    V Q  |         |         |         |
     0+50       0.1114      1.77  |    V Q  |         |         |         |
     0+55       0.1233      1.73  |     Q   |         |         |         |
     1+ 0       0.1366      1.92  |      Q  |         |         |         |
     1+ 5       0.1523      2.29  |      V Q|         |         |         |
     1+10       0.1691      2.43  |       VQ|         |         |         |
     1+15       0.1859      2.43  |        Q|         |         |         |
     1+20       0.2016      2.29  |        QV         |         |         |
     1+25       0.2200      2.66  |         QV        |         |         |
     1+30       0.2403      2.95  |         |QV       |         |         |
     1+35       0.2593      2.76  |         |Q V      |         |         |
     1+40       0.2792      2.88  |         |Q  V     |         |         |
     1+45       0.3028      3.44  |         |  Q V    |         |         |
     1+50       0.3270      3.50  |         |   Q V   |         |         |
     1+55       0.3496      3.28  |         |  Q    V |         |         |
     2+ 0       0.3722      3.28  |         |  Q     V|         |         |
     2+ 5       0.3956      3.40  |         |  Q      V         |         |
     2+10       0.4250      4.27  |         |      Q  |V        |         |
     2+15       0.4618      5.34  |         |         |Q V      |         |
     2+20       0.4925      4.45  |         |      Q  |    V    |         |
     2+25       0.5378      6.58  |         |         |     QV  |         |
     2+30       0.5949      8.29  |         |         |         |V  Q      |
     2+35       0.6585      9.24  |         |         |         |   V Q   |
     2+40       0.7114      7.69  |         |         |         Q     V   |
     2+45       0.7368      3.69  |         |   Q     |         |       V |
     2+50       0.7511      2.06  |       Q |         |         |       V |
     2+55       0.7648      1.99  |      Q  |         |         |        V|
     3+ 0       0.7723      1.09  |   Q     |         |         |        V|
     3+ 5       0.7738      0.22  Q         |         |         |        V|
  ------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100PR10B610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.00	8.39

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	2.50	20.98

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

8.390 75.00 0.900
Total Area Entered = 8.39(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

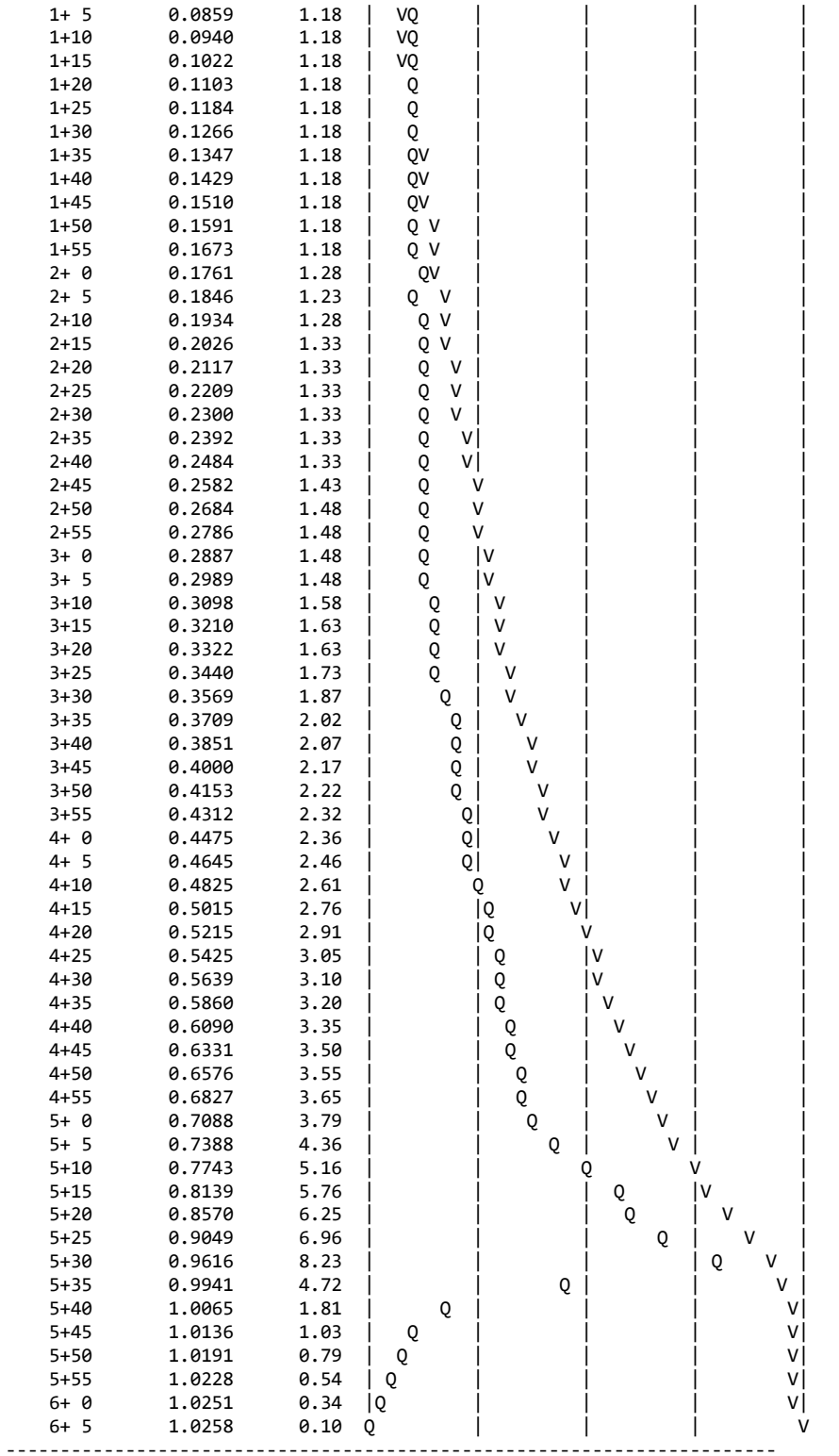
Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	438.606	67.570	5.713
2	0.167	877.212	32.430	2.742
		Sum = 100.000	Sum=	8.456

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.097	(0.058)	0.010	0.087
2	0.17	0.60	0.116	(0.058)	0.012	0.105
3	0.25	0.60	0.116	(0.058)	0.012	0.105
4	0.33	0.60	0.116	(0.058)	0.012	0.105
5	0.42	0.60	0.116	(0.058)	0.012	0.105
6	0.50	0.70	0.136	(0.058)	0.014	0.122
7	0.58	0.70	0.136	(0.058)	0.014	0.122
8	0.67	0.70	0.136	(0.058)	0.014	0.122
9	0.75	0.70	0.136	(0.058)	0.014	0.122
10	0.83	0.70	0.136	(0.058)	0.014	0.122
11	0.92	0.70	0.136	(0.058)	0.014	0.122
12	1.00	0.80	0.155	(0.058)	0.016	0.140
13	1.08	0.80	0.155	(0.058)	0.016	0.140
14	1.17	0.80	0.155	(0.058)	0.016	0.140
15	1.25	0.80	0.155	(0.058)	0.016	0.140
16	1.33	0.80	0.155	(0.058)	0.016	0.140
17	1.42	0.80	0.155	(0.058)	0.016	0.140
18	1.50	0.80	0.155	(0.058)	0.016	0.140
19	1.58	0.80	0.155	(0.058)	0.016	0.140
20	1.67	0.80	0.155	(0.058)	0.016	0.140
21	1.75	0.80	0.155	(0.058)	0.016	0.140
22	1.83	0.80	0.155	(0.058)	0.016	0.140
23	1.92	0.80	0.155	(0.058)	0.016	0.140
24	2.00	0.90	0.175	(0.058)	0.017	0.157
25	2.08	0.80	0.155	(0.058)	0.016	0.140
26	2.17	0.90	0.175	(0.058)	0.017	0.157
27	2.25	0.90	0.175	(0.058)	0.017	0.157
28	2.33	0.90	0.175	(0.058)	0.017	0.157
29	2.42	0.90	0.175	(0.058)	0.017	0.157
30	2.50	0.90	0.175	(0.058)	0.017	0.157
31	2.58	0.90	0.175	(0.058)	0.017	0.157
32	2.67	0.90	0.175	(0.058)	0.017	0.157
33	2.75	1.00	0.194	(0.058)	0.019	0.175
34	2.83	1.00	0.194	(0.058)	0.019	0.175
35	2.92	1.00	0.194	(0.058)	0.019	0.175
36	3.00	1.00	0.194	(0.058)	0.019	0.175

```
37   3.08     1.00      0.194       (  0.058)       0.019        0.175
38   3.17     1.10      0.213       (  0.058)       0.021        0.192
39   3.25     1.10      0.213       (  0.058)       0.021        0.192
40   3.33     1.10      0.213       (  0.058)       0.021        0.192
41   3.42     1.20      0.233       (  0.058)       0.023        0.210
42   3.50     1.30      0.252       (  0.058)       0.025        0.227
43   3.58     1.40      0.272       (  0.058)       0.027        0.245
44   3.67     1.40      0.272       (  0.058)       0.027        0.245
45   3.75     1.50      0.291       (  0.058)       0.029        0.262
46   3.83     1.50      0.291       (  0.058)       0.029        0.262
47   3.92     1.60      0.310       (  0.058)       0.031        0.279
48   4.00     1.60      0.310       (  0.058)       0.031        0.279
49   4.08     1.70      0.330       (  0.058)       0.033        0.297
50   4.17     1.80      0.349       (  0.058)       0.035        0.314
51   4.25     1.90      0.369       (  0.058)       0.037        0.332
52   4.33     2.00      0.388       (  0.058)       0.039        0.349
53   4.42     2.10      0.408       (  0.058)       0.041        0.367
54   4.50     2.10      0.408       (  0.058)       0.041        0.367
55   4.58     2.20      0.427       (  0.058)       0.043        0.384
56   4.67     2.30      0.446       (  0.058)       0.045        0.402
57   4.75     2.40      0.466       (  0.058)       0.047        0.419
58   4.83     2.40      0.466       (  0.058)       0.047        0.419
59   4.92     2.50      0.485       (  0.058)       0.049        0.437
60   5.00     2.60      0.505       (  0.058)       0.050        0.454
61   5.08     3.10      0.602          0.058    (  0.060)       0.544
62   5.17     3.60      0.699          0.058    (  0.070)       0.641
63   5.25     3.90      0.757          0.058    (  0.076)       0.699
64   5.33     4.20      0.815          0.058    (  0.082)       0.757
65   5.42     4.70      0.912          0.058    (  0.091)       0.854
66   5.50     5.60      1.087          0.058    (  0.109)       1.029
67   5.58     1.90      0.369       (  0.058)       0.037        0.332
68   5.67     0.90      0.175       (  0.058)       0.017        0.157
69   5.75     0.60      0.116       (  0.058)       0.012        0.105
70   5.83     0.50      0.097       (  0.058)       0.010        0.087
71   5.92     0.30      0.058       (  0.058)       0.006        0.052
72   6.00     0.20      0.039       (  0.058)       0.004        0.035
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    17.6
      Flood volume = Effective rainfall      1.47(In)
       times area       8.4(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
      Total soil loss =      0.15(In)
      Total soil loss =     0.105(Ac.Ft)
      Total rainfall =      1.62(In)
      Flood volume =       44683.5 Cubic Feet
      Total soil loss =        4565.4 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.227(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0034      0.50  VQ        |         |         |         |
  0+10       0.0092      0.84  V  Q      |         |         |         |
  0+15       0.0153      0.89  V  Q      |         |         |         |
  0+20       0.0214      0.89  V  Q      |         |         |         |
  0+25       0.0275      0.89  |V Q      |         |         |         |
  0+30       0.0343      0.99  |V Q      |         |         |         |
  0+35       0.0414      1.03  |V  Q     |         |         |         |
  0+40       0.0486      1.03  |V  Q     |         |         |         |
  0+45       0.0557      1.03  | V Q     |         |         |         |
  0+50       0.0628      1.03  | V Q     |         |         |         |
  0+55       0.0699      1.03  | V Q     |         |         |         |
  1+ 0       0.0777      1.13  |  VQ     |         |         |         |
```


1+ 5 0.0859 1.18
1+10 0.0940 1.18
1+15 0.1022 1.18
1+20 0.1103 1.18
1+25 0.1184 1.18
1+30 0.1266 1.18
1+35 0.1347 1.18
1+40 0.1429 1.18
1+45 0.1510 1.18
1+50 0.1591 1.18
1+55 0.1673 1.18
2+ 0 0.1761 1.28
2+ 5 0.1846 1.23
2+10 0.1934 1.28
2+15 0.2026 1.33
2+20 0.2117 1.33
2+25 0.2209 1.33
2+30 0.2300 1.33
2+35 0.2392 1.33
2+40 0.2484 1.33
2+45 0.2582 1.43
2+50 0.2684 1.48
2+55 0.2786 1.48
3+ 0 0.2887 1.48
3+ 5 0.2989 1.48
3+10 0.3098 1.58
3+15 0.3210 1.63
3+20 0.3322 1.63
3+25 0.3440 1.73
3+30 0.3569 1.87
3+35 0.3709 2.02
3+40 0.3851 2.07
3+45 0.4000 2.17
3+50 0.4153 2.22
3+55 0.4312 2.32
4+ 0 0.4475 2.36
4+ 5 0.4645 2.46
4+10 0.4825 2.61
4+15 0.5015 2.76
4+20 0.5215 2.91
4+25 0.5425 3.05
4+30 0.5639 3.10
4+35 0.5860 3.20
4+40 0.6090 3.35
4+45 0.6331 3.50
4+50 0.6576 3.55
4+55 0.6827 3.65
5+ 0 0.7088 3.79
5+ 5 0.7388 4.36
5+10 0.7743 5.16
5+15 0.8139 5.76
5+20 0.8570 6.25
5+25 0.9049 6.96
5+30 0.9616 8.23
5+35 0.9941 4.72
5+40 1.0065 1.81
5+45 1.0136 1.03
5+50 1.0191 0.79
5+55 1.0228 0.54
6+ 0 1.0251 0.34
6+ 5 1.0258 0.10

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100PR10B2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
EASTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.39(Ac.) = 0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.39(Ac.) = 0.013 Sq. Mi.
Length along longest watercourse = 425.00(Ft.)
Length along longest watercourse measured to centroid = 215.00(Ft.)
Length along longest watercourse = 0.080 Mi.
Length along longest watercourse measured to centroid = 0.041 Mi.
Difference in elevation = 4.58(Ft.)
Slope along watercourse = 56.8998 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.46 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	1.60	13.42

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.39	4.00	33.56

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

8.390 75.00 0.900
Total Area Entered = 8.39(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.100

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	438.606	67.570	5.713
2	0.167	877.212	32.430	2.742
			Sum = 100.000 Sum=	8.456

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.102)	0.002	0.019
2	0.17	0.07	0.021	(0.102)	0.002	0.019
3	0.25	0.07	0.021	(0.101)	0.002	0.019
4	0.33	0.10	0.031	(0.101)	0.003	0.028
5	0.42	0.10	0.031	(0.100)	0.003	0.028
6	0.50	0.10	0.031	(0.100)	0.003	0.028
7	0.58	0.10	0.031	(0.100)	0.003	0.028
8	0.67	0.10	0.031	(0.099)	0.003	0.028
9	0.75	0.10	0.031	(0.099)	0.003	0.028
10	0.83	0.13	0.041	(0.099)	0.004	0.037
11	0.92	0.13	0.041	(0.098)	0.004	0.037
12	1.00	0.13	0.041	(0.098)	0.004	0.037
13	1.08	0.10	0.031	(0.097)	0.003	0.028
14	1.17	0.10	0.031	(0.097)	0.003	0.028
15	1.25	0.10	0.031	(0.097)	0.003	0.028
16	1.33	0.10	0.031	(0.096)	0.003	0.028
17	1.42	0.10	0.031	(0.096)	0.003	0.028
18	1.50	0.10	0.031	(0.095)	0.003	0.028
19	1.58	0.10	0.031	(0.095)	0.003	0.028
20	1.67	0.10	0.031	(0.095)	0.003	0.028
21	1.75	0.10	0.031	(0.094)	0.003	0.028
22	1.83	0.13	0.041	(0.094)	0.004	0.037
23	1.92	0.13	0.041	(0.094)	0.004	0.037
24	2.00	0.13	0.041	(0.093)	0.004	0.037
25	2.08	0.13	0.041	(0.093)	0.004	0.037
26	2.17	0.13	0.041	(0.092)	0.004	0.037
27	2.25	0.13	0.041	(0.092)	0.004	0.037
28	2.33	0.13	0.041	(0.092)	0.004	0.037
29	2.42	0.13	0.041	(0.091)	0.004	0.037
30	2.50	0.13	0.041	(0.091)	0.004	0.037
31	2.58	0.17	0.052	(0.091)	0.005	0.047
32	2.67	0.17	0.052	(0.090)	0.005	0.047
33	2.75	0.17	0.052	(0.090)	0.005	0.047
34	2.83	0.17	0.052	(0.089)	0.005	0.047
35	2.92	0.17	0.052	(0.089)	0.005	0.047
36	3.00	0.17	0.052	(0.089)	0.005	0.047

37	3.08	0.17	0.052	(0.088)	0.005	0.047
38	3.17	0.17	0.052	(0.088)	0.005	0.047
39	3.25	0.17	0.052	(0.088)	0.005	0.047
40	3.33	0.17	0.052	(0.087)	0.005	0.047
41	3.42	0.17	0.052	(0.087)	0.005	0.047
42	3.50	0.17	0.052	(0.087)	0.005	0.047
43	3.58	0.17	0.052	(0.086)	0.005	0.047
44	3.67	0.17	0.052	(0.086)	0.005	0.047
45	3.75	0.17	0.052	(0.085)	0.005	0.047
46	3.83	0.20	0.062	(0.085)	0.006	0.056
47	3.92	0.20	0.062	(0.085)	0.006	0.056
48	4.00	0.20	0.062	(0.084)	0.006	0.056
49	4.08	0.20	0.062	(0.084)	0.006	0.056
50	4.17	0.20	0.062	(0.084)	0.006	0.056
51	4.25	0.20	0.062	(0.083)	0.006	0.056
52	4.33	0.23	0.072	(0.083)	0.007	0.065
53	4.42	0.23	0.072	(0.083)	0.007	0.065
54	4.50	0.23	0.072	(0.082)	0.007	0.065
55	4.58	0.23	0.072	(0.082)	0.007	0.065
56	4.67	0.23	0.072	(0.082)	0.007	0.065
57	4.75	0.23	0.072	(0.081)	0.007	0.065
58	4.83	0.27	0.083	(0.081)	0.008	0.075
59	4.92	0.27	0.083	(0.080)	0.008	0.075
60	5.00	0.27	0.083	(0.080)	0.008	0.075
61	5.08	0.20	0.062	(0.080)	0.006	0.056
62	5.17	0.20	0.062	(0.079)	0.006	0.056
63	5.25	0.20	0.062	(0.079)	0.006	0.056
64	5.33	0.23	0.072	(0.079)	0.007	0.065
65	5.42	0.23	0.072	(0.078)	0.007	0.065
66	5.50	0.23	0.072	(0.078)	0.007	0.065
67	5.58	0.27	0.083	(0.078)	0.008	0.075
68	5.67	0.27	0.083	(0.077)	0.008	0.075
69	5.75	0.27	0.083	(0.077)	0.008	0.075
70	5.83	0.27	0.083	(0.077)	0.008	0.075
71	5.92	0.27	0.083	(0.076)	0.008	0.075
72	6.00	0.27	0.083	(0.076)	0.008	0.075
73	6.08	0.30	0.093	(0.076)	0.009	0.084
74	6.17	0.30	0.093	(0.075)	0.009	0.084
75	6.25	0.30	0.093	(0.075)	0.009	0.084
76	6.33	0.30	0.093	(0.075)	0.009	0.084
77	6.42	0.30	0.093	(0.074)	0.009	0.084
78	6.50	0.30	0.093	(0.074)	0.009	0.084
79	6.58	0.33	0.103	(0.074)	0.010	0.093
80	6.67	0.33	0.103	(0.073)	0.010	0.093
81	6.75	0.33	0.103	(0.073)	0.010	0.093
82	6.83	0.33	0.103	(0.073)	0.010	0.093
83	6.92	0.33	0.103	(0.072)	0.010	0.093
84	7.00	0.33	0.103	(0.072)	0.010	0.093
85	7.08	0.33	0.103	(0.072)	0.010	0.093
86	7.17	0.33	0.103	(0.071)	0.010	0.093
87	7.25	0.33	0.103	(0.071)	0.010	0.093
88	7.33	0.37	0.114	(0.071)	0.011	0.102
89	7.42	0.37	0.114	(0.070)	0.011	0.102
90	7.50	0.37	0.114	(0.070)	0.011	0.102
91	7.58	0.40	0.124	(0.070)	0.012	0.112
92	7.67	0.40	0.124	(0.069)	0.012	0.112
93	7.75	0.40	0.124	(0.069)	0.012	0.112
94	7.83	0.43	0.135	(0.069)	0.013	0.121
95	7.92	0.43	0.135	(0.068)	0.013	0.121
96	8.00	0.43	0.135	(0.068)	0.013	0.121
97	8.08	0.50	0.155	(0.068)	0.016	0.140
98	8.17	0.50	0.155	(0.067)	0.016	0.140
99	8.25	0.50	0.155	(0.067)	0.016	0.140
100	8.33	0.50	0.155	(0.067)	0.016	0.140
101	8.42	0.50	0.155	(0.067)	0.016	0.140
102	8.50	0.50	0.155	(0.066)	0.016	0.140
103	8.58	0.53	0.166	(0.066)	0.017	0.149
104	8.67	0.53	0.166	(0.066)	0.017	0.149
105	8.75	0.53	0.166	(0.065)	0.017	0.149

106	8.83	0.57	0.176	(0.065)	0.018	0.158
107	8.92	0.57	0.176	(0.065)	0.018	0.158
108	9.00	0.57	0.176	(0.064)	0.018	0.158
109	9.08	0.63	0.197	(0.064)	0.020	0.177
110	9.17	0.63	0.197	(0.064)	0.020	0.177
111	9.25	0.63	0.197	(0.063)	0.020	0.177
112	9.33	0.67	0.207	(0.063)	0.021	0.186
113	9.42	0.67	0.207	(0.063)	0.021	0.186
114	9.50	0.67	0.207	(0.063)	0.021	0.186
115	9.58	0.70	0.217	(0.062)	0.022	0.196
116	9.67	0.70	0.217	(0.062)	0.022	0.196
117	9.75	0.70	0.217	(0.062)	0.022	0.196
118	9.83	0.73	0.228	(0.061)	0.023	0.205
119	9.92	0.73	0.228	(0.061)	0.023	0.205
120	10.00	0.73	0.228	(0.061)	0.023	0.205
121	10.08	0.50	0.155	(0.060)	0.016	0.140
122	10.17	0.50	0.155	(0.060)	0.016	0.140
123	10.25	0.50	0.155	(0.060)	0.016	0.140
124	10.33	0.50	0.155	(0.060)	0.016	0.140
125	10.42	0.50	0.155	(0.059)	0.016	0.140
126	10.50	0.50	0.155	(0.059)	0.016	0.140
127	10.58	0.67	0.207	(0.059)	0.021	0.186
128	10.67	0.67	0.207	(0.058)	0.021	0.186
129	10.75	0.67	0.207	(0.058)	0.021	0.186
130	10.83	0.67	0.207	(0.058)	0.021	0.186
131	10.92	0.67	0.207	(0.058)	0.021	0.186
132	11.00	0.67	0.207	(0.057)	0.021	0.186
133	11.08	0.63	0.197	(0.057)	0.020	0.177
134	11.17	0.63	0.197	(0.057)	0.020	0.177
135	11.25	0.63	0.197	(0.056)	0.020	0.177
136	11.33	0.63	0.197	(0.056)	0.020	0.177
137	11.42	0.63	0.197	(0.056)	0.020	0.177
138	11.50	0.63	0.197	(0.056)	0.020	0.177
139	11.58	0.57	0.176	(0.055)	0.018	0.158
140	11.67	0.57	0.176	(0.055)	0.018	0.158
141	11.75	0.57	0.176	(0.055)	0.018	0.158
142	11.83	0.60	0.186	(0.055)	0.019	0.168
143	11.92	0.60	0.186	(0.054)	0.019	0.168
144	12.00	0.60	0.186	(0.054)	0.019	0.168
145	12.08	0.83	0.259	(0.054)	0.026	0.233
146	12.17	0.83	0.259	(0.053)	0.026	0.233
147	12.25	0.83	0.259	(0.053)	0.026	0.233
148	12.33	0.87	0.269	(0.053)	0.027	0.242
149	12.42	0.87	0.269	(0.053)	0.027	0.242
150	12.50	0.87	0.269	(0.052)	0.027	0.242
151	12.58	0.93	0.290	(0.052)	0.029	0.261
152	12.67	0.93	0.290	(0.052)	0.029	0.261
153	12.75	0.93	0.290	(0.052)	0.029	0.261
154	12.83	0.97	0.300	(0.051)	0.030	0.270
155	12.92	0.97	0.300	(0.051)	0.030	0.270
156	13.00	0.97	0.300	(0.051)	0.030	0.270
157	13.08	1.13	0.352	(0.051)	0.035	0.317
158	13.17	1.13	0.352	(0.050)	0.035	0.317
159	13.25	1.13	0.352	(0.050)	0.035	0.317
160	13.33	1.13	0.352	(0.050)	0.035	0.317
161	13.42	1.13	0.352	(0.050)	0.035	0.317
162	13.50	1.13	0.352	(0.049)	0.035	0.317
163	13.58	0.77	0.238	(0.049)	0.024	0.214
164	13.67	0.77	0.238	(0.049)	0.024	0.214
165	13.75	0.77	0.238	(0.049)	0.024	0.214
166	13.83	0.77	0.238	(0.048)	0.024	0.214
167	13.92	0.77	0.238	(0.048)	0.024	0.214
168	14.00	0.77	0.238	(0.048)	0.024	0.214
169	14.08	0.90	0.279	(0.048)	0.028	0.251
170	14.17	0.90	0.279	(0.047)	0.028	0.251
171	14.25	0.90	0.279	(0.047)	0.028	0.251
172	14.33	0.87	0.269	(0.047)	0.027	0.242
173	14.42	0.87	0.269	(0.047)	0.027	0.242
174	14.50	0.87	0.269	(0.046)	0.027	0.242

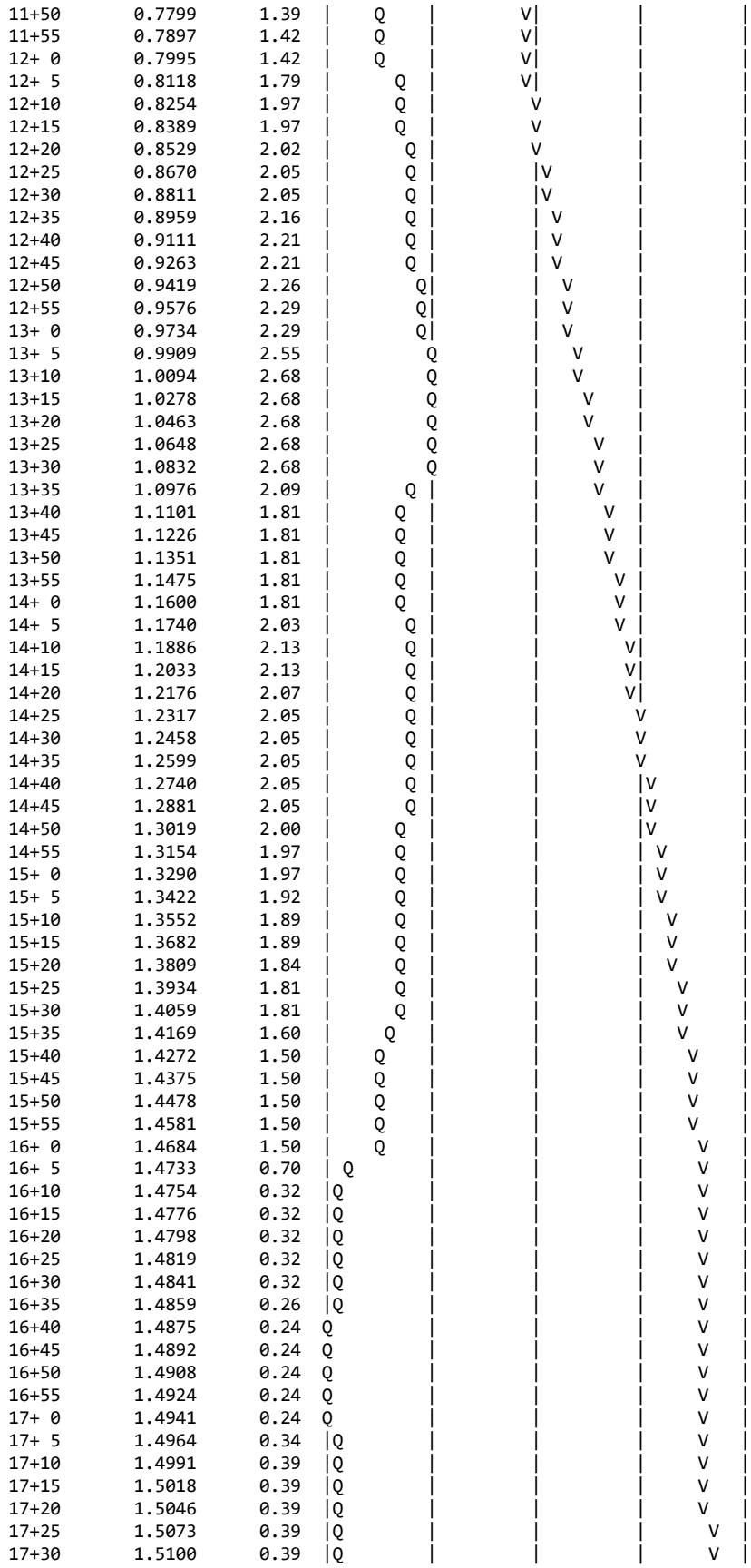
175	14.58	0.87	0.269	(0.046)	0.027	0.242
176	14.67	0.87	0.269	(0.046)	0.027	0.242
177	14.75	0.87	0.269	(0.046)	0.027	0.242
178	14.83	0.83	0.259	(0.045)	0.026	0.233
179	14.92	0.83	0.259	(0.045)	0.026	0.233
180	15.00	0.83	0.259	(0.045)	0.026	0.233
181	15.08	0.80	0.248	(0.045)	0.025	0.224
182	15.17	0.80	0.248	(0.045)	0.025	0.224
183	15.25	0.80	0.248	(0.044)	0.025	0.224
184	15.33	0.77	0.238	(0.044)	0.024	0.214
185	15.42	0.77	0.238	(0.044)	0.024	0.214
186	15.50	0.77	0.238	(0.044)	0.024	0.214
187	15.58	0.63	0.197	(0.043)	0.020	0.177
188	15.67	0.63	0.197	(0.043)	0.020	0.177
189	15.75	0.63	0.197	(0.043)	0.020	0.177
190	15.83	0.63	0.197	(0.043)	0.020	0.177
191	15.92	0.63	0.197	(0.042)	0.020	0.177
192	16.00	0.63	0.197	(0.042)	0.020	0.177
193	16.08	0.13	0.041	(0.042)	0.004	0.037
194	16.17	0.13	0.041	(0.042)	0.004	0.037
195	16.25	0.13	0.041	(0.042)	0.004	0.037
196	16.33	0.13	0.041	(0.041)	0.004	0.037
197	16.42	0.13	0.041	(0.041)	0.004	0.037
198	16.50	0.13	0.041	(0.041)	0.004	0.037
199	16.58	0.10	0.031	(0.041)	0.003	0.028
200	16.67	0.10	0.031	(0.041)	0.003	0.028
201	16.75	0.10	0.031	(0.040)	0.003	0.028
202	16.83	0.10	0.031	(0.040)	0.003	0.028
203	16.92	0.10	0.031	(0.040)	0.003	0.028
204	17.00	0.10	0.031	(0.040)	0.003	0.028
205	17.08	0.17	0.052	(0.040)	0.005	0.047
206	17.17	0.17	0.052	(0.039)	0.005	0.047
207	17.25	0.17	0.052	(0.039)	0.005	0.047
208	17.33	0.17	0.052	(0.039)	0.005	0.047
209	17.42	0.17	0.052	(0.039)	0.005	0.047
210	17.50	0.17	0.052	(0.039)	0.005	0.047
211	17.58	0.17	0.052	(0.038)	0.005	0.047
212	17.67	0.17	0.052	(0.038)	0.005	0.047
213	17.75	0.17	0.052	(0.038)	0.005	0.047
214	17.83	0.13	0.041	(0.038)	0.004	0.037
215	17.92	0.13	0.041	(0.038)	0.004	0.037
216	18.00	0.13	0.041	(0.037)	0.004	0.037
217	18.08	0.13	0.041	(0.037)	0.004	0.037
218	18.17	0.13	0.041	(0.037)	0.004	0.037
219	18.25	0.13	0.041	(0.037)	0.004	0.037
220	18.33	0.13	0.041	(0.037)	0.004	0.037
221	18.42	0.13	0.041	(0.037)	0.004	0.037
222	18.50	0.13	0.041	(0.036)	0.004	0.037
223	18.58	0.10	0.031	(0.036)	0.003	0.028
224	18.67	0.10	0.031	(0.036)	0.003	0.028
225	18.75	0.10	0.031	(0.036)	0.003	0.028
226	18.83	0.07	0.021	(0.036)	0.002	0.019
227	18.92	0.07	0.021	(0.035)	0.002	0.019
228	19.00	0.07	0.021	(0.035)	0.002	0.019
229	19.08	0.10	0.031	(0.035)	0.003	0.028
230	19.17	0.10	0.031	(0.035)	0.003	0.028
231	19.25	0.10	0.031	(0.035)	0.003	0.028
232	19.33	0.13	0.041	(0.035)	0.004	0.037
233	19.42	0.13	0.041	(0.035)	0.004	0.037
234	19.50	0.13	0.041	(0.034)	0.004	0.037
235	19.58	0.10	0.031	(0.034)	0.003	0.028
236	19.67	0.10	0.031	(0.034)	0.003	0.028
237	19.75	0.10	0.031	(0.034)	0.003	0.028
238	19.83	0.07	0.021	(0.034)	0.002	0.019
239	19.92	0.07	0.021	(0.034)	0.002	0.019
240	20.00	0.07	0.021	(0.033)	0.002	0.019
241	20.08	0.10	0.031	(0.033)	0.003	0.028
242	20.17	0.10	0.031	(0.033)	0.003	0.028
243	20.25	0.10	0.031	(0.033)	0.003	0.028

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244  20.33     0.10      0.031       (  0.033)       0.003        0.028
245  20.42     0.10      0.031       (  0.033)       0.003        0.028
246  20.50     0.10      0.031       (  0.033)       0.003        0.028
247  20.58     0.10      0.031       (  0.032)       0.003        0.028
248  20.67     0.10      0.031       (  0.032)       0.003        0.028
249  20.75     0.10      0.031       (  0.032)       0.003        0.028
250  20.83     0.07      0.021       (  0.032)       0.002        0.019
251  20.92     0.07      0.021       (  0.032)       0.002        0.019
252  21.00     0.07      0.021       (  0.032)       0.002        0.019
253  21.08     0.10      0.031       (  0.032)       0.003        0.028
254  21.17     0.10      0.031       (  0.032)       0.003        0.028
255  21.25     0.10      0.031       (  0.031)       0.003        0.028
256  21.33     0.07      0.021       (  0.031)       0.002        0.019
257  21.42     0.07      0.021       (  0.031)       0.002        0.019
258  21.50     0.07      0.021       (  0.031)       0.002        0.019
259  21.58     0.10      0.031       (  0.031)       0.003        0.028
260  21.67     0.10      0.031       (  0.031)       0.003        0.028
261  21.75     0.10      0.031       (  0.031)       0.003        0.028
262  21.83     0.07      0.021       (  0.031)       0.002        0.019
263  21.92     0.07      0.021       (  0.030)       0.002        0.019
264  22.00     0.07      0.021       (  0.030)       0.002        0.019
265  22.08     0.10      0.031       (  0.030)       0.003        0.028
266  22.17     0.10      0.031       (  0.030)       0.003        0.028
267  22.25     0.10      0.031       (  0.030)       0.003        0.028
268  22.33     0.07      0.021       (  0.030)       0.002        0.019
269  22.42     0.07      0.021       (  0.030)       0.002        0.019
270  22.50     0.07      0.021       (  0.030)       0.002        0.019
271  22.58     0.07      0.021       (  0.030)       0.002        0.019
272  22.67     0.07      0.021       (  0.030)       0.002        0.019
273  22.75     0.07      0.021       (  0.030)       0.002        0.019
274  22.83     0.07      0.021       (  0.029)       0.002        0.019
275  22.92     0.07      0.021       (  0.029)       0.002        0.019
276  23.00     0.07      0.021       (  0.029)       0.002        0.019
277  23.08     0.07      0.021       (  0.029)       0.002        0.019
278  23.17     0.07      0.021       (  0.029)       0.002        0.019
279  23.25     0.07      0.021       (  0.029)       0.002        0.019
280  23.33     0.07      0.021       (  0.029)       0.002        0.019
281  23.42     0.07      0.021       (  0.029)       0.002        0.019
282  23.50     0.07      0.021       (  0.029)       0.002        0.019
283  23.58     0.07      0.021       (  0.029)       0.002        0.019
284  23.67     0.07      0.021       (  0.029)       0.002        0.019
285  23.75     0.07      0.021       (  0.029)       0.002        0.019
286  23.83     0.07      0.021       (  0.029)       0.002        0.019
287  23.92     0.07      0.021       (  0.029)       0.002        0.019
288  24.00     0.07      0.021       (  0.029)       0.002        0.019
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    27.9
       Flood volume = Effective rainfall      2.33(In)
        times area       8.4(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
       Total soil loss =      0.26(In)
       Total soil loss =     0.181(Ac.Ft)
       Total rainfall =      2.59(In)
       Flood volume =       70919.2 Cubic Feet
       Total soil loss =        7879.9 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.679(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                      R u n o f f     H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0007      0.11  Q         |         |         |         |
   0+10       0.0018      0.16  Q         |         |         |         |
   0+15       0.0029      0.16  Q         |         |         |         |
```

```
0+20       0.0044      0.21  Q        |         |         |         |
0+25       0.0060      0.24  Q        |         |         |         |
0+30       0.0076      0.24  Q        |         |         |         |
0+35       0.0092      0.24  Q        |         |         |         |
0+40       0.0109      0.24  Q        |         |         |         |
0+45       0.0125      0.24  Q        |         |         |         |
0+50       0.0145      0.29  VQ       |         |         |         |
0+55       0.0167      0.32  VQ       |         |         |         |
1+ 0       0.0188      0.32  VQ       |         |         |         |
1+ 5       0.0206      0.26  VQ       |         |         |         |
1+10       0.0223      0.24  Q        |         |         |         |
1+15       0.0239      0.24  Q        |         |         |         |
1+20       0.0255      0.24  Q        |         |         |         |
1+25       0.0271      0.24  Q        |         |         |         |
1+30       0.0288      0.24  Q        |         |         |         |
1+35       0.0304      0.24  Q        |         |         |         |
1+40       0.0320      0.24  Q        |         |         |         |
1+45       0.0337      0.24  Q        |         |         |         |
1+50       0.0357      0.29  VQ       |         |         |         |
1+55       0.0378      0.32  VQ       |         |         |         |
2+ 0       0.0400      0.32  VQ       |         |         |         |
2+ 5       0.0422      0.32  |Q       |         |         |         |
2+10       0.0443      0.32  |Q       |         |         |         |
2+15       0.0465      0.32  |Q       |         |         |         |
2+20       0.0487      0.32  |Q       |         |         |         |
2+25       0.0509      0.32  |Q       |         |         |         |
2+30       0.0530      0.32  |Q       |         |         |         |
2+35       0.0556      0.37  |Q       |         |         |         |
2+40       0.0583      0.39  |Q       |         |         |         |
2+45       0.0610      0.39  |Q       |         |         |         |
2+50       0.0637      0.39  |Q       |         |         |         |
2+55       0.0664      0.39  |Q       |         |         |         |
3+ 0       0.0691      0.39  |Q       |         |         |         |
3+ 5       0.0718      0.39  |Q       |         |         |         |
3+10       0.0746      0.39  |Q       |         |         |         |
3+15       0.0773      0.39  |Q       |         |         |         |
3+20       0.0800      0.39  |Q       |         |         |         |
3+25       0.0827      0.39  |QV      |         |         |         |
3+30       0.0854      0.39  |QV      |         |         |         |
3+35       0.0881      0.39  |QV      |         |         |         |
3+40       0.0908      0.39  |QV      |         |         |         |
3+45       0.0935      0.39  |QV      |         |         |         |
3+50       0.0966      0.45  |QV      |         |         |         |
3+55       0.0999      0.47  |QV      |         |         |         |
4+ 0       0.1031      0.47  |QV      |         |         |         |
4+ 5       0.1064      0.47  |QV      |         |         |         |
4+10       0.1097      0.47  |QV      |         |         |         |
4+15       0.1129      0.47  |QV      |         |         |         |
4+20       0.1165      0.53  | Q      |         |         |         |
4+25       0.1203      0.55  | Q      |         |         |         |
4+30       0.1241      0.55  | QV     |         |         |         |
4+35       0.1279      0.55  | QV     |         |         |         |
4+40       0.1317      0.55  | QV     |         |         |         |
4+45       0.1355      0.55  | QV     |         |         |         |
4+50       0.1397      0.60  | QV     |         |         |         |
4+55       0.1440      0.63  | QV     |         |         |         |
5+ 0       0.1484      0.63  | QV     |         |         |         |
5+ 5       0.1520      0.52  | QV     |         |         |         |
5+10       0.1552      0.47  |Q V     |         |         |         |
5+15       0.1585      0.47  |Q V     |         |         |         |
5+20       0.1621      0.53  | QV     |         |         |         |
5+25       0.1659      0.55  | Q V    |         |         |         |
5+30       0.1697      0.55  | Q V    |         |         |         |
5+35       0.1739      0.60  | Q V    |         |         |         |
5+40       0.1782      0.63  | Q V    |         |         |         |
5+45       0.1826      0.63  | Q V    |         |         |         |
5+50       0.1869      0.63  | Q V    |         |         |         |
5+55       0.1912      0.63  | Q V    |         |         |         |
6+ 0       0.1956      0.63  | Q V    |         |         |         |
```

6+ 5	0.2003	0.68	Q V			
6+10	0.2052	0.71	Q V			
6+15	0.2101	0.71	Q V			
6+20	0.2150	0.71	Q V			
6+25	0.2198	0.71	Q V			
6+30	0.2247	0.71	Q V			
6+35	0.2300	0.76	Q V			
6+40	0.2354	0.79	Q V			
6+45	0.2408	0.79	Q V			
6+50	0.2463	0.79	Q V			
6+55	0.2517	0.79	Q V			
7+ 0	0.2571	0.79	Q V			
7+ 5	0.2625	0.79	Q V			
7+10	0.2680	0.79	Q V			
7+15	0.2734	0.79	Q V			
7+20	0.2792	0.84	Q V			
7+25	0.2851	0.87	Q V			
7+30	0.2911	0.87	Q V			
7+35	0.2975	0.92	Q V			
7+40	0.3040	0.95	Q V			
7+45	0.3105	0.95	Q V			
7+50	0.3174	1.00	Q V			
7+55	0.3244	1.02	Q V			
8+ 0	0.3315	1.02	Q V			
8+ 5	0.3393	1.13	Q V			
8+10	0.3474	1.18	Q V			
8+15	0.3555	1.18	Q V			
8+20	0.3637	1.18	Q V			
8+25	0.3718	1.18	Q V			
8+30	0.3800	1.18	Q V			
8+35	0.3885	1.24	Q V			
8+40	0.3971	1.26	Q V			
8+45	0.4058	1.26	Q V			
8+50	0.4149	1.31	Q V			
8+55	0.4241	1.34	Q V			
9+ 0	0.4333	1.34	Q V			
9+ 5	0.4433	1.45	Q V			
9+10	0.4536	1.50	Q V			
9+15	0.4639	1.50	Q V			
9+20	0.4746	1.55	Q V			
9+25	0.4854	1.58	Q V			
9+30	0.4963	1.58	Q V			
9+35	0.5075	1.63	Q V			
9+40	0.5189	1.65	Q V			
9+45	0.5303	1.65	Q V			
9+50	0.5421	1.71	Q V			
9+55	0.5540	1.73	Q V			
10+ 0	0.5660	1.73	Q V			
10+ 5	0.5753	1.36	Q V			
10+10	0.5835	1.18	Q V			
10+15	0.5916	1.18	Q V			
10+20	0.5998	1.18	Q V			
10+25	0.6079	1.18	Q V			
10+30	0.6160	1.18	Q V			
10+35	0.6260	1.45	Q V			
10+40	0.6369	1.58	Q V			
10+45	0.6477	1.58	Q V			
10+50	0.6586	1.58	Q V			
10+55	0.6694	1.58	Q V			
11+ 0	0.6803	1.58	Q V			
11+ 5	0.6908	1.52	Q V			
11+10	0.7011	1.50	Q V			
11+15	0.7114	1.50	Q V			
11+20	0.7217	1.50	Q V			
11+25	0.7320	1.50	Q V			
11+30	0.7423	1.50	Q V			
11+35	0.7519	1.39	Q V			
11+40	0.7611	1.34	Q V			
11+45	0.7703	1.34	Q V			



17+35	1.5127	0.39	|Q	|	|	|	V |
17+40	1.5154	0.39	|Q	|	|	|	V |
17+45	1.5181	0.39	|Q	|	|	|	V |
17+50	1.5205	0.34	|Q	|	|	|	V |
17+55	1.5226	0.32	|Q	|	|	|	V |
18+ 0	1.5248	0.32	|Q	|	|	|	V |
18+ 5	1.5270	0.32	|Q	|	|	|	V |
18+10	1.5292	0.32	|Q	|	|	|	V |
18+15	1.5313	0.32	|Q	|	|	|	V |
18+20	1.5335	0.32	|Q	|	|	|	V |
18+25	1.5357	0.32	|Q	|	|	|	V |
18+30	1.5378	0.32	|Q	|	|	|	V |
18+35	1.5396	0.26	|Q	|	|	|	V |
18+40	1.5413	0.24	Q	|	|	|	V |
18+45	1.5429	0.24	Q	|	|	|	V |
18+50	1.5442	0.18	Q	|	|	|	V |
18+55	1.5452	0.16	Q	|	|	|	V |
19+ 0	1.5463	0.16	Q	|	|	|	V |
19+ 5	1.5478	0.21	Q	|	|	|	V |
19+10	1.5494	0.24	Q	|	|	|	V |
19+15	1.5510	0.24	Q	|	|	|	V |
19+20	1.5530	0.29	|Q	|	|	|	V |
19+25	1.5552	0.32	|Q	|	|	|	V |
19+30	1.5574	0.32	|Q	|	|	|	V |
19+35	1.5592	0.26	|Q	|	|	|	V |
19+40	1.5608	0.24	Q	|	|	|	V |
19+45	1.5624	0.24	Q	|	|	|	V |
19+50	1.5637	0.18	Q	|	|	|	V |
19+55	1.5648	0.16	Q	|	|	|	V |
20+ 0	1.5659	0.16	Q	|	|	|	V |
20+ 5	1.5673	0.21	Q	|	|	|	V |
20+10	1.5689	0.24	Q	|	|	|	V |
20+15	1.5706	0.24	Q	|	|	|	V |
20+20	1.5722	0.24	Q	|	|	|	V |
20+25	1.5738	0.24	Q	|	|	|	V |
20+30	1.5755	0.24	Q	|	|	|	V |
20+35	1.5771	0.24	Q	|	|	|	V |
20+40	1.5787	0.24	Q	|	|	|	V |
20+45	1.5803	0.24	Q	|	|	|	V |
20+50	1.5816	0.18	Q	|	|	|	V |
20+55	1.5827	0.16	Q	|	|	|	V |
21+ 0	1.5838	0.16	Q	|	|	|	V |
21+ 5	1.5852	0.21	Q	|	|	|	V |
21+10	1.5869	0.24	Q	|	|	|	V |
21+15	1.5885	0.24	Q	|	|	|	V|
21+20	1.5897	0.18	Q	|	|	|	V|
21+25	1.5908	0.16	Q	|	|	|	V|
21+30	1.5919	0.16	Q	|	|	|	V|
21+35	1.5934	0.21	Q	|	|	|	V|
21+40	1.5950	0.24	Q	|	|	|	V|
21+45	1.5966	0.24	Q	|	|	|	V|
21+50	1.5979	0.18	Q	|	|	|	V|
21+55	1.5990	0.16	Q	|	|	|	V|
22+ 0	1.6001	0.16	Q	|	|	|	V|
22+ 5	1.6015	0.21	Q	|	|	|	V|
22+10	1.6031	0.24	Q	|	|	|	V|
22+15	1.6048	0.24	Q	|	|	|	V|
22+20	1.6060	0.18	Q	|	|	|	V|
22+25	1.6071	0.16	Q	|	|	|	V|
22+30	1.6082	0.16	Q	|	|	|	V|
22+35	1.6093	0.16	Q	|	|	|	V|
22+40	1.6104	0.16	Q	|	|	|	V|
22+45	1.6114	0.16	Q	|	|	|	V|
22+50	1.6125	0.16	Q	|	|	|	V|
22+55	1.6136	0.16	Q	|	|	|	V|
23+ 0	1.6147	0.16	Q	|	|	|	V|
23+ 5	1.6158	0.16	Q	|	|	|	V|
23+10	1.6169	0.16	Q	|	|	|	V|
23+15	1.6180	0.16	Q	|	|	|	V|

```
   23+20       1.6190      0.16  Q        |         |         |        V|
   23+25       1.6201      0.16  Q        |         |         |        V|
   23+30       1.6212      0.16  Q        |         |         |        V|
   23+35       1.6223      0.16  Q        |         |         |        V|
   23+40       1.6234      0.16  Q        |         |         |        V|
   23+45       1.6245      0.16  Q        |         |         |        V|
   23+50       1.6256      0.16  Q        |         |         |        V|
   23+55       1.6266      0.16  Q        |         |         |        V|
   24+ 0       1.6277      0.16  Q        |         |         |        V|
   24+ 5       1.6281      0.05  Q        |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100EX10A110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
WESTERLY PARKING AREA
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.063 Hr.
Lag time = 3.78 Min.
25% of lag time = 0.95 Min.
40% of lag time = 1.51 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	0.45	3.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.20	10.57

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.450(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 0.759(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.758(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

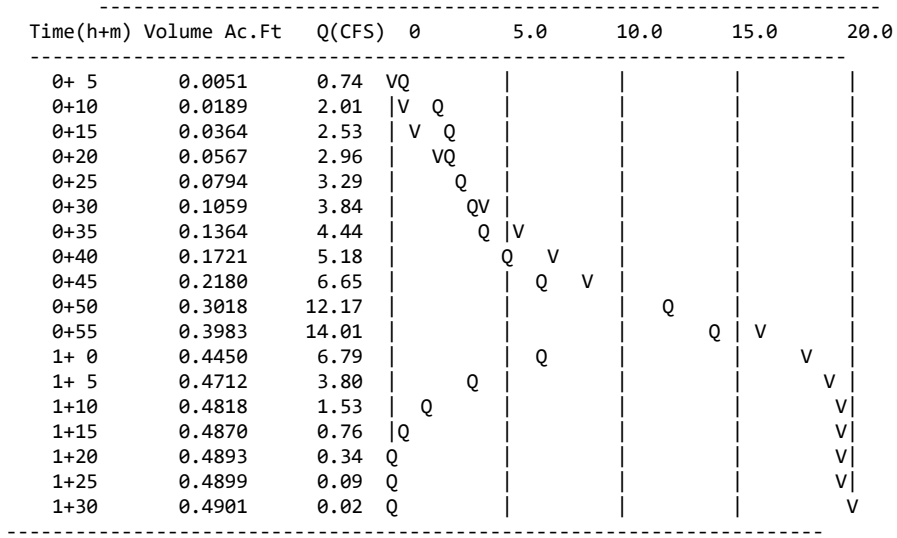
```
          8.810           93.00         0.000
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                  Sum (F) =   0.091
 Area averaged mean soil loss (F) (In/Hr) =  0.091
 Minimum soil loss rate ((In/Hr)) =  0.045
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.900
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5000
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %           (CFS)
 ------------------------------------------------------------------------
     1   0.083        132.225         28.626             2.542
     2   0.167        264.451         48.173             4.277
     3   0.250        396.676         12.339             1.096
     4   0.333        528.901          5.498             0.488
     5   0.417        661.127          3.009             0.267
     6   0.500        793.352          1.627             0.144
     7   0.583        925.578          0.728             0.065
                              Sum = 100.000   Sum=       8.879
-------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.382          0.091    (  0.344)        0.291
   2   0.17     4.30      0.391          0.091    (  0.352)        0.300
   3   0.25     5.00      0.455          0.091    (  0.410)        0.364
   4   0.33     5.00      0.455          0.091    (  0.410)        0.364
   5   0.42     5.80      0.528          0.091    (  0.475)        0.437
   6   0.50     6.50      0.592          0.091    (  0.532)        0.501
   7   0.58     7.40      0.674          0.091    (  0.606)        0.583
   8   0.67     8.60      0.783          0.091    (  0.704)        0.692
   9   0.75    12.30      1.120          0.091    (  1.008)        1.029
  10   0.83    29.10      2.649          0.091    (  2.384)        2.558
  11   0.92     6.80      0.619          0.091    (  0.557)        0.528
  12   1.00     5.00      0.455          0.091    (  0.410)        0.364
                (Loss Rate Not Used)
     Sum =     100.0                                 Sum =     8.0
        Flood volume = Effective rainfall      0.67(In)
         times area       8.8(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
        Total soil loss =      0.09(In)
        Total soil loss =     0.067(Ac.Ft)
        Total rainfall =      0.76(In)
        Flood volume =       21346.7 Cubic Feet
        Total soil loss =        2910.2 Cubic Feet
        ------------------------------------------------------------------
         Peak flow rate of this hydrograph =     14.009(CFS)
        ------------------------------------------------------------------
        ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                       R u n o f f      H y d r o g r a p h
        ------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))
```


Time(h+m) Volume Ac.Ft Q(CFS) 0 5.0 10.0 15.0 20.0
0+ 5 0.0051 0.74
0+10 0.0189 2.01
0+15 0.0364 2.53
0+20 0.0567 2.96
0+25 0.0794 3.29
0+30 0.1059 3.84
0+35 0.1364 4.44
0+40 0.1721 5.18
0+45 0.2180 6.65
0+50 0.3018 12.17
0+55 0.3983 14.01
1+ 0 0.4450 6.79
1+ 5 0.4712 3.80
1+10 0.4818 1.53
1+15 0.4870 0.76
1+20 0.4893 0.34
1+25 0.4899 0.09
1+30 0.4901 0.02

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100EX10A310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
WESTERLY PARKING AREA
10-YEAR STORM EVENT

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Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.063 Hr.
Lag time = 3.78 Min.
25% of lag time = 0.95 Min.
40% of lag time = 1.51 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	0.80	7.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.80	15.86

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
        8.810           93.00         0.000
 Total Area Entered =      8.81(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
------------------------------------------------------------------------
    1   0.083        132.225         28.626              2.542
    2   0.167        264.451         48.173              4.277
    3   0.250        396.676         12.339              1.096
    4   0.333        528.901          5.498              0.488
    5   0.417        661.127          3.009              0.267
    6   0.500        793.352          1.627              0.144
    7   0.583        925.578          0.728              0.065
                              Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
    1   0.08     1.30      0.189          0.091    (  0.170)        0.098
    2   0.17     1.30      0.189          0.091    (  0.170)        0.098
    3   0.25     1.10      0.160          0.091    (  0.144)        0.069
    4   0.33     1.50      0.218          0.091    (  0.196)        0.127
    5   0.42     1.50      0.218          0.091    (  0.196)        0.127
    6   0.50     1.80      0.262          0.091    (  0.235)        0.171
    7   0.58     1.50      0.218          0.091    (  0.196)        0.127
    8   0.67     1.80      0.262          0.091    (  0.235)        0.171
    9   0.75     1.80      0.262          0.091    (  0.235)        0.171
   10   0.83     1.50      0.218          0.091    (  0.196)        0.127
   11   0.92     1.60      0.233          0.091    (  0.209)        0.142
   12   1.00     1.80      0.262          0.091    (  0.235)        0.171
   13   1.08     2.20      0.320          0.091    (  0.288)        0.229
   14   1.17     2.20      0.320          0.091    (  0.288)        0.229
   15   1.25     2.20      0.320          0.091    (  0.288)        0.229
   16   1.33     2.00      0.291          0.091    (  0.262)        0.200
   17   1.42     2.60      0.378          0.091    (  0.340)        0.287
   18   1.50     2.70      0.392          0.091    (  0.353)        0.301
   19   1.58     2.40      0.349          0.091    (  0.314)        0.258
   20   1.67     2.70      0.392          0.091    (  0.353)        0.301
   21   1.75     3.30      0.480          0.091    (  0.432)        0.389
   22   1.83     3.10      0.451          0.091    (  0.406)        0.360
   23   1.92     2.90      0.422          0.091    (  0.379)        0.331
   24   2.00     3.00      0.436          0.091    (  0.392)        0.345
   25   2.08     3.10      0.451          0.091    (  0.406)        0.360
   26   2.17     4.20      0.611          0.091    (  0.549)        0.520
   27   2.25     5.00      0.727          0.091    (  0.654)        0.636
   28   2.33     3.50      0.509          0.091    (  0.458)        0.418
   29   2.42     6.80      0.988          0.091    (  0.890)        0.897
   30   2.50     7.30      1.061          0.091    (  0.955)        0.970
   31   2.58     8.20      1.192          0.091    (  1.073)        1.101
```

```
 32   2.67     5.90      0.858          0.091    (  0.772)        0.767
 33   2.75     2.00      0.291          0.091    (  0.262)        0.200
 34   2.83     1.80      0.262          0.091    (  0.235)        0.171
 35   2.92     1.80      0.262          0.091    (  0.235)        0.171
 36   3.00     0.60      0.087       (  0.091)       0.078        0.009
               (Loss Rate Not Used)
    Sum =     100.0                                   Sum =    11.3
       Flood volume = Effective rainfall      0.94(In)
        times area       8.8(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
       Total soil loss =      0.27(In)
       Total soil loss =     0.200(Ac.Ft)
       Total rainfall =      1.21(In)
       Flood volume =       30042.4 Cubic Feet
       Total soil loss =        8697.3 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      8.408(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ------------------------------------------------------------------------
   0+ 5       0.0017      0.25  Q         |         |         |         |
   0+10       0.0063      0.67  V Q       |         |         |         |
   0+15       0.0112      0.70  V Q       |         |         |         |
   0+20       0.0165      0.77  V  Q      |         |         |         |
   0+25       0.0235      1.02  |V  Q     |         |         |         |
   0+30       0.0317      1.19  |V  Q     |         |         |         |
   0+35       0.0406      1.29  | V  Q    |         |         |         |
   0+40       0.0494      1.28  | V  Q    |         |         |         |
   0+45       0.0593      1.44  |  V Q    |         |         |         |
   0+50       0.0688      1.37  |  V Q    |         |         |         |
   0+55       0.0773      1.24  |   Q     |         |         |         |
   1+ 0       0.0866      1.34  |    Q    |         |         |         |
   1+ 5       0.0976      1.61  |    VQ   |         |         |         |
   1+10       0.1106      1.89  |     VQ  |         |         |         |
   1+15       0.1241      1.96  |      Q  |         |         |         |
   1+20       0.1374      1.92  |      Q  |         |         |         |
   1+25       0.1514      2.04  |       Q |         |         |         |
   1+30       0.1682      2.43  |        Q|         |         |         |
   1+35       0.1852      2.47  |        QV         |         |         |
   1+40       0.2020      2.44  |        Q|V        |         |         |
   1+45       0.2215      2.83  |         |QV       |         |         |
   1+50       0.2433      3.17  |         | Q V     |         |         |
   1+55       0.2645      3.08  |         | Q  V    |         |         |
   2+ 0       0.2853      3.01  |         | Q   V   |         |         |
   2+ 5       0.3066      3.09  |         | Q    V  |         |         |
   2+10       0.3312      3.57  |         |   Q    V|         |         |
   2+15       0.3627      4.57  |         |       Q |V        |         |
   2+20       0.3950      4.69  |         |       Q | V       |         |
   2+25       0.4307      5.19  |         |         Q   V     |         |
   2+30       0.4809      7.29  |         |         |      V Q|         |
   2+35       0.5388      8.41  |         |         |         |V Q      |
   2+40       0.5967      8.40  |         |         |         |  QV     |
   2+45       0.6367      5.81  |         |         |  Q      |     V   |
   2+50       0.6579      3.08  |         | Q       |         |       V |
   2+55       0.6734      2.25  |        Q|         |         |        V|
   3+ 0       0.6835      1.46  |    Q    |         |         |        V|
   3+ 5       0.6872      0.54  | Q       |         |         |        V|
   3+10       0.6887      0.22  Q         |         |         |        V|
   3+15       0.6893      0.09  Q         |         |         |        V|
   3+20       0.6896      0.04  Q         |         |         |        V|
   3+25       0.6897      0.01  Q         |         |         |        V|
   3+30       0.6897      0.00  Q         |         |         |         V
------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100EX10A610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
WESTERLY PARKING AREA
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.063 Hr.
Lag time = 3.78 Min.
25% of lag time = 0.95 Min.
40% of lag time = 1.51 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.00	8.81

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	2.50	22.03

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
        8.810           93.00         0.000
 Total Area Entered =      8.81(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        132.225         28.626              2.542
    2   0.167        264.451         48.173              4.277
    3   0.250        396.676         12.339              1.096
    4   0.333        528.901          5.498              0.488
    5   0.417        661.127          3.009              0.267
    6   0.500        793.352          1.627              0.144
    7   0.583        925.578          0.728              0.065
                              Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     0.50      0.097       (  0.091)       0.087       0.010
   2   0.17     0.60      0.116          0.091    (  0.105)       0.025
   3   0.25     0.60      0.116          0.091    (  0.105)       0.025
   4   0.33     0.60      0.116          0.091    (  0.105)       0.025
   5   0.42     0.60      0.116          0.091    (  0.105)       0.025
   6   0.50     0.70      0.136          0.091    (  0.122)       0.045
   7   0.58     0.70      0.136          0.091    (  0.122)       0.045
   8   0.67     0.70      0.136          0.091    (  0.122)       0.045
   9   0.75     0.70      0.136          0.091    (  0.122)       0.045
  10   0.83     0.70      0.136          0.091    (  0.122)       0.045
  11   0.92     0.70      0.136          0.091    (  0.122)       0.045
  12   1.00     0.80      0.155          0.091    (  0.140)       0.064
  13   1.08     0.80      0.155          0.091    (  0.140)       0.064
  14   1.17     0.80      0.155          0.091    (  0.140)       0.064
  15   1.25     0.80      0.155          0.091    (  0.140)       0.064
  16   1.33     0.80      0.155          0.091    (  0.140)       0.064
  17   1.42     0.80      0.155          0.091    (  0.140)       0.064
  18   1.50     0.80      0.155          0.091    (  0.140)       0.064
  19   1.58     0.80      0.155          0.091    (  0.140)       0.064
  20   1.67     0.80      0.155          0.091    (  0.140)       0.064
  21   1.75     0.80      0.155          0.091    (  0.140)       0.064
  22   1.83     0.80      0.155          0.091    (  0.140)       0.064
  23   1.92     0.80      0.155          0.091    (  0.140)       0.064
  24   2.00     0.90      0.175          0.091    (  0.157)       0.084
  25   2.08     0.80      0.155          0.091    (  0.140)       0.064
  26   2.17     0.90      0.175          0.091    (  0.157)       0.084
  27   2.25     0.90      0.175          0.091    (  0.157)       0.084
  28   2.33     0.90      0.175          0.091    (  0.157)       0.084
  29   2.42     0.90      0.175          0.091    (  0.157)       0.084
  30   2.50     0.90      0.175          0.091    (  0.157)       0.084
  31   2.58     0.90      0.175          0.091    (  0.157)       0.084
```

```
32   2.67     0.90      0.175          0.091    (  0.157)        0.084
33   2.75     1.00      0.194          0.091    (  0.175)        0.103
34   2.83     1.00      0.194          0.091    (  0.175)        0.103
35   2.92     1.00      0.194          0.091    (  0.175)        0.103
36   3.00     1.00      0.194          0.091    (  0.175)        0.103
37   3.08     1.00      0.194          0.091    (  0.175)        0.103
38   3.17     1.10      0.213          0.091    (  0.192)        0.122
39   3.25     1.10      0.213          0.091    (  0.192)        0.122
40   3.33     1.10      0.213          0.091    (  0.192)        0.122
41   3.42     1.20      0.233          0.091    (  0.210)        0.142
42   3.50     1.30      0.252          0.091    (  0.227)        0.161
43   3.58     1.40      0.272          0.091    (  0.244)        0.181
44   3.67     1.40      0.272          0.091    (  0.244)        0.181
45   3.75     1.50      0.291          0.091    (  0.262)        0.200
46   3.83     1.50      0.291          0.091    (  0.262)        0.200
47   3.92     1.60      0.310          0.091    (  0.279)        0.219
48   4.00     1.60      0.310          0.091    (  0.279)        0.219
49   4.08     1.70      0.330          0.091    (  0.297)        0.239
50   4.17     1.80      0.349          0.091    (  0.314)        0.258
51   4.25     1.90      0.369          0.091    (  0.332)        0.278
52   4.33     2.00      0.388          0.091    (  0.349)        0.297
53   4.42     2.10      0.407          0.091    (  0.367)        0.316
54   4.50     2.10      0.407          0.091    (  0.367)        0.316
55   4.58     2.20      0.427          0.091    (  0.384)        0.336
56   4.67     2.30      0.446          0.091    (  0.402)        0.355
57   4.75     2.40      0.466          0.091    (  0.419)        0.375
58   4.83     2.40      0.466          0.091    (  0.419)        0.375
59   4.92     2.50      0.485          0.091    (  0.437)        0.394
60   5.00     2.60      0.505          0.091    (  0.454)        0.414
61   5.08     3.10      0.602          0.091    (  0.541)        0.511
62   5.17     3.60      0.699          0.091    (  0.629)        0.608
63   5.25     3.90      0.757          0.091    (  0.681)        0.666
64   5.33     4.20      0.815          0.091    (  0.733)        0.724
65   5.42     4.70      0.912          0.091    (  0.821)        0.821
66   5.50     5.60      1.087          0.091    (  0.978)        0.996
67   5.58     1.90      0.369          0.091    (  0.332)        0.278
68   5.67     0.90      0.175          0.091    (  0.157)        0.084
69   5.75     0.60      0.116          0.091    (  0.105)        0.025
70   5.83     0.50      0.097       (  0.091)       0.087        0.010
71   5.92     0.30      0.058       (  0.091)       0.052        0.006
72   6.00     0.20      0.039       (  0.091)       0.035        0.004
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    13.0
      Flood volume = Effective rainfall      1.08(In)
       times area       8.8(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.54(In)
      Total soil loss =     0.395(Ac.Ft)
      Total rainfall =      1.62(In)
      Flood volume =       34524.8 Cubic Feet
      Total soil loss =       17189.3 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      7.427(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.02  Q         |         |         |         |
  0+10       0.0009      0.11  Q         |         |         |         |
  0+15       0.0022      0.18  Q         |         |         |         |
  0+20       0.0036      0.21  Q         |         |         |         |
  0+25       0.0051      0.22  Q         |         |         |         |
  0+30       0.0069      0.27  VQ        |         |         |         |
  0+35       0.0094      0.36  VQ        |         |         |         |
```

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0+40       0.0120      0.38  VQ        |         |         |         |
0+45       0.0147      0.39  VQ        |         |         |         |
0+50       0.0174      0.39  VQ        |         |         |         |
0+55       0.0202      0.40  |Q        |         |         |         |
1+ 0       0.0232      0.45  |Q        |         |         |         |
1+ 5       0.0269      0.53  |VQ       |         |         |         |
1+10       0.0307      0.55  |VQ       |         |         |         |
1+15       0.0346      0.56  |VQ       |         |         |         |
1+20       0.0385      0.57  |VQ       |         |         |         |
1+25       0.0424      0.57  | Q       |         |         |         |
1+30       0.0463      0.57  | Q       |         |         |         |
1+35       0.0502      0.57  | Q       |         |         |         |
1+40       0.0542      0.57  | Q       |         |         |         |
1+45       0.0581      0.57  | Q       |         |         |         |
1+50       0.0620      0.57  | QV      |         |         |         |
1+55       0.0660      0.57  | QV      |         |         |         |
2+ 0       0.0702      0.62  | QV      |         |         |         |
2+ 5       0.0747      0.65  | QV      |         |         |         |
2+10       0.0791      0.64  | QV      |         |         |         |
2+15       0.0841      0.71  | Q V     |         |         |         |
2+20       0.0891      0.73  | Q V     |         |         |         |
2+25       0.0942      0.74  | Q V     |         |         |         |
2+30       0.0993      0.74  | Q  V    |         |         |         |
2+35       0.1044      0.74  | Q  V    |         |         |         |
2+40       0.1095      0.74  | Q  V    |         |         |         |
2+45       0.1149      0.79  |  Q V    |         |         |         |
2+50       0.1210      0.88  |  Q  V   |         |         |         |
2+55       0.1271      0.90  |  Q  V   |         |         |         |
3+ 0       0.1334      0.91  |  Q  V   |         |         |         |
3+ 5       0.1397      0.91  |  Q   V  |         |         |         |
3+10       0.1463      0.96  |  Q   V  |         |         |         |
3+15       0.1535      1.05  |   Q  V  |         |         |         |
3+20       0.1609      1.07  |   Q   V |         |         |         |
3+25       0.1686      1.13  |   Q   V |         |         |         |
3+30       0.1774      1.27  |    Q  V |         |         |         |
3+35       0.1871      1.42  |    Q   V|         |         |         |
3+40       0.1977      1.54  |     Q  V|         |         |         |
3+45       0.2089      1.62  |     Q   V         |         |         |
3+50       0.2208      1.72  |     Q   |V        |         |         |
3+55       0.2332      1.80  |      Q  |V        |         |         |
4+ 0       0.2463      1.90  |      Q  | V       |         |         |
4+ 5       0.2599      1.98  |      Q  |  V      |         |         |
4+10       0.2745      2.12  |       Q |  V      |         |         |
4+15       0.2902      2.28  |        Q|   V     |         |         |
4+20       0.3070      2.45  |        Q|    V    |         |         |
4+25       0.3251      2.62  |         Q     V   |         |         |
4+30       0.3439      2.74  |         Q      V  |         |         |
4+35       0.3634      2.83  |         |Q      V |         |         |
4+40       0.3839      2.98  |         |Q       V|         |         |
4+45       0.4055      3.14  |         | Q       V         |         |
4+50       0.4280      3.26  |         |  Q      |V        |         |
4+55       0.4510      3.35  |         |  Q      | V       |         |
5+ 0       0.4751      3.50  |         |  Q      |  V      |         |
5+ 5       0.5017      3.86  |         |    Q    |    V    |         |
5+10       0.5330      4.55  |         |       Q |     V   |         |
5+15       0.5691      5.24  |         |         Q       V |         |
5+20       0.6090      5.80  |         |         |  Q      V         |
5+25       0.6534      6.43  |         |         |    Q    | V       |
5+30       0.7045      7.43  |         |         |       Q|    V    |
5+35       0.7494      6.52  |         |         |     Q   |      V  |
5+40       0.7716      3.22  |         | Q       |         |       V |
5+45       0.7825      1.58  |     Q   |         |         |        V|
5+50       0.7879      0.79  |  Q      |         |         |        V|
5+55       0.7907      0.40  |Q        |         |         |        V|
6+ 0       0.7919      0.18  Q         |         |         |        V|
6+ 5       0.7924      0.06  Q         |         |         |        V|
6+10       0.7925      0.02  Q         |         |         |        V|
6+15       0.7926      0.01  Q         |         |         |        V|
6+20       0.7926      0.00  Q         |         |         |        V|
```

```
    6+25       0.7926      0.00  Q        |        |        |       V|
    6+30       0.7926      0.00  Q        |        |        |        V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100EX10A2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

TEI JOB NUMBER 4100
EXISTING CONDITIONS
WESTERLY PARKING AREA
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.040
Lag time = 0.063 Hr.
Lag time = 3.78 Min.
25% of lag time = 0.95 Min.
40% of lag time = 1.51 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.60	14.10

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	4.00	35.24

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
        8.810           93.00         0.000
 Total Area Entered =      8.81(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
93.0  93.0      0.091     0.000        0.091       1.000      0.091
                                                 Sum (F) =   0.091
Area averaged mean soil loss (F) (In/Hr) =  0.091
Minimum soil loss rate ((In/Hr)) =  0.045
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
                Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083        132.225         28.626              2.542
    2   0.167        264.451         48.173              4.277
    3   0.250        396.676         12.339              1.096
    4   0.333        528.901          5.498              0.488
    5   0.417        661.127          3.009              0.267
    6   0.500        793.352          1.627              0.144
    7   0.583        925.578          0.728              0.065
                              Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------
```

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.021	(0.161)	0.019	0.002
2	0.17	0.07	0.021	(0.161)	0.019	0.002
3	0.25	0.07	0.021	(0.160)	0.019	0.002
4	0.33	0.10	0.031	(0.159)	0.028	0.003
5	0.42	0.10	0.031	(0.159)	0.028	0.003
6	0.50	0.10	0.031	(0.158)	0.028	0.003
7	0.58	0.10	0.031	(0.158)	0.028	0.003
8	0.67	0.10	0.031	(0.157)	0.028	0.003
9	0.75	0.10	0.031	(0.156)	0.028	0.003
10	0.83	0.13	0.041	(0.156)	0.037	0.004
11	0.92	0.13	0.041	(0.155)	0.037	0.004
12	1.00	0.13	0.041	(0.155)	0.037	0.004
13	1.08	0.10	0.031	(0.154)	0.028	0.003
14	1.17	0.10	0.031	(0.153)	0.028	0.003
15	1.25	0.10	0.031	(0.153)	0.028	0.003
16	1.33	0.10	0.031	(0.152)	0.028	0.003
17	1.42	0.10	0.031	(0.151)	0.028	0.003
18	1.50	0.10	0.031	(0.151)	0.028	0.003
19	1.58	0.10	0.031	(0.150)	0.028	0.003
20	1.67	0.10	0.031	(0.150)	0.028	0.003
21	1.75	0.10	0.031	(0.149)	0.028	0.003
22	1.83	0.13	0.041	(0.148)	0.037	0.004
23	1.92	0.13	0.041	(0.148)	0.037	0.004
24	2.00	0.13	0.041	(0.147)	0.037	0.004
25	2.08	0.13	0.041	(0.147)	0.037	0.004
26	2.17	0.13	0.041	(0.146)	0.037	0.004
27	2.25	0.13	0.041	(0.145)	0.037	0.004
28	2.33	0.13	0.041	(0.145)	0.037	0.004
29	2.42	0.13	0.041	(0.144)	0.037	0.004
30	2.50	0.13	0.041	(0.144)	0.037	0.004
31	2.58	0.17	0.052	(0.143)	0.047	0.005

32	2.67	0.17	0.052	(	0.143)	0.047		0.005
33	2.75	0.17	0.052	(	0.142)	0.047		0.005
34	2.83	0.17	0.052	(	0.141)	0.047		0.005
35	2.92	0.17	0.052	(	0.141)	0.047		0.005
36	3.00	0.17	0.052	(	0.140)	0.047		0.005
37	3.08	0.17	0.052	(	0.140)	0.047		0.005
38	3.17	0.17	0.052	(	0.139)	0.047		0.005
39	3.25	0.17	0.052	(	0.138)	0.047		0.005
40	3.33	0.17	0.052	(	0.138)	0.047		0.005
41	3.42	0.17	0.052	(	0.137)	0.047		0.005
42	3.50	0.17	0.052	(	0.137)	0.047		0.005
43	3.58	0.17	0.052	(	0.136)	0.047		0.005
44	3.67	0.17	0.052	(	0.136)	0.047		0.005
45	3.75	0.17	0.052	(	0.135)	0.047		0.005
46	3.83	0.20	0.062	(	0.134)	0.056		0.006
47	3.92	0.20	0.062	(	0.134)	0.056		0.006
48	4.00	0.20	0.062	(	0.133)	0.056		0.006
49	4.08	0.20	0.062	(	0.133)	0.056		0.006
50	4.17	0.20	0.062	(	0.132)	0.056		0.006
51	4.25	0.20	0.062	(	0.132)	0.056		0.006
52	4.33	0.23	0.072	(	0.131)	0.065		0.007
53	4.42	0.23	0.072	(	0.131)	0.065		0.007
54	4.50	0.23	0.072	(	0.130)	0.065		0.007
55	4.58	0.23	0.072	(	0.129)	0.065		0.007
56	4.67	0.23	0.072	(	0.129)	0.065		0.007
57	4.75	0.23	0.072	(	0.128)	0.065		0.007
58	4.83	0.27	0.083	(	0.128)	0.075		0.008
59	4.92	0.27	0.083	(	0.127)	0.075		0.008
60	5.00	0.27	0.083	(	0.127)	0.075		0.008
61	5.08	0.20	0.062	(	0.126)	0.056		0.006
62	5.17	0.20	0.062	(	0.126)	0.056		0.006
63	5.25	0.20	0.062	(	0.125)	0.056		0.006
64	5.33	0.23	0.072	(	0.124)	0.065		0.007
65	5.42	0.23	0.072	(	0.124)	0.065		0.007
66	5.50	0.23	0.072	(	0.123)	0.065		0.007
67	5.58	0.27	0.083	(	0.123)	0.075		0.008
68	5.67	0.27	0.083	(	0.122)	0.075		0.008
69	5.75	0.27	0.083	(	0.122)	0.075		0.008
70	5.83	0.27	0.083	(	0.121)	0.075		0.008
71	5.92	0.27	0.083	(	0.121)	0.075		0.008
72	6.00	0.27	0.083	(	0.120)	0.075		0.008
73	6.08	0.30	0.093	(	0.120)	0.084		0.009
74	6.17	0.30	0.093	(	0.119)	0.084		0.009
75	6.25	0.30	0.093	(	0.119)	0.084		0.009
76	6.33	0.30	0.093	(	0.118)	0.084		0.009
77	6.42	0.30	0.093	(	0.117)	0.084		0.009
78	6.50	0.30	0.093	(	0.117)	0.084		0.009
79	6.58	0.33	0.103	(	0.116)	0.093		0.010
80	6.67	0.33	0.103	(	0.116)	0.093		0.010
81	6.75	0.33	0.103	(	0.115)	0.093		0.010
82	6.83	0.33	0.103	(	0.115)	0.093		0.010
83	6.92	0.33	0.103	(	0.114)	0.093		0.010
84	7.00	0.33	0.103	(	0.114)	0.093		0.010
85	7.08	0.33	0.103	(	0.113)	0.093		0.010
86	7.17	0.33	0.103	(	0.113)	0.093		0.010
87	7.25	0.33	0.103	(	0.112)	0.093		0.010
88	7.33	0.37	0.114	(	0.112)	0.102		0.011
89	7.42	0.37	0.114	(	0.111)	0.102		0.011
90	7.50	0.37	0.114	(	0.111)	0.102		0.011
91	7.58	0.40	0.124		0.110	(	0.112)	0.014
92	7.67	0.40	0.124		0.110	(	0.112)	0.014
93	7.75	0.40	0.124		0.109	(	0.112)	0.015
94	7.83	0.43	0.135		0.109	(	0.121)	0.026
95	7.92	0.43	0.135		0.108	(	0.121)	0.026
96	8.00	0.43	0.135		0.108	(	0.121)	0.027
97	8.08	0.50	0.155		0.107	(	0.140)	0.048
98	8.17	0.50	0.155		0.107	(	0.140)	0.049
99	8.25	0.50	0.155		0.106	(	0.140)	0.049
100	8.33	0.50	0.155		0.106	(	0.140)	0.050

101	8.42	0.50	0.155	0.105	(	0.140)	0.050
102	8.50	0.50	0.155	0.105	(	0.140)	0.051
103	8.58	0.53	0.166	0.104	(	0.149)	0.061
104	8.67	0.53	0.166	0.104	(	0.149)	0.062
105	8.75	0.53	0.166	0.103	(	0.149)	0.062
106	8.83	0.57	0.176	0.103	(	0.158)	0.073
107	8.92	0.57	0.176	0.102	(	0.158)	0.074
108	9.00	0.57	0.176	0.102	(	0.158)	0.074
109	9.08	0.63	0.197	0.101	(	0.177)	0.095
110	9.17	0.63	0.197	0.101	(	0.177)	0.096
111	9.25	0.63	0.197	0.100	(	0.177)	0.096
112	9.33	0.67	0.207	0.100	(	0.186)	0.107
113	9.42	0.67	0.207	0.099	(	0.186)	0.108
114	9.50	0.67	0.207	0.099	(	0.186)	0.108
115	9.58	0.70	0.217	0.098	(	0.196)	0.119
116	9.67	0.70	0.217	0.098	(	0.196)	0.119
117	9.75	0.70	0.217	0.097	(	0.196)	0.120
118	9.83	0.73	0.228	0.097	(	0.205)	0.131
119	9.92	0.73	0.228	0.097	(	0.205)	0.131
120	10.00	0.73	0.228	0.096	(	0.205)	0.132
121	10.08	0.50	0.155	0.096	(	0.140)	0.060
122	10.17	0.50	0.155	0.095	(	0.140)	0.060
123	10.25	0.50	0.155	0.095	(	0.140)	0.061
124	10.33	0.50	0.155	0.094	(	0.140)	0.061
125	10.42	0.50	0.155	0.094	(	0.140)	0.061
126	10.50	0.50	0.155	0.093	(	0.140)	0.062
127	10.58	0.67	0.207	0.093	(	0.186)	0.114
128	10.67	0.67	0.207	0.092	(	0.186)	0.115
129	10.75	0.67	0.207	0.092	(	0.186)	0.115
130	10.83	0.67	0.207	0.092	(	0.186)	0.115
131	10.92	0.67	0.207	0.091	(	0.186)	0.116
132	11.00	0.67	0.207	0.091	(	0.186)	0.116
133	11.08	0.63	0.197	0.090	(	0.177)	0.106
134	11.17	0.63	0.197	0.090	(	0.177)	0.107
135	11.25	0.63	0.197	0.089	(	0.177)	0.107
136	11.33	0.63	0.197	0.089	(	0.177)	0.108
137	11.42	0.63	0.197	0.088	(	0.177)	0.108
138	11.50	0.63	0.197	0.088	(	0.177)	0.109
139	11.58	0.57	0.176	0.088	(	0.158)	0.088
140	11.67	0.57	0.176	0.087	(	0.158)	0.089
141	11.75	0.57	0.176	0.087	(	0.158)	0.089
142	11.83	0.60	0.186	0.086	(	0.168)	0.100
143	11.92	0.60	0.186	0.086	(	0.168)	0.100
144	12.00	0.60	0.186	0.085	(	0.168)	0.101
145	12.08	0.83	0.259	0.085	(	0.233)	0.174
146	12.17	0.83	0.259	0.085	(	0.233)	0.174
147	12.25	0.83	0.259	0.084	(	0.233)	0.175
148	12.33	0.87	0.269	0.084	(	0.242)	0.185
149	12.42	0.87	0.269	0.083	(	0.242)	0.186
150	12.50	0.87	0.269	0.083	(	0.242)	0.186
151	12.58	0.93	0.290	0.082	(	0.261)	0.207
152	12.67	0.93	0.290	0.082	(	0.261)	0.208
153	12.75	0.93	0.290	0.082	(	0.261)	0.208
154	12.83	0.97	0.300	0.081	(	0.270)	0.219
155	12.92	0.97	0.300	0.081	(	0.270)	0.219
156	13.00	0.97	0.300	0.080	(	0.270)	0.220
157	13.08	1.13	0.352	0.080	(	0.317)	0.272
158	13.17	1.13	0.352	0.080	(	0.317)	0.272
159	13.25	1.13	0.352	0.079	(	0.317)	0.273
160	13.33	1.13	0.352	0.079	(	0.317)	0.273
161	13.42	1.13	0.352	0.078	(	0.317)	0.274
162	13.50	1.13	0.352	0.078	(	0.317)	0.274
163	13.58	0.77	0.238	0.078	(	0.214)	0.160
164	13.67	0.77	0.238	0.077	(	0.214)	0.161
165	13.75	0.77	0.238	0.077	(	0.214)	0.161
166	13.83	0.77	0.238	0.076	(	0.214)	0.162
167	13.92	0.77	0.238	0.076	(	0.214)	0.162
168	14.00	0.77	0.238	0.076	(	0.214)	0.162
169	14.08	0.90	0.279	0.075	(	0.251)	0.204

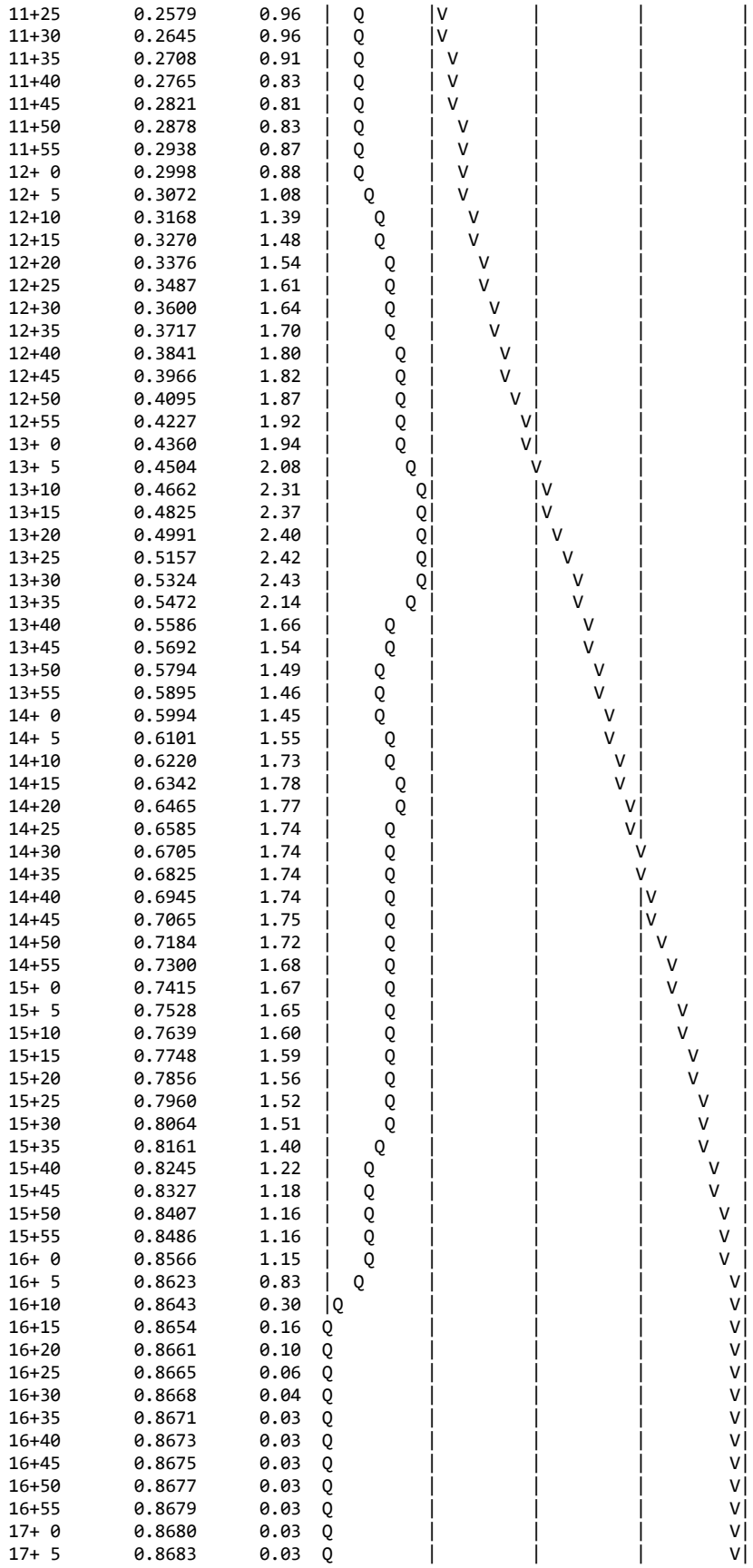
170	14.17	0.90	0.279		0.075	(0.251)		0.205
171	14.25	0.90	0.279		0.074	(0.251)		0.205
172	14.33	0.87	0.269		0.074	(0.242)		0.195
173	14.42	0.87	0.269		0.074	(0.242)		0.195
174	14.50	0.87	0.269		0.073	(0.242)		0.196
175	14.58	0.87	0.269		0.073	(0.242)		0.196
176	14.67	0.87	0.269		0.073	(0.242)		0.197
177	14.75	0.87	0.269		0.072	(0.242)		0.197
178	14.83	0.83	0.259		0.072	(0.233)		0.187
179	14.92	0.83	0.259		0.071	(0.233)		0.187
180	15.00	0.83	0.259		0.071	(0.233)		0.188
181	15.08	0.80	0.248		0.071	(0.224)		0.178
182	15.17	0.80	0.248		0.070	(0.224)		0.178
183	15.25	0.80	0.248		0.070	(0.224)		0.178
184	15.33	0.77	0.238		0.070	(0.214)		0.168
185	15.42	0.77	0.238		0.069	(0.214)		0.169
186	15.50	0.77	0.238		0.069	(0.214)		0.169
187	15.58	0.63	0.197		0.069	(0.177)		0.128
188	15.67	0.63	0.197		0.068	(0.177)		0.128
189	15.75	0.63	0.197		0.068	(0.177)		0.129
190	15.83	0.63	0.197		0.068	(0.177)		0.129
191	15.92	0.63	0.197		0.067	(0.177)		0.129
192	16.00	0.63	0.197		0.067	(0.177)		0.130
193	16.08	0.13	0.041	(0.066)		0.037		0.004
194	16.17	0.13	0.041	(0.066)		0.037		0.004
195	16.25	0.13	0.041	(0.066)		0.037		0.004
196	16.33	0.13	0.041	(0.065)		0.037		0.004
197	16.42	0.13	0.041	(0.065)		0.037		0.004
198	16.50	0.13	0.041	(0.065)		0.037		0.004
199	16.58	0.10	0.031	(0.064)		0.028		0.003
200	16.67	0.10	0.031	(0.064)		0.028		0.003
201	16.75	0.10	0.031	(0.064)		0.028		0.003
202	16.83	0.10	0.031	(0.063)		0.028		0.003
203	16.92	0.10	0.031	(0.063)		0.028		0.003
204	17.00	0.10	0.031	(0.063)		0.028		0.003
205	17.08	0.17	0.052	(0.063)		0.047		0.005
206	17.17	0.17	0.052	(0.062)		0.047		0.005
207	17.25	0.17	0.052	(0.062)		0.047		0.005
208	17.33	0.17	0.052	(0.062)		0.047		0.005
209	17.42	0.17	0.052	(0.061)		0.047		0.005
210	17.50	0.17	0.052	(0.061)		0.047		0.005
211	17.58	0.17	0.052	(0.061)		0.047		0.005
212	17.67	0.17	0.052	(0.060)		0.047		0.005
213	17.75	0.17	0.052	(0.060)		0.047		0.005
214	17.83	0.13	0.041	(0.060)		0.037		0.004
215	17.92	0.13	0.041	(0.059)		0.037		0.004
216	18.00	0.13	0.041	(0.059)		0.037		0.004
217	18.08	0.13	0.041	(0.059)		0.037		0.004
218	18.17	0.13	0.041	(0.059)		0.037		0.004
219	18.25	0.13	0.041	(0.058)		0.037		0.004
220	18.33	0.13	0.041	(0.058)		0.037		0.004
221	18.42	0.13	0.041	(0.058)		0.037		0.004
222	18.50	0.13	0.041	(0.057)		0.037		0.004
223	18.58	0.10	0.031	(0.057)		0.028		0.003
224	18.67	0.10	0.031	(0.057)		0.028		0.003
225	18.75	0.10	0.031	(0.057)		0.028		0.003
226	18.83	0.07	0.021	(0.056)		0.019		0.002
227	18.92	0.07	0.021	(0.056)		0.019		0.002
228	19.00	0.07	0.021	(0.056)		0.019		0.002
229	19.08	0.10	0.031	(0.056)		0.028		0.003
230	19.17	0.10	0.031	(0.055)		0.028		0.003
231	19.25	0.10	0.031	(0.055)		0.028		0.003
232	19.33	0.13	0.041	(0.055)		0.037		0.004
233	19.42	0.13	0.041	(0.055)		0.037		0.004
234	19.50	0.13	0.041	(0.054)		0.037		0.004
235	19.58	0.10	0.031	(0.054)		0.028		0.003
236	19.67	0.10	0.031	(0.054)		0.028		0.003
237	19.75	0.10	0.031	(0.054)		0.028		0.003
238	19.83	0.07	0.021	(0.053)		0.019		0.002

```
239  19.92     0.07      0.021       (  0.053)       0.019        0.002
240  20.00     0.07      0.021       (  0.053)       0.019        0.002
241  20.08     0.10      0.031       (  0.053)       0.028        0.003
242  20.17     0.10      0.031       (  0.052)       0.028        0.003
243  20.25     0.10      0.031       (  0.052)       0.028        0.003
244  20.33     0.10      0.031       (  0.052)       0.028        0.003
245  20.42     0.10      0.031       (  0.052)       0.028        0.003
246  20.50     0.10      0.031       (  0.051)       0.028        0.003
247  20.58     0.10      0.031       (  0.051)       0.028        0.003
248  20.67     0.10      0.031       (  0.051)       0.028        0.003
249  20.75     0.10      0.031       (  0.051)       0.028        0.003
250  20.83     0.07      0.021       (  0.051)       0.019        0.002
251  20.92     0.07      0.021       (  0.050)       0.019        0.002
252  21.00     0.07      0.021       (  0.050)       0.019        0.002
253  21.08     0.10      0.031       (  0.050)       0.028        0.003
254  21.17     0.10      0.031       (  0.050)       0.028        0.003
255  21.25     0.10      0.031       (  0.050)       0.028        0.003
256  21.33     0.07      0.021       (  0.049)       0.019        0.002
257  21.42     0.07      0.021       (  0.049)       0.019        0.002
258  21.50     0.07      0.021       (  0.049)       0.019        0.002
259  21.58     0.10      0.031       (  0.049)       0.028        0.003
260  21.67     0.10      0.031       (  0.049)       0.028        0.003
261  21.75     0.10      0.031       (  0.049)       0.028        0.003
262  21.83     0.07      0.021       (  0.048)       0.019        0.002
263  21.92     0.07      0.021       (  0.048)       0.019        0.002
264  22.00     0.07      0.021       (  0.048)       0.019        0.002
265  22.08     0.10      0.031       (  0.048)       0.028        0.003
266  22.17     0.10      0.031       (  0.048)       0.028        0.003
267  22.25     0.10      0.031       (  0.048)       0.028        0.003
268  22.33     0.07      0.021       (  0.047)       0.019        0.002
269  22.42     0.07      0.021       (  0.047)       0.019        0.002
270  22.50     0.07      0.021       (  0.047)       0.019        0.002
271  22.58     0.07      0.021       (  0.047)       0.019        0.002
272  22.67     0.07      0.021       (  0.047)       0.019        0.002
273  22.75     0.07      0.021       (  0.047)       0.019        0.002
274  22.83     0.07      0.021       (  0.047)       0.019        0.002
275  22.92     0.07      0.021       (  0.047)       0.019        0.002
276  23.00     0.07      0.021       (  0.046)       0.019        0.002
277  23.08     0.07      0.021       (  0.046)       0.019        0.002
278  23.17     0.07      0.021       (  0.046)       0.019        0.002
279  23.25     0.07      0.021       (  0.046)       0.019        0.002
280  23.33     0.07      0.021       (  0.046)       0.019        0.002
281  23.42     0.07      0.021       (  0.046)       0.019        0.002
282  23.50     0.07      0.021       (  0.046)       0.019        0.002
283  23.58     0.07      0.021       (  0.046)       0.019        0.002
284  23.67     0.07      0.021       (  0.046)       0.019        0.002
285  23.75     0.07      0.021       (  0.046)       0.019        0.002
286  23.83     0.07      0.021       (  0.046)       0.019        0.002
287  23.92     0.07      0.021       (  0.046)       0.019        0.002
288  24.00     0.07      0.021       (  0.046)       0.019        0.002
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    14.4
       Flood volume = Effective rainfall      1.20(In)
        times area       8.8(Ac.)/[(In)/(Ft.)] =       0.9(Ac.Ft)
       Total soil loss =      1.38(In)
       Total soil loss =     1.016(Ac.Ft)
       Total rainfall =      2.59(In)
       Flood volume =       38499.8 Cubic Feet
       Total soil loss =       44243.9 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.426(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           24 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
```

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.02	Q				
0+20	0.0004	0.02	Q				
0+25	0.0006	0.03	Q				
0+30	0.0007	0.03	Q				
0+35	0.0009	0.03	Q				
0+40	0.0011	0.03	Q				
0+45	0.0013	0.03	Q				
0+50	0.0015	0.03	Q				
0+55	0.0017	0.03	Q				
1+ 0	0.0020	0.04	Q				
1+ 5	0.0022	0.03	Q				
1+10	0.0024	0.03	Q				
1+15	0.0026	0.03	Q				
1+20	0.0028	0.03	Q				
1+25	0.0030	0.03	Q				
1+30	0.0032	0.03	Q				
1+35	0.0034	0.03	Q				
1+40	0.0036	0.03	Q				
1+45	0.0038	0.03	Q				
1+50	0.0040	0.03	Q				
1+55	0.0042	0.03	Q				
2+ 0	0.0045	0.04	Q				
2+ 5	0.0047	0.04	Q				
2+10	0.0050	0.04	Q				
2+15	0.0052	0.04	Q				
2+20	0.0055	0.04	Q				
2+25	0.0057	0.04	Q				
2+30	0.0060	0.04	Q				
2+35	0.0063	0.04	Q				
2+40	0.0066	0.04	Q				
2+45	0.0069	0.04	Q				
2+50	0.0072	0.05	Q				
2+55	0.0075	0.05	Q				
3+ 0	0.0078	0.05	Q				
3+ 5	0.0081	0.05	Q				
3+10	0.0084	0.05	Q				
3+15	0.0088	0.05	Q				
3+20	0.0091	0.05	Q				
3+25	0.0094	0.05	Q				
3+30	0.0097	0.05	Q				
3+35	0.0100	0.05	Q				
3+40	0.0103	0.05	Q				
3+45	0.0107	0.05	Q				
3+50	0.0110	0.05	Q				
3+55	0.0114	0.05	Q				
4+ 0	0.0117	0.05	Q				
4+ 5	0.0121	0.05	Q				
4+10	0.0125	0.05	Q				
4+15	0.0129	0.06	Q				
4+20	0.0133	0.06	Q				
4+25	0.0137	0.06	Q				
4+30	0.0141	0.06	Q				
4+35	0.0146	0.06	Q				
4+40	0.0150	0.06	Q				
4+45	0.0155	0.06	Q				
4+50	0.0159	0.07	Q				
4+55	0.0164	0.07	Q				
5+ 0	0.0169	0.07	Q				
5+ 5	0.0174	0.07	Q				
5+10	0.0178	0.06	Q				
5+15	0.0182	0.06	Q				
5+20	0.0186	0.06	Q				
5+25	0.0190	0.06	Q				
5+30	0.0194	0.06	Q				
5+35	0.0199	0.07	Q				

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 5+40       0.0204      0.07  Q         |         |         |         |
 5+45       0.0209      0.07  Q         |         |         |         |
 5+50       0.0214      0.07  Q         |         |         |         |
 5+55       0.0219      0.07  Q         |         |         |         |
 6+ 0       0.0224      0.07  QV        |         |         |         |
 6+ 5       0.0229      0.08  QV        |         |         |         |
 6+10       0.0235      0.08  QV        |         |         |         |
 6+15       0.0241      0.08  QV        |         |         |         |
 6+20       0.0246      0.08  QV        |         |         |         |
 6+25       0.0252      0.08  QV        |         |         |         |
 6+30       0.0258      0.08  QV        |         |         |         |
 6+35       0.0263      0.09  QV        |         |         |         |
 6+40       0.0270      0.09  QV        |         |         |         |
 6+45       0.0276      0.09  QV        |         |         |         |
 6+50       0.0282      0.09  QV        |         |         |         |
 6+55       0.0288      0.09  QV        |         |         |         |
 7+ 0       0.0295      0.09  QV        |         |         |         |
 7+ 5       0.0301      0.09  QV        |         |         |         |
 7+10       0.0307      0.09  QV        |         |         |         |
 7+15       0.0314      0.09  QV        |         |         |         |
 7+20       0.0320      0.09  QV        |         |         |         |
 7+25       0.0327      0.10  QV        |         |         |         |
 7+30       0.0334      0.10  QV        |         |         |         |
 7+35       0.0341      0.11  QV        |         |         |         |
 7+40       0.0350      0.12  QV        |         |         |         |
 7+45       0.0358      0.13  QV        |         |         |         |
 7+50       0.0369      0.16  QV        |         |         |         |
 7+55       0.0384      0.21  QV        |         |         |         |
 8+ 0       0.0399      0.22  QV        |         |         |         |
 8+ 5       0.0419      0.29  |Q        |         |         |         |
 8+10       0.0445      0.38  |QV       |         |         |         |
 8+15       0.0473      0.41  |QV       |         |         |         |
 8+20       0.0502      0.43  |QV       |         |         |         |
 8+25       0.0532      0.44  |QV       |         |         |         |
 8+30       0.0563      0.44  |QV       |         |         |         |
 8+35       0.0595      0.47  |QV       |         |         |         |
 8+40       0.0632      0.52  | Q       |         |         |         |
 8+45       0.0669      0.54  | QV      |         |         |         |
 8+50       0.0708      0.57  | QV      |         |         |         |
 8+55       0.0751      0.63  | QV      |         |         |         |
 9+ 0       0.0796      0.64  | QV      |         |         |         |
 9+ 5       0.0844      0.71  | QV      |         |         |         |
 9+10       0.0899      0.80  |  QV     |         |         |         |
 9+15       0.0957      0.83  |  QV     |         |         |         |
 9+20       0.1017      0.87  |  QV     |         |         |         |
 9+25       0.1080      0.93  |  QV     |         |         |         |
 9+30       0.1145      0.94  |  Q V    |         |         |         |
 9+35       0.1213      0.98  |  Q V    |         |         |         |
 9+40       0.1284      1.03  |   QV    |         |         |         |
 9+45       0.1356      1.05  |   Q V   |         |         |         |
 9+50       0.1431      1.09  |   Q V   |         |         |         |
 9+55       0.1509      1.14  |   Q V   |         |         |         |
10+ 0       0.1589      1.15  |   Q  V  |         |         |         |
10+ 5       0.1656      0.98  |  Q   V  |         |         |         |
10+10       0.1703      0.68  | Q    V  |         |         |         |
10+15       0.1744      0.60  | Q    V  |         |         |         |
10+20       0.1784      0.57  | Q     V |         |         |         |
10+25       0.1822      0.56  | Q     V |         |         |         |
10+30       0.1860      0.55  | Q     V |         |         |         |
10+35       0.1907      0.68  | Q     V |         |         |         |
10+40       0.1969      0.91  |  Q    V |         |         |         |
10+45       0.2036      0.97  |  Q     V|         |         |         |
10+50       0.2104      1.00  |  Q     V|         |         |         |
10+55       0.2174      1.01  |   Q    V|         |         |         |
11+ 0       0.2245      1.03  |   Q     V         |         |         |
11+ 5       0.2314      1.01  |   Q     V         |         |         |
11+10       0.2381      0.97  |  Q      V         |         |         |
11+15       0.2447      0.96  |  Q      |V        |         |         |
11+20       0.2513      0.96  |  Q      |V        |         |         |
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17+10	0.8686	0.04	Q	|	|	|	V|
17+15	0.8689	0.04	Q	|	|	|	V|
17+20	0.8692	0.04	Q	|	|	|	V|
17+25	0.8695	0.05	Q	|	|	|	V|
17+30	0.8698	0.05	Q	|	|	|	V|
17+35	0.8701	0.05	Q	|	|	|	V|
17+40	0.8704	0.05	Q	|	|	|	V|
17+45	0.8707	0.05	Q	|	|	|	V|
17+50	0.8710	0.04	Q	|	|	|	V|
17+55	0.8713	0.04	Q	|	|	|	V|
18+ 0	0.8716	0.04	Q	|	|	|	V|
18+ 5	0.8718	0.04	Q	|	|	|	V|
18+10	0.8721	0.04	Q	|	|	|	V|
18+15	0.8723	0.04	Q	|	|	|	V|
18+20	0.8726	0.04	Q	|	|	|	V|
18+25	0.8728	0.04	Q	|	|	|	V|
18+30	0.8731	0.04	Q	|	|	|	V|
18+35	0.8733	0.03	Q	|	|	|	V|
18+40	0.8735	0.03	Q	|	|	|	V|
18+45	0.8737	0.03	Q	|	|	|	V|
18+50	0.8739	0.03	Q	|	|	|	V|
18+55	0.8741	0.02	Q	|	|	|	V|
19+ 0	0.8742	0.02	Q	|	|	|	V|
19+ 5	0.8743	0.02	Q	|	|	|	V|
19+10	0.8745	0.03	Q	|	|	|	V|
19+15	0.8747	0.03	Q	|	|	|	V|
19+20	0.8749	0.03	Q	|	|	|	V|
19+25	0.8751	0.03	Q	|	|	|	V|
19+30	0.8754	0.04	Q	|	|	|	V|
19+35	0.8756	0.03	Q	|	|	|	V|
19+40	0.8758	0.03	Q	|	|	|	V|
19+45	0.8760	0.03	Q	|	|	|	V|
19+50	0.8762	0.03	Q	|	|	|	V|
19+55	0.8763	0.02	Q	|	|	|	V|
20+ 0	0.8765	0.02	Q	|	|	|	V|
20+ 5	0.8766	0.02	Q	|	|	|	V|
20+10	0.8768	0.03	Q	|	|	|	V|
20+15	0.8770	0.03	Q	|	|	|	V|
20+20	0.8772	0.03	Q	|	|	|	V|
20+25	0.8773	0.03	Q	|	|	|	V|
20+30	0.8775	0.03	Q	|	|	|	V|
20+35	0.8777	0.03	Q	|	|	|	V|
20+40	0.8779	0.03	Q	|	|	|	V|
20+45	0.8781	0.03	Q	|	|	|	V|
20+50	0.8783	0.02	Q	|	|	|	V|
20+55	0.8784	0.02	Q	|	|	|	V|
21+ 0	0.8786	0.02	Q	|	|	|	V|
21+ 5	0.8787	0.02	Q	|	|	|	V|
21+10	0.8789	0.03	Q	|	|	|	V|
21+15	0.8791	0.03	Q	|	|	|	V|
21+20	0.8792	0.02	Q	|	|	|	V|
21+25	0.8794	0.02	Q	|	|	|	V|
21+30	0.8795	0.02	Q	|	|	|	V|
21+35	0.8797	0.02	Q	|	|	|	V|
21+40	0.8798	0.03	Q	|	|	|	V|
21+45	0.8800	0.03	Q	|	|	|	V|
21+50	0.8802	0.02	Q	|	|	|	V|
21+55	0.8803	0.02	Q	|	|	|	V|
22+ 0	0.8805	0.02	Q	|	|	|	V|
22+ 5	0.8806	0.02	Q	|	|	|	V|
22+10	0.8808	0.03	Q	|	|	|	V|
22+15	0.8810	0.03	Q	|	|	|	V|
22+20	0.8811	0.02	Q	|	|	|	V|
22+25	0.8813	0.02	Q	|	|	|	V|
22+30	0.8814	0.02	Q	|	|	|	V|
22+35	0.8815	0.02	Q	|	|	|	V|
22+40	0.8817	0.02	Q	|	|	|	V|
22+45	0.8818	0.02	Q	|	|	|	V|
22+50	0.8819	0.02	Q	|	|	|	V|

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   22+55       0.8820      0.02  Q        |         |         |        V|
   23+ 0       0.8822      0.02  Q        |         |         |        V|
   23+ 5       0.8823      0.02  Q        |         |         |        V|
   23+10       0.8824      0.02  Q        |         |         |        V|
   23+15       0.8826      0.02  Q        |         |         |        V|
   23+20       0.8827      0.02  Q        |         |         |        V|
   23+25       0.8828      0.02  Q        |         |         |        V|
   23+30       0.8829      0.02  Q        |         |         |        V|
   23+35       0.8831      0.02  Q        |         |         |        V|
   23+40       0.8832      0.02  Q        |         |         |        V|
   23+45       0.8833      0.02  Q        |         |         |        V|
   23+50       0.8834      0.02  Q        |         |         |        V|
   23+55       0.8836      0.02  Q        |         |         |        V|
   24+ 0       0.8837      0.02  Q        |         |         |        V|
   24+ 5       0.8838      0.01  Q        |         |         |        V|
   24+10       0.8838      0.00  Q        |         |         |        V|
   24+15       0.8838      0.00  Q        |         |         |        V|
   24+20       0.8838      0.00  Q        |         |         |        V|
   24+25       0.8838      0.00  Q        |         |         |        V|
   24+30       0.8838      0.00  Q        |         |         |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100PR10A110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
WESTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	0.45	3.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.20	10.57

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.450(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 0.759(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.758(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

```
          8.810           75.00         0.900
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------
 Slope of intensity-duration curve for a 1 hour storm =0.5000
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        352.601         61.513              5.462
     2   0.167        705.202         34.395              3.054
     3   0.250       1057.803          4.092              0.363
                                 Sum = 100.000   Sum=       8.879
-------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     4.20      0.382       (  0.058)       0.038        0.344
   2   0.17     4.30      0.391       (  0.058)       0.039        0.352
   3   0.25     5.00      0.455       (  0.058)       0.046        0.410
   4   0.33     5.00      0.455       (  0.058)       0.046        0.410
   5   0.42     5.80      0.528       (  0.058)       0.053        0.475
   6   0.50     6.50      0.592          0.058    (  0.059)        0.534
   7   0.58     7.40      0.674          0.058    (  0.067)        0.616
   8   0.67     8.60      0.783          0.058    (  0.078)        0.725
   9   0.75    12.30      1.120          0.058    (  0.112)        1.062
  10   0.83    29.10      2.649          0.058    (  0.265)        2.591
  11   0.92     6.80      0.619          0.058    (  0.062)        0.561
  12   1.00     5.00      0.455       (  0.058)       0.046        0.410
              (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     8.5
        Flood volume = Effective rainfall      0.71(In)
         times area       8.8(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
        Total soil loss =      0.05(In)
        Total soil loss =     0.037(Ac.Ft)
        Total rainfall =      0.76(In)
        Flood volume =       22625.6 Cubic Feet
        Total soil loss =        1631.3 Cubic Feet
        ---------------------------------------------------------------------
         Peak flow rate of this hydrograph =     17.667(CFS)
        ---------------------------------------------------------------------
        +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
        ---------------------------------------------------------------------
                    Hydrograph in   5   Minute intervals ((CFS))

        ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
  -------------------------------------------------------------------------
```

```
    0+ 5       0.0129      1.88  V  Q      |         |         |         |
    0+10       0.0334      2.98  | V  Q    |         |         |         |
    0+15       0.0571      3.44  |   V Q   |         |         |         |
    0+20       0.0820      3.62  |     VQ  |         |         |         |
    0+25       0.1096      4.00  |      QV |         |         |         |
    0+30       0.1407      4.52  |        QV         |         |         |
    0+35       0.1763      5.17  |         Q  V      |         |         |
    0+40       0.2179      6.04  |         | Q   V   |         |         |
    0+45       0.2747      8.24  |         |     Q   |V        |         |
    0+50       0.3963     17.67  |         |         |         V    Q    |
    0+55       0.4746     11.37  |         |         | Q       |     V   |
    1+ 0       0.5084      4.90  |        Q|         |         |        V|
    1+ 5       0.5184      1.46  | Q       |         |         |        V|
    1+10       0.5194      0.15  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
WESTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	0.80	7.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.80	15.86

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.800(In)

Point rain (area averaged) = 1.211(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.211(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %

```
          8.810           75.00         0.900
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        352.601         61.513              5.462
     2   0.167        705.202         34.395              3.054
     3   0.250       1057.803          4.092              0.363
                                 Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     1.30      0.189       (  0.058)       0.019        0.170
   2   0.17     1.30      0.189       (  0.058)       0.019        0.170
   3   0.25     1.10      0.160       (  0.058)       0.016        0.144
   4   0.33     1.50      0.218       (  0.058)       0.022        0.196
   5   0.42     1.50      0.218       (  0.058)       0.022        0.196
   6   0.50     1.80      0.262       (  0.058)       0.026        0.235
   7   0.58     1.50      0.218       (  0.058)       0.022        0.196
   8   0.67     1.80      0.262       (  0.058)       0.026        0.235
   9   0.75     1.80      0.262       (  0.058)       0.026        0.235
  10   0.83     1.50      0.218       (  0.058)       0.022        0.196
  11   0.92     1.60      0.233       (  0.058)       0.023        0.209
  12   1.00     1.80      0.262       (  0.058)       0.026        0.235
  13   1.08     2.20      0.320       (  0.058)       0.032        0.288
  14   1.17     2.20      0.320       (  0.058)       0.032        0.288
  15   1.25     2.20      0.320       (  0.058)       0.032        0.288
  16   1.33     2.00      0.291       (  0.058)       0.029        0.262
  17   1.42     2.60      0.378       (  0.058)       0.038        0.340
  18   1.50     2.70      0.392       (  0.058)       0.039        0.353
  19   1.58     2.40      0.349       (  0.058)       0.035        0.314
  20   1.67     2.70      0.392       (  0.058)       0.039        0.353
  21   1.75     3.30      0.480       (  0.058)       0.048        0.432
  22   1.83     3.10      0.451       (  0.058)       0.045        0.406
  23   1.92     2.90      0.422       (  0.058)       0.042        0.379
  24   2.00     3.00      0.436       (  0.058)       0.044        0.392
  25   2.08     3.10      0.451       (  0.058)       0.045        0.406
  26   2.17     4.20      0.611          0.058    (  0.061)        0.553
  27   2.25     5.00      0.727          0.058    (  0.073)        0.669
  28   2.33     3.50      0.509       (  0.058)       0.051        0.458
  29   2.42     6.80      0.988          0.058    (  0.099)        0.931
  30   2.50     7.30      1.061          0.058    (  0.106)        1.004
  31   2.58     8.20      1.192          0.058    (  0.119)        1.134
  32   2.67     5.90      0.858          0.058    (  0.086)        0.800
  33   2.75     2.00      0.291       (  0.058)       0.029        0.262
  34   2.83     1.80      0.262       (  0.058)       0.026        0.235
  35   2.92     1.80      0.262       (  0.058)       0.026        0.235
```

```
36   3.00     0.60      0.087       (  0.058)       0.009        0.078
              (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    13.3
      Flood volume = Effective rainfall      1.11(In)
       times area       8.8(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
      Total soil loss =      0.10(In)
      Total soil loss =     0.077(Ac.Ft)
      Total rainfall =      1.21(In)
      Flood volume =       35394.0 Cubic Feet
      Total soil loss =        3345.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      9.604(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          3 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
---------------------------------------------------------------------------
  0+ 5       0.0064      0.93  V  Q      |         |         |         |
  0+10       0.0164      1.45  V    Q    |         |         |         |
  0+15       0.0258      1.37  |V   Q    |         |         |         |
  0+20       0.0366      1.57  |V    Q   |         |         |         |
  0+25       0.0485      1.72  | V   Q   |         |         |         |
  0+30       0.0620      1.96  |  V   Q  |         |         |         |
  0+35       0.0748      1.86  |  V   Q  |         |         |         |
  0+40       0.0884      1.97  |   V  Q  |         |         |         |
  0+45       0.1027      2.08  |    V  Q |         |         |         |
  0+50       0.1157      1.88  |    V Q  |         |         |         |
  0+55       0.1282      1.83  |     VQ  |         |         |         |
  1+ 0       0.1420      2.00  |     VQ  |         |         |         |
  1+ 5       0.1583      2.37  |      V Q|         |         |         |
  1+10       0.1758      2.54  |       V Q         |         |         |
  1+15       0.1934      2.56  |        VQ         |         |         |
  1+20       0.2100      2.41  |        QV         |         |         |
  1+25       0.2291      2.76  |         |Q        |         |         |
  1+30       0.2502      3.06  |         | Q       |         |         |
  1+35       0.2703      2.92  |         |Q V      |         |         |
  1+40       0.2910      3.02  |         | Q V     |         |         |
  1+45       0.3155      3.55  |         |   QV    |         |         |
  1+50       0.3407      3.66  |         |   Q V   |         |         |
  1+55       0.3646      3.47  |         |  Q   V  |         |         |
  2+ 0       0.3884      3.45  |         |  Q     V|         |         |
  2+ 5       0.4129      3.55  |         |   Q     V         |         |
  2+10       0.4432      4.40  |         |      Q  |V        |         |
  2+15       0.4810      5.49  |         |         |Q V      |         |
  2+20       0.5137      4.75  |         |       Q |    V    |         |
  2+25       0.5601      6.73  |         |         |     QV  |         |
  2+30       0.6186      8.49  |         |         |        V  Q       |
  2+35       0.6847      9.60  |         |         |         |  V    Q |
  2+40       0.7412      8.20  |         |         |         | Q   V   |
  2+45       0.7708      4.29  |         |      Q  |         |      V  |
  2+50       0.7871      2.38  |        Q|         |         |       V |
  2+55       0.8016      2.10  |       Q |         |         |        V|
  3+ 0       0.8101      1.23  |   Q     |         |         |        V|
  3+ 5       0.8123      0.33  |Q        |         |         |        V|
  3+10       0.8125      0.03  Q         |         |         |         V
---------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100PR10A610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
WESTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.00	8.81

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	2.50	22.03

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 1.617(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.617(In)

Sub-Area Data:
Area(Ac.)	Runoff Index	Impervious %

```
          8.810           75.00         0.900
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------

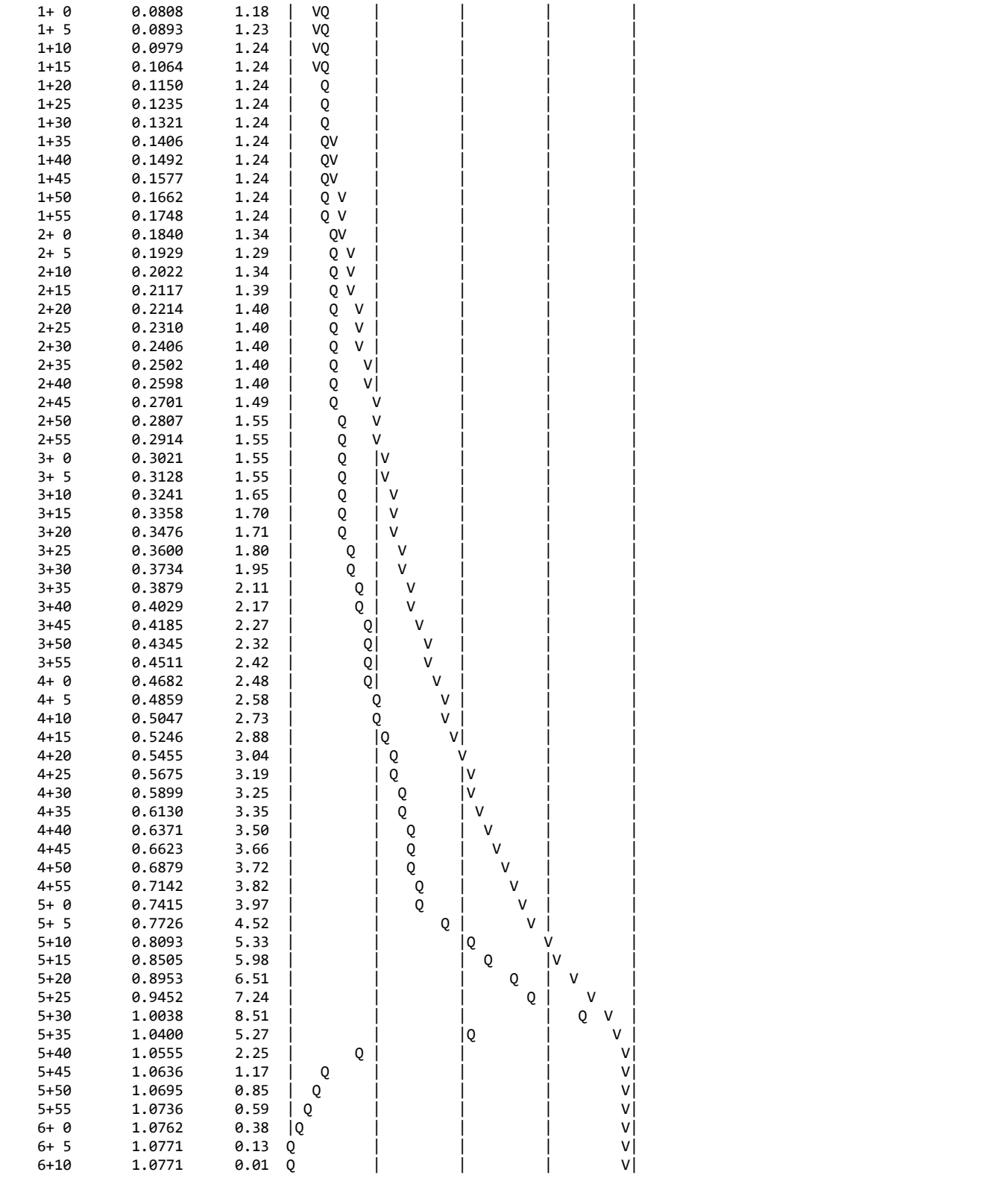
                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        352.601         61.513              5.462
     2   0.167        705.202         34.395              3.054
     3   0.250       1057.803          4.092              0.363
                                 Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     0.50      0.097       (  0.058)       0.010        0.087
   2   0.17     0.60      0.116       (  0.058)       0.012        0.105
   3   0.25     0.60      0.116       (  0.058)       0.012        0.105
   4   0.33     0.60      0.116       (  0.058)       0.012        0.105
   5   0.42     0.60      0.116       (  0.058)       0.012        0.105
   6   0.50     0.70      0.136       (  0.058)       0.014        0.122
   7   0.58     0.70      0.136       (  0.058)       0.014        0.122
   8   0.67     0.70      0.136       (  0.058)       0.014        0.122
   9   0.75     0.70      0.136       (  0.058)       0.014        0.122
  10   0.83     0.70      0.136       (  0.058)       0.014        0.122
  11   0.92     0.70      0.136       (  0.058)       0.014        0.122
  12   1.00     0.80      0.155       (  0.058)       0.016        0.140
  13   1.08     0.80      0.155       (  0.058)       0.016        0.140
  14   1.17     0.80      0.155       (  0.058)       0.016        0.140
  15   1.25     0.80      0.155       (  0.058)       0.016        0.140
  16   1.33     0.80      0.155       (  0.058)       0.016        0.140
  17   1.42     0.80      0.155       (  0.058)       0.016        0.140
  18   1.50     0.80      0.155       (  0.058)       0.016        0.140
  19   1.58     0.80      0.155       (  0.058)       0.016        0.140
  20   1.67     0.80      0.155       (  0.058)       0.016        0.140
  21   1.75     0.80      0.155       (  0.058)       0.016        0.140
  22   1.83     0.80      0.155       (  0.058)       0.016        0.140
  23   1.92     0.80      0.155       (  0.058)       0.016        0.140
  24   2.00     0.90      0.175       (  0.058)       0.017        0.157
  25   2.08     0.80      0.155       (  0.058)       0.016        0.140
  26   2.17     0.90      0.175       (  0.058)       0.017        0.157
  27   2.25     0.90      0.175       (  0.058)       0.017        0.157
  28   2.33     0.90      0.175       (  0.058)       0.017        0.157
  29   2.42     0.90      0.175       (  0.058)       0.017        0.157
  30   2.50     0.90      0.175       (  0.058)       0.017        0.157
  31   2.58     0.90      0.175       (  0.058)       0.017        0.157
  32   2.67     0.90      0.175       (  0.058)       0.017        0.157
  33   2.75     1.00      0.194       (  0.058)       0.019        0.175
  34   2.83     1.00      0.194       (  0.058)       0.019        0.175
  35   2.92     1.00      0.194       (  0.058)       0.019        0.175
```

```
36   3.00     1.00      0.194       (  0.058)       0.019        0.175
37   3.08     1.00      0.194       (  0.058)       0.019        0.175
38   3.17     1.10      0.213       (  0.058)       0.021        0.192
39   3.25     1.10      0.213       (  0.058)       0.021        0.192
40   3.33     1.10      0.213       (  0.058)       0.021        0.192
41   3.42     1.20      0.233       (  0.058)       0.023        0.210
42   3.50     1.30      0.252       (  0.058)       0.025        0.227
43   3.58     1.40      0.272       (  0.058)       0.027        0.244
44   3.67     1.40      0.272       (  0.058)       0.027        0.244
45   3.75     1.50      0.291       (  0.058)       0.029        0.262
46   3.83     1.50      0.291       (  0.058)       0.029        0.262
47   3.92     1.60      0.310       (  0.058)       0.031        0.279
48   4.00     1.60      0.310       (  0.058)       0.031        0.279
49   4.08     1.70      0.330       (  0.058)       0.033        0.297
50   4.17     1.80      0.349       (  0.058)       0.035        0.314
51   4.25     1.90      0.369       (  0.058)       0.037        0.332
52   4.33     2.00      0.388       (  0.058)       0.039        0.349
53   4.42     2.10      0.407       (  0.058)       0.041        0.367
54   4.50     2.10      0.407       (  0.058)       0.041        0.367
55   4.58     2.20      0.427       (  0.058)       0.043        0.384
56   4.67     2.30      0.446       (  0.058)       0.045        0.402
57   4.75     2.40      0.466       (  0.058)       0.047        0.419
58   4.83     2.40      0.466       (  0.058)       0.047        0.419
59   4.92     2.50      0.485       (  0.058)       0.049        0.437
60   5.00     2.60      0.505       (  0.058)       0.050        0.454
61   5.08     3.10      0.602          0.058    (  0.060)       0.544
62   5.17     3.60      0.699          0.058    (  0.070)       0.641
63   5.25     3.90      0.757          0.058    (  0.076)       0.699
64   5.33     4.20      0.815          0.058    (  0.081)       0.757
65   5.42     4.70      0.912          0.058    (  0.091)       0.854
66   5.50     5.60      1.087          0.058    (  0.109)       1.029
67   5.58     1.90      0.369       (  0.058)       0.037        0.332
68   5.67     0.90      0.175       (  0.058)       0.017        0.157
69   5.75     0.60      0.116       (  0.058)       0.012        0.105
70   5.83     0.50      0.097       (  0.058)       0.010        0.087
71   5.92     0.30      0.058       (  0.058)       0.006        0.052
72   6.00     0.20      0.039       (  0.058)       0.004        0.035
               (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    17.6
      Flood volume = Effective rainfall      1.47(In)
       times area       8.8(Ac.)/[(In)/(Ft.)] =       1.1(Ac.Ft)
      Total soil loss =      0.15(In)
      Total soil loss =     0.110(Ac.Ft)
      Total rainfall =      1.62(In)
      Flood volume =       46920.2 Cubic Feet
      Total soil loss =        4793.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.510(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0033      0.48  VQ        |         |         |         |
  0+10       0.0091      0.84  V  Q      |         |         |         |
  0+15       0.0154      0.92  V  Q      |         |         |         |
  0+20       0.0218      0.93  V  Q      |         |         |         |
  0+25       0.0283      0.93  |V Q      |         |         |         |
  0+30       0.0353      1.03  |V  Q     |         |         |         |
  0+35       0.0428      1.08  |V  Q     |         |         |         |
  0+40       0.0502      1.09  |V  Q     |         |         |         |
  0+45       0.0577      1.09  | V Q     |         |         |         |
  0+50       0.0652      1.09  | V Q     |         |         |         |
  0+55       0.0727      1.09  | V Q     |         |         |         |
```


1+ 0 0.0808 1.18
1+ 5 0.0893 1.23
1+10 0.0979 1.24
1+15 0.1064 1.24
1+20 0.1150 1.24
1+25 0.1235 1.24
1+30 0.1321 1.24
1+35 0.1406 1.24
1+40 0.1492 1.24
1+45 0.1577 1.24
1+50 0.1662 1.24
1+55 0.1748 1.24
2+ 0 0.1840 1.34
2+ 5 0.1929 1.29
2+10 0.2022 1.34
2+15 0.2117 1.39
2+20 0.2214 1.40
2+25 0.2310 1.40
2+30 0.2406 1.40
2+35 0.2502 1.40
2+40 0.2598 1.40
2+45 0.2701 1.49
2+50 0.2807 1.55
2+55 0.2914 1.55
3+ 0 0.3021 1.55
3+ 5 0.3128 1.55
3+10 0.3241 1.65
3+15 0.3358 1.70
3+20 0.3476 1.71
3+25 0.3600 1.80
3+30 0.3734 1.95
3+35 0.3879 2.11
3+40 0.4029 2.17
3+45 0.4185 2.27
3+50 0.4345 2.32
3+55 0.4511 2.42
4+ 0 0.4682 2.48
4+ 5 0.4859 2.58
4+10 0.5047 2.73
4+15 0.5246 2.88
4+20 0.5455 3.04
4+25 0.5675 3.19
4+30 0.5899 3.25
4+35 0.6130 3.35
4+40 0.6371 3.50
4+45 0.6623 3.66
4+50 0.6879 3.72
4+55 0.7142 3.82
5+ 0 0.7415 3.97
5+ 5 0.7726 4.52
5+10 0.8093 5.33
5+15 0.8505 5.98
5+20 0.8953 6.51
5+25 0.9452 7.24
5+30 1.0038 8.51
5+35 1.0400 5.27
5+40 1.0555 2.25
5+45 1.0636 1.17
5+50 1.0695 0.85
5+55 1.0736 0.59
6+ 0 1.0762 0.38
6+ 5 1.0771 0.13
6+10 1.0771 0.01

U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/07/25 File: 4100PR10A2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6400

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

TEI JOB NUMBER 4100
PROPOSED CONDITIONS
WESTERLY TRUCK YARD
10-YEAR STORM EVENT

Drainage Area = 8.81(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.81(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 506.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.096 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 4.52(Ft.)
Slope along watercourse = 47.1652 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.42 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.57 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	1.60	14.10

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.81	4.00	35.24

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 2.587(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.587(In)

Revised 11/15

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %

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          8.810           75.00         0.900
 Total Area Entered =      8.81(Ac.)


 RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
 AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
 75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                  Sum (F) =   0.058
 Area averaged mean soil loss (F) (In/Hr) =  0.058
 Minimum soil loss rate ((In/Hr)) =  0.029
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.100
 ------------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                       VALLEY S-Curve
 ------------------------------------------------------------------------
                Unit Hydrograph Data
 ------------------------------------------------------------------------
 Unit time period   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
     1   0.083        352.601         61.513              5.462
     2   0.167        705.202         34.395              3.054
     3   0.250       1057.803          4.092              0.363
                                 Sum = 100.000   Sum=       8.879
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low        (In/Hr)
   1   0.08     0.07      0.021       (  0.102)       0.002        0.019
   2   0.17     0.07      0.021       (  0.102)       0.002        0.019
   3   0.25     0.07      0.021       (  0.101)       0.002        0.019
   4   0.33     0.10      0.031       (  0.101)       0.003        0.028
   5   0.42     0.10      0.031       (  0.100)       0.003        0.028
   6   0.50     0.10      0.031       (  0.100)       0.003        0.028
   7   0.58     0.10      0.031       (  0.100)       0.003        0.028
   8   0.67     0.10      0.031       (  0.099)       0.003        0.028
   9   0.75     0.10      0.031       (  0.099)       0.003        0.028
  10   0.83     0.13      0.041       (  0.099)       0.004        0.037
  11   0.92     0.13      0.041       (  0.098)       0.004        0.037
  12   1.00     0.13      0.041       (  0.098)       0.004        0.037
  13   1.08     0.10      0.031       (  0.097)       0.003        0.028
  14   1.17     0.10      0.031       (  0.097)       0.003        0.028
  15   1.25     0.10      0.031       (  0.097)       0.003        0.028
  16   1.33     0.10      0.031       (  0.096)       0.003        0.028
  17   1.42     0.10      0.031       (  0.096)       0.003        0.028
  18   1.50     0.10      0.031       (  0.095)       0.003        0.028
  19   1.58     0.10      0.031       (  0.095)       0.003        0.028
  20   1.67     0.10      0.031       (  0.095)       0.003        0.028
  21   1.75     0.10      0.031       (  0.094)       0.003        0.028
  22   1.83     0.13      0.041       (  0.094)       0.004        0.037
  23   1.92     0.13      0.041       (  0.094)       0.004        0.037
  24   2.00     0.13      0.041       (  0.093)       0.004        0.037
  25   2.08     0.13      0.041       (  0.093)       0.004        0.037
  26   2.17     0.13      0.041       (  0.092)       0.004        0.037
  27   2.25     0.13      0.041       (  0.092)       0.004        0.037
  28   2.33     0.13      0.041       (  0.092)       0.004        0.037
  29   2.42     0.13      0.041       (  0.091)       0.004        0.037
  30   2.50     0.13      0.041       (  0.091)       0.004        0.037
  31   2.58     0.17      0.052       (  0.091)       0.005        0.047
  32   2.67     0.17      0.052       (  0.090)       0.005        0.047
  33   2.75     0.17      0.052       (  0.090)       0.005        0.047
  34   2.83     0.17      0.052       (  0.089)       0.005        0.047
  35   2.92     0.17      0.052       (  0.089)       0.005        0.047
```

36	3.00	0.17	0.052	(0.089)	0.005	0.047
37	3.08	0.17	0.052	(0.088)	0.005	0.047
38	3.17	0.17	0.052	(0.088)	0.005	0.047
39	3.25	0.17	0.052	(0.088)	0.005	0.047
40	3.33	0.17	0.052	(0.087)	0.005	0.047
41	3.42	0.17	0.052	(0.087)	0.005	0.047
42	3.50	0.17	0.052	(0.087)	0.005	0.047
43	3.58	0.17	0.052	(0.086)	0.005	0.047
44	3.67	0.17	0.052	(0.086)	0.005	0.047
45	3.75	0.17	0.052	(0.085)	0.005	0.047
46	3.83	0.20	0.062	(0.085)	0.006	0.056
47	3.92	0.20	0.062	(0.085)	0.006	0.056
48	4.00	0.20	0.062	(0.084)	0.006	0.056
49	4.08	0.20	0.062	(0.084)	0.006	0.056
50	4.17	0.20	0.062	(0.084)	0.006	0.056
51	4.25	0.20	0.062	(0.083)	0.006	0.056
52	4.33	0.23	0.072	(0.083)	0.007	0.065
53	4.42	0.23	0.072	(0.083)	0.007	0.065
54	4.50	0.23	0.072	(0.082)	0.007	0.065
55	4.58	0.23	0.072	(0.082)	0.007	0.065
56	4.67	0.23	0.072	(0.082)	0.007	0.065
57	4.75	0.23	0.072	(0.081)	0.007	0.065
58	4.83	0.27	0.083	(0.081)	0.008	0.075
59	4.92	0.27	0.083	(0.080)	0.008	0.075
60	5.00	0.27	0.083	(0.080)	0.008	0.075
61	5.08	0.20	0.062	(0.080)	0.006	0.056
62	5.17	0.20	0.062	(0.079)	0.006	0.056
63	5.25	0.20	0.062	(0.079)	0.006	0.056
64	5.33	0.23	0.072	(0.079)	0.007	0.065
65	5.42	0.23	0.072	(0.078)	0.007	0.065
66	5.50	0.23	0.072	(0.078)	0.007	0.065
67	5.58	0.27	0.083	(0.078)	0.008	0.075
68	5.67	0.27	0.083	(0.077)	0.008	0.075
69	5.75	0.27	0.083	(0.077)	0.008	0.075
70	5.83	0.27	0.083	(0.077)	0.008	0.075
71	5.92	0.27	0.083	(0.076)	0.008	0.075
72	6.00	0.27	0.083	(0.076)	0.008	0.075
73	6.08	0.30	0.093	(0.076)	0.009	0.084
74	6.17	0.30	0.093	(0.075)	0.009	0.084
75	6.25	0.30	0.093	(0.075)	0.009	0.084
76	6.33	0.30	0.093	(0.075)	0.009	0.084
77	6.42	0.30	0.093	(0.074)	0.009	0.084
78	6.50	0.30	0.093	(0.074)	0.009	0.084
79	6.58	0.33	0.103	(0.074)	0.010	0.093
80	6.67	0.33	0.103	(0.073)	0.010	0.093
81	6.75	0.33	0.103	(0.073)	0.010	0.093
82	6.83	0.33	0.103	(0.073)	0.010	0.093
83	6.92	0.33	0.103	(0.072)	0.010	0.093
84	7.00	0.33	0.103	(0.072)	0.010	0.093
85	7.08	0.33	0.103	(0.072)	0.010	0.093
86	7.17	0.33	0.103	(0.071)	0.010	0.093
87	7.25	0.33	0.103	(0.071)	0.010	0.093
88	7.33	0.37	0.114	(0.071)	0.011	0.102
89	7.42	0.37	0.114	(0.070)	0.011	0.102
90	7.50	0.37	0.114	(0.070)	0.011	0.102
91	7.58	0.40	0.124	(0.070)	0.012	0.112
92	7.67	0.40	0.124	(0.069)	0.012	0.112
93	7.75	0.40	0.124	(0.069)	0.012	0.112
94	7.83	0.43	0.135	(0.069)	0.013	0.121
95	7.92	0.43	0.135	(0.068)	0.013	0.121
96	8.00	0.43	0.135	(0.068)	0.013	0.121
97	8.08	0.50	0.155	(0.068)	0.016	0.140
98	8.17	0.50	0.155	(0.067)	0.016	0.140
99	8.25	0.50	0.155	(0.067)	0.016	0.140
100	8.33	0.50	0.155	(0.067)	0.016	0.140
101	8.42	0.50	0.155	(0.067)	0.016	0.140
102	8.50	0.50	0.155	(0.066)	0.016	0.140
103	8.58	0.53	0.166	(0.066)	0.017	0.149
104	8.67	0.53	0.166	(0.066)	0.017	0.149

105	8.75	0.53	0.166	(0.065)	0.017	0.149
106	8.83	0.57	0.176	(0.065)	0.018	0.158
107	8.92	0.57	0.176	(0.065)	0.018	0.158
108	9.00	0.57	0.176	(0.064)	0.018	0.158
109	9.08	0.63	0.197	(0.064)	0.020	0.177
110	9.17	0.63	0.197	(0.064)	0.020	0.177
111	9.25	0.63	0.197	(0.063)	0.020	0.177
112	9.33	0.67	0.207	(0.063)	0.021	0.186
113	9.42	0.67	0.207	(0.063)	0.021	0.186
114	9.50	0.67	0.207	(0.063)	0.021	0.186
115	9.58	0.70	0.217	(0.062)	0.022	0.196
116	9.67	0.70	0.217	(0.062)	0.022	0.196
117	9.75	0.70	0.217	(0.062)	0.022	0.196
118	9.83	0.73	0.228	(0.061)	0.023	0.205
119	9.92	0.73	0.228	(0.061)	0.023	0.205
120	10.00	0.73	0.228	(0.061)	0.023	0.205
121	10.08	0.50	0.155	(0.060)	0.016	0.140
122	10.17	0.50	0.155	(0.060)	0.016	0.140
123	10.25	0.50	0.155	(0.060)	0.016	0.140
124	10.33	0.50	0.155	(0.060)	0.016	0.140
125	10.42	0.50	0.155	(0.059)	0.016	0.140
126	10.50	0.50	0.155	(0.059)	0.016	0.140
127	10.58	0.67	0.207	(0.059)	0.021	0.186
128	10.67	0.67	0.207	(0.058)	0.021	0.186
129	10.75	0.67	0.207	(0.058)	0.021	0.186
130	10.83	0.67	0.207	(0.058)	0.021	0.186
131	10.92	0.67	0.207	(0.058)	0.021	0.186
132	11.00	0.67	0.207	(0.057)	0.021	0.186
133	11.08	0.63	0.197	(0.057)	0.020	0.177
134	11.17	0.63	0.197	(0.057)	0.020	0.177
135	11.25	0.63	0.197	(0.056)	0.020	0.177
136	11.33	0.63	0.197	(0.056)	0.020	0.177
137	11.42	0.63	0.197	(0.056)	0.020	0.177
138	11.50	0.63	0.197	(0.056)	0.020	0.177
139	11.58	0.57	0.176	(0.055)	0.018	0.158
140	11.67	0.57	0.176	(0.055)	0.018	0.158
141	11.75	0.57	0.176	(0.055)	0.018	0.158
142	11.83	0.60	0.186	(0.055)	0.019	0.168
143	11.92	0.60	0.186	(0.054)	0.019	0.168
144	12.00	0.60	0.186	(0.054)	0.019	0.168
145	12.08	0.83	0.259	(0.054)	0.026	0.233
146	12.17	0.83	0.259	(0.053)	0.026	0.233
147	12.25	0.83	0.259	(0.053)	0.026	0.233
148	12.33	0.87	0.269	(0.053)	0.027	0.242
149	12.42	0.87	0.269	(0.053)	0.027	0.242
150	12.50	0.87	0.269	(0.052)	0.027	0.242
151	12.58	0.93	0.290	(0.052)	0.029	0.261
152	12.67	0.93	0.290	(0.052)	0.029	0.261
153	12.75	0.93	0.290	(0.052)	0.029	0.261
154	12.83	0.97	0.300	(0.051)	0.030	0.270
155	12.92	0.97	0.300	(0.051)	0.030	0.270
156	13.00	0.97	0.300	(0.051)	0.030	0.270
157	13.08	1.13	0.352	(0.051)	0.035	0.317
158	13.17	1.13	0.352	(0.050)	0.035	0.317
159	13.25	1.13	0.352	(0.050)	0.035	0.317
160	13.33	1.13	0.352	(0.050)	0.035	0.317
161	13.42	1.13	0.352	(0.050)	0.035	0.317
162	13.50	1.13	0.352	(0.049)	0.035	0.317
163	13.58	0.77	0.238	(0.049)	0.024	0.214
164	13.67	0.77	0.238	(0.049)	0.024	0.214
165	13.75	0.77	0.238	(0.049)	0.024	0.214
166	13.83	0.77	0.238	(0.048)	0.024	0.214
167	13.92	0.77	0.238	(0.048)	0.024	0.214
168	14.00	0.77	0.238	(0.048)	0.024	0.214
169	14.08	0.90	0.279	(0.048)	0.028	0.251
170	14.17	0.90	0.279	(0.047)	0.028	0.251
171	14.25	0.90	0.279	(0.047)	0.028	0.251
172	14.33	0.87	0.269	(0.047)	0.027	0.242
173	14.42	0.87	0.269	(0.047)	0.027	0.242

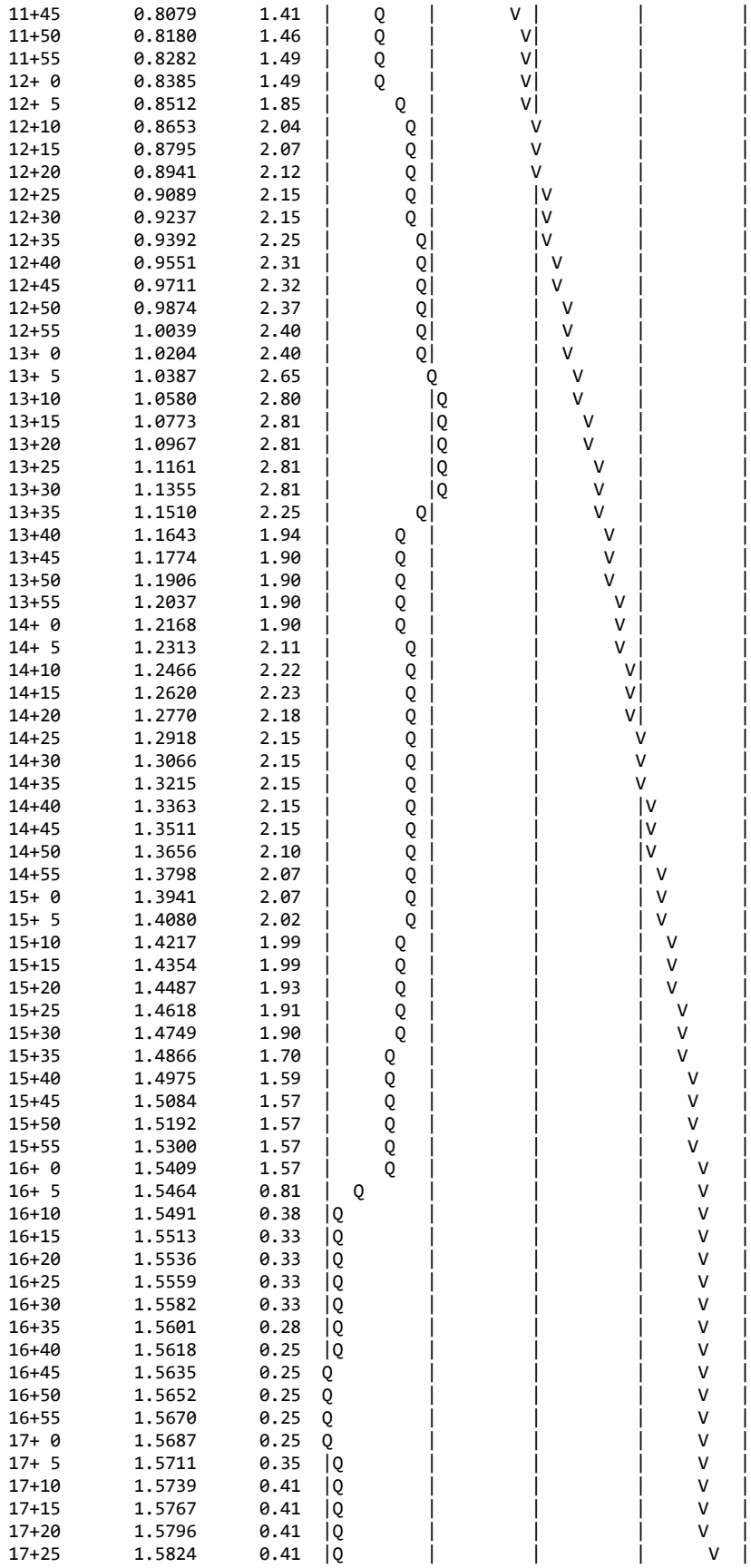
174	14.50	0.87	0.269	(0.046)	0.027	0.242
175	14.58	0.87	0.269	(0.046)	0.027	0.242
176	14.67	0.87	0.269	(0.046)	0.027	0.242
177	14.75	0.87	0.269	(0.046)	0.027	0.242
178	14.83	0.83	0.259	(0.045)	0.026	0.233
179	14.92	0.83	0.259	(0.045)	0.026	0.233
180	15.00	0.83	0.259	(0.045)	0.026	0.233
181	15.08	0.80	0.248	(0.045)	0.025	0.224
182	15.17	0.80	0.248	(0.045)	0.025	0.224
183	15.25	0.80	0.248	(0.044)	0.025	0.224
184	15.33	0.77	0.238	(0.044)	0.024	0.214
185	15.42	0.77	0.238	(0.044)	0.024	0.214
186	15.50	0.77	0.238	(0.044)	0.024	0.214
187	15.58	0.63	0.197	(0.043)	0.020	0.177
188	15.67	0.63	0.197	(0.043)	0.020	0.177
189	15.75	0.63	0.197	(0.043)	0.020	0.177
190	15.83	0.63	0.197	(0.043)	0.020	0.177
191	15.92	0.63	0.197	(0.042)	0.020	0.177
192	16.00	0.63	0.197	(0.042)	0.020	0.177
193	16.08	0.13	0.041	(0.042)	0.004	0.037
194	16.17	0.13	0.041	(0.042)	0.004	0.037
195	16.25	0.13	0.041	(0.042)	0.004	0.037
196	16.33	0.13	0.041	(0.041)	0.004	0.037
197	16.42	0.13	0.041	(0.041)	0.004	0.037
198	16.50	0.13	0.041	(0.041)	0.004	0.037
199	16.58	0.10	0.031	(0.041)	0.003	0.028
200	16.67	0.10	0.031	(0.041)	0.003	0.028
201	16.75	0.10	0.031	(0.040)	0.003	0.028
202	16.83	0.10	0.031	(0.040)	0.003	0.028
203	16.92	0.10	0.031	(0.040)	0.003	0.028
204	17.00	0.10	0.031	(0.040)	0.003	0.028
205	17.08	0.17	0.052	(0.040)	0.005	0.047
206	17.17	0.17	0.052	(0.039)	0.005	0.047
207	17.25	0.17	0.052	(0.039)	0.005	0.047
208	17.33	0.17	0.052	(0.039)	0.005	0.047
209	17.42	0.17	0.052	(0.039)	0.005	0.047
210	17.50	0.17	0.052	(0.039)	0.005	0.047
211	17.58	0.17	0.052	(0.038)	0.005	0.047
212	17.67	0.17	0.052	(0.038)	0.005	0.047
213	17.75	0.17	0.052	(0.038)	0.005	0.047
214	17.83	0.13	0.041	(0.038)	0.004	0.037
215	17.92	0.13	0.041	(0.038)	0.004	0.037
216	18.00	0.13	0.041	(0.037)	0.004	0.037
217	18.08	0.13	0.041	(0.037)	0.004	0.037
218	18.17	0.13	0.041	(0.037)	0.004	0.037
219	18.25	0.13	0.041	(0.037)	0.004	0.037
220	18.33	0.13	0.041	(0.037)	0.004	0.037
221	18.42	0.13	0.041	(0.037)	0.004	0.037
222	18.50	0.13	0.041	(0.036)	0.004	0.037
223	18.58	0.10	0.031	(0.036)	0.003	0.028
224	18.67	0.10	0.031	(0.036)	0.003	0.028
225	18.75	0.10	0.031	(0.036)	0.003	0.028
226	18.83	0.07	0.021	(0.036)	0.002	0.019
227	18.92	0.07	0.021	(0.035)	0.002	0.019
228	19.00	0.07	0.021	(0.035)	0.002	0.019
229	19.08	0.10	0.031	(0.035)	0.003	0.028
230	19.17	0.10	0.031	(0.035)	0.003	0.028
231	19.25	0.10	0.031	(0.035)	0.003	0.028
232	19.33	0.13	0.041	(0.035)	0.004	0.037
233	19.42	0.13	0.041	(0.035)	0.004	0.037
234	19.50	0.13	0.041	(0.034)	0.004	0.037
235	19.58	0.10	0.031	(0.034)	0.003	0.028
236	19.67	0.10	0.031	(0.034)	0.003	0.028
237	19.75	0.10	0.031	(0.034)	0.003	0.028
238	19.83	0.07	0.021	(0.034)	0.002	0.019
239	19.92	0.07	0.021	(0.034)	0.002	0.019
240	20.00	0.07	0.021	(0.033)	0.002	0.019
241	20.08	0.10	0.031	(0.033)	0.003	0.028
242	20.17	0.10	0.031	(0.033)	0.003	0.028

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243  20.25     0.10      0.031       (  0.033)       0.003        0.028
244  20.33     0.10      0.031       (  0.033)       0.003        0.028
245  20.42     0.10      0.031       (  0.033)       0.003        0.028
246  20.50     0.10      0.031       (  0.033)       0.003        0.028
247  20.58     0.10      0.031       (  0.032)       0.003        0.028
248  20.67     0.10      0.031       (  0.032)       0.003        0.028
249  20.75     0.10      0.031       (  0.032)       0.003        0.028
250  20.83     0.07      0.021       (  0.032)       0.002        0.019
251  20.92     0.07      0.021       (  0.032)       0.002        0.019
252  21.00     0.07      0.021       (  0.032)       0.002        0.019
253  21.08     0.10      0.031       (  0.032)       0.003        0.028
254  21.17     0.10      0.031       (  0.032)       0.003        0.028
255  21.25     0.10      0.031       (  0.031)       0.003        0.028
256  21.33     0.07      0.021       (  0.031)       0.002        0.019
257  21.42     0.07      0.021       (  0.031)       0.002        0.019
258  21.50     0.07      0.021       (  0.031)       0.002        0.019
259  21.58     0.10      0.031       (  0.031)       0.003        0.028
260  21.67     0.10      0.031       (  0.031)       0.003        0.028
261  21.75     0.10      0.031       (  0.031)       0.003        0.028
262  21.83     0.07      0.021       (  0.031)       0.002        0.019
263  21.92     0.07      0.021       (  0.030)       0.002        0.019
264  22.00     0.07      0.021       (  0.030)       0.002        0.019
265  22.08     0.10      0.031       (  0.030)       0.003        0.028
266  22.17     0.10      0.031       (  0.030)       0.003        0.028
267  22.25     0.10      0.031       (  0.030)       0.003        0.028
268  22.33     0.07      0.021       (  0.030)       0.002        0.019
269  22.42     0.07      0.021       (  0.030)       0.002        0.019
270  22.50     0.07      0.021       (  0.030)       0.002        0.019
271  22.58     0.07      0.021       (  0.030)       0.002        0.019
272  22.67     0.07      0.021       (  0.030)       0.002        0.019
273  22.75     0.07      0.021       (  0.030)       0.002        0.019
274  22.83     0.07      0.021       (  0.029)       0.002        0.019
275  22.92     0.07      0.021       (  0.029)       0.002        0.019
276  23.00     0.07      0.021       (  0.029)       0.002        0.019
277  23.08     0.07      0.021       (  0.029)       0.002        0.019
278  23.17     0.07      0.021       (  0.029)       0.002        0.019
279  23.25     0.07      0.021       (  0.029)       0.002        0.019
280  23.33     0.07      0.021       (  0.029)       0.002        0.019
281  23.42     0.07      0.021       (  0.029)       0.002        0.019
282  23.50     0.07      0.021       (  0.029)       0.002        0.019
283  23.58     0.07      0.021       (  0.029)       0.002        0.019
284  23.67     0.07      0.021       (  0.029)       0.002        0.019
285  23.75     0.07      0.021       (  0.029)       0.002        0.019
286  23.83     0.07      0.021       (  0.029)       0.002        0.019
287  23.92     0.07      0.021       (  0.029)       0.002        0.019
288  24.00     0.07      0.021       (  0.029)       0.002        0.019
               (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    27.9
       Flood volume = Effective rainfall      2.33(In)
        times area       8.8(Ac.)/[(In)/(Ft.)] =       1.7(Ac.Ft)
       Total soil loss =      0.26(In)
       Total soil loss =     0.190(Ac.Ft)
       Total rainfall =      2.59(In)
       Flood volume =       74469.4 Cubic Feet
       Total soil loss =        8274.4 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.813(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0007      0.10  Q         |         |         |         |
   0+10       0.0018      0.16  Q         |         |         |         |
```

0+15	0.0029	0.17	Q	|	|	|	|
0+20	0.0044	0.22	Q	|	|	|	|
0+25	0.0061	0.24	Q	|	|	|	|
0+30	0.0078	0.25	Q	|	|	|	|
0+35	0.0095	0.25	Q	|	|	|	|
0+40	0.0112	0.25	Q	|	|	|	|
0+45	0.0129	0.25	Q	|	|	|	|
0+50	0.0150	0.30	VQ	|	|	|	|
0+55	0.0173	0.33	VQ	|	|	|	|
1+ 0	0.0195	0.33	VQ	|	|	|	|
1+ 5	0.0215	0.28	VQ	|	|	|	|
1+10	0.0232	0.25	VQ	|	|	|	|
1+15	0.0249	0.25	Q	|	|	|	|
1+20	0.0266	0.25	Q	|	|	|	|
1+25	0.0283	0.25	Q	|	|	|	|
1+30	0.0300	0.25	Q	|	|	|	|
1+35	0.0318	0.25	Q	|	|	|	|
1+40	0.0335	0.25	Q	|	|	|	|
1+45	0.0352	0.25	Q	|	|	|	|
1+50	0.0372	0.30	VQ	|	|	|	|
1+55	0.0395	0.33	VQ	|	|	|	|
2+ 0	0.0418	0.33	VQ	|	|	|	|
2+ 5	0.0440	0.33	|Q	|	|	|	|
2+10	0.0463	0.33	|Q	|	|	|	|
2+15	0.0486	0.33	|Q	|	|	|	|
2+20	0.0509	0.33	|Q	|	|	|	|
2+25	0.0532	0.33	|Q	|	|	|	|
2+30	0.0554	0.33	|Q	|	|	|	|
2+35	0.0581	0.38	|Q	|	|	|	|
2+40	0.0609	0.41	|Q	|	|	|	|
2+45	0.0638	0.41	|Q	|	|	|	|
2+50	0.0666	0.41	|Q	|	|	|	|
2+55	0.0694	0.41	|Q	|	|	|	|
3+ 0	0.0723	0.41	|Q	|	|	|	|
3+ 5	0.0751	0.41	|Q	|	|	|	|
3+10	0.0780	0.41	|Q	|	|	|	|
3+15	0.0808	0.41	|Q	|	|	|	|
3+20	0.0837	0.41	|Q	|	|	|	|
3+25	0.0865	0.41	|QV	|	|	|	|
3+30	0.0894	0.41	|QV	|	|	|	|
3+35	0.0922	0.41	|QV	|	|	|	|
3+40	0.0951	0.41	|QV	|	|	|	|
3+45	0.0979	0.41	|QV	|	|	|	|
3+50	0.1011	0.46	|QV	|	|	|	|
3+55	0.1045	0.49	|QV	|	|	|	|
4+ 0	0.1080	0.50	|QV	|	|	|	|
4+ 5	0.1114	0.50	|QV	|	|	|	|
4+10	0.1148	0.50	|QV	|	|	|	|
4+15	0.1182	0.50	|QV	|	|	|	|
4+20	0.1220	0.55	| Q	|	|	|	|
4+25	0.1260	0.58	| Q	|	|	|	|
4+30	0.1299	0.58	| QV	|	|	|	|
4+35	0.1339	0.58	| QV	|	|	|	|
4+40	0.1379	0.58	| QV	|	|	|	|
4+45	0.1419	0.58	| QV	|	|	|	|
4+50	0.1462	0.63	| QV	|	|	|	|
4+55	0.1508	0.66	| QV	|	|	|	|
5+ 0	0.1553	0.66	| QV	|	|	|	|
5+ 5	0.1592	0.56	| QV	|	|	|	|
5+10	0.1627	0.50	| QV	|	|	|	|
5+15	0.1661	0.50	|Q V	|	|	|	|
5+20	0.1699	0.55	| QV	|	|	|	|
5+25	0.1738	0.58	| Q V	|	|	|	|
5+30	0.1778	0.58	| Q V	|	|	|	|
5+35	0.1821	0.63	| Q V	|	|	|	|
5+40	0.1867	0.66	| Q V	|	|	|	|
5+45	0.1912	0.66	| Q V	|	|	|	|
5+50	0.1958	0.66	| Q V	|	|	|	|
5+55	0.2004	0.66	| Q V	|	|	|	|

6+ 0	0.2049	0.66	Q V			
6+ 5	0.2098	0.71	Q V			
6+10	0.2149	0.74	Q V			
6+15	0.2201	0.74	Q V			
6+20	0.2252	0.74	Q V			
6+25	0.2303	0.74	Q V			
6+30	0.2354	0.74	Q V			
6+35	0.2409	0.80	Q V			
6+40	0.2466	0.82	Q V			
6+45	0.2523	0.83	Q V			
6+50	0.2580	0.83	Q V			
6+55	0.2637	0.83	Q V			
7+ 0	0.2694	0.83	Q V			
7+ 5	0.2751	0.83	Q V			
7+10	0.2808	0.83	Q V			
7+15	0.2865	0.83	Q V			
7+20	0.2925	0.88	Q V			
7+25	0.2988	0.91	Q V			
7+30	0.3051	0.91	Q V			
7+35	0.3117	0.96	Q V			
7+40	0.3185	0.99	Q V			
7+45	0.3253	0.99	Q V			
7+50	0.3325	1.04	Q V			
7+55	0.3399	1.07	Q V			
8+ 0	0.3473	1.08	Q V			
8+ 5	0.3554	1.18	Q V			
8+10	0.3639	1.23	Q V			
8+15	0.3725	1.24	Q V			
8+20	0.3810	1.24	Q V			
8+25	0.3896	1.24	Q V			
8+30	0.3981	1.24	Q V			
8+35	0.4070	1.29	Q V			
8+40	0.4161	1.32	Q V			
8+45	0.4252	1.32	Q V			
8+50	0.4347	1.37	Q V			
8+55	0.4444	1.40	Q V			
9+ 0	0.4540	1.41	Q V			
9+ 5	0.4644	1.51	Q V			
9+10	0.4752	1.57	Q V			
9+15	0.4860	1.57	Q V			
9+20	0.4972	1.62	Q V			
9+25	0.5086	1.65	Q V			
9+30	0.5200	1.65	Q V			
9+35	0.5317	1.71	Q V			
9+40	0.5437	1.73	Q V			
9+45	0.5556	1.74	Q V			
9+50	0.5680	1.79	Q V			
9+55	0.5805	1.82	Q V			
10+ 0	0.5930	1.82	Q V			
10+ 5	0.6031	1.46	Q V			
10+10	0.6118	1.26	Q V			
10+15	0.6204	1.24	Q V			
10+20	0.6289	1.24	Q V			
10+25	0.6375	1.24	Q V			
10+30	0.6460	1.24	Q V			
10+35	0.6563	1.50	Q V			
10+40	0.6676	1.64	Q V			
10+45	0.6790	1.65	Q V			
10+50	0.6904	1.65	Q V			
10+55	0.7018	1.65	Q V			
11+ 0	0.7132	1.65	Q V			
11+ 5	0.7242	1.60	Q V			
11+10	0.7351	1.58	Q V			
11+15	0.7459	1.57	Q V			
11+20	0.7567	1.57	Q V			
11+25	0.7676	1.57	Q V			
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11+35	0.7885	1.47	Q V			
11+40	0.7982	1.41	Q V			

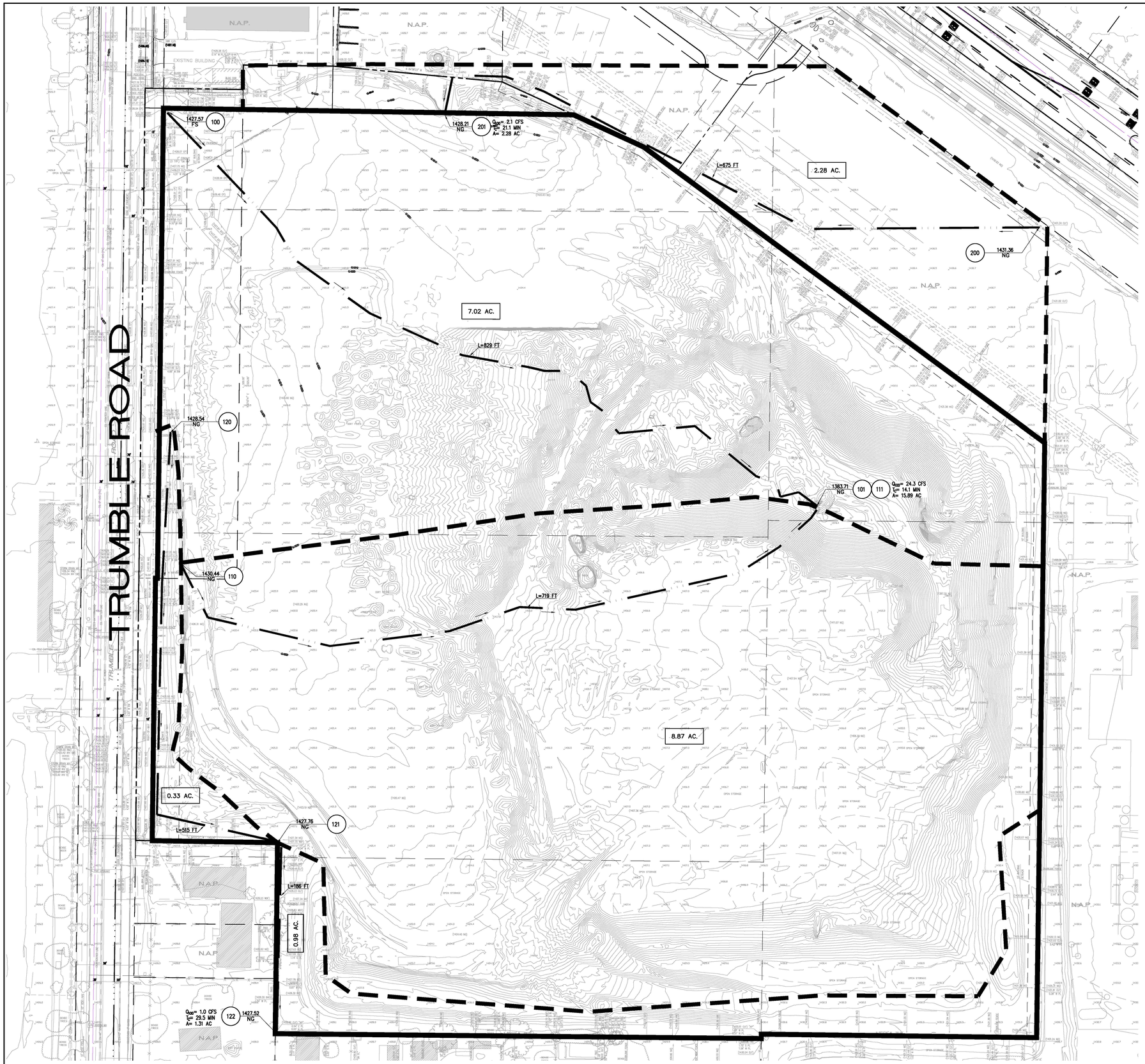


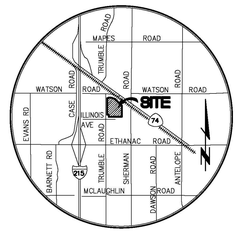
17+30	1.5853	0.41	|Q	|	|	|	V |
17+35	1.5881	0.41	|Q	|	|	|	V |
17+40	1.5910	0.41	|Q	|	|	|	V |
17+45	1.5938	0.41	|Q	|	|	|	V |
17+50	1.5963	0.36	|Q	|	|	|	V |
17+55	1.5986	0.33	|Q	|	|	|	V |
18+ 0	1.6009	0.33	|Q	|	|	|	V |
18+ 5	1.6032	0.33	|Q	|	|	|	V |
18+10	1.6055	0.33	|Q	|	|	|	V |
18+15	1.6077	0.33	|Q	|	|	|	V |
18+20	1.6100	0.33	|Q	|	|	|	V |
18+25	1.6123	0.33	|Q	|	|	|	V |
18+30	1.6146	0.33	|Q	|	|	|	V |
18+35	1.6165	0.28	|Q	|	|	|	V |
18+40	1.6182	0.25	|Q	|	|	|	V |
18+45	1.6200	0.25	Q	|	|	|	V |
18+50	1.6213	0.20	Q	|	|	|	V |
18+55	1.6225	0.17	Q	|	|	|	V |
19+ 0	1.6236	0.17	Q	|	|	|	V |
19+ 5	1.6251	0.22	Q	|	|	|	V |
19+10	1.6268	0.24	Q	|	|	|	V |
19+15	1.6285	0.25	Q	|	|	|	V |
19+20	1.6306	0.30	|Q	|	|	|	V |
19+25	1.6328	0.33	|Q	|	|	|	V |
19+30	1.6351	0.33	|Q	|	|	|	V |
19+35	1.6370	0.28	|Q	|	|	|	V |
19+40	1.6388	0.25	|Q	|	|	|	V |
19+45	1.6405	0.25	Q	|	|	|	V |
19+50	1.6418	0.20	Q	|	|	|	V |
19+55	1.6430	0.17	Q	|	|	|	V |
20+ 0	1.6441	0.17	Q	|	|	|	V |
20+ 5	1.6456	0.22	Q	|	|	|	V |
20+10	1.6473	0.24	Q	|	|	|	V |
20+15	1.6490	0.25	Q	|	|	|	V |
20+20	1.6507	0.25	Q	|	|	|	V |
20+25	1.6524	0.25	Q	|	|	|	V |
20+30	1.6541	0.25	Q	|	|	|	V |
20+35	1.6559	0.25	Q	|	|	|	V |
20+40	1.6576	0.25	Q	|	|	|	V |
20+45	1.6593	0.25	Q	|	|	|	V |
20+50	1.6606	0.20	Q	|	|	|	V |
20+55	1.6618	0.17	Q	|	|	|	V |
21+ 0	1.6629	0.17	Q	|	|	|	V |
21+ 5	1.6644	0.22	Q	|	|	|	V |
21+10	1.6661	0.24	Q	|	|	|	V |
21+15	1.6678	0.25	Q	|	|	|	V|
21+20	1.6692	0.20	Q	|	|	|	V|
21+25	1.6703	0.17	Q	|	|	|	V|
21+30	1.6715	0.17	Q	|	|	|	V|
21+35	1.6730	0.22	Q	|	|	|	V|
21+40	1.6747	0.24	Q	|	|	|	V|
21+45	1.6764	0.25	Q	|	|	|	V|
21+50	1.6777	0.20	Q	|	|	|	V|
21+55	1.6789	0.17	Q	|	|	|	V|
22+ 0	1.6800	0.17	Q	|	|	|	V|
22+ 5	1.6815	0.22	Q	|	|	|	V|
22+10	1.6832	0.24	Q	|	|	|	V|
22+15	1.6849	0.25	Q	|	|	|	V|
22+20	1.6863	0.20	Q	|	|	|	V|
22+25	1.6874	0.17	Q	|	|	|	V|
22+30	1.6886	0.17	Q	|	|	|	V|
22+35	1.6897	0.17	Q	|	|	|	V|
22+40	1.6909	0.17	Q	|	|	|	V|
22+45	1.6920	0.17	Q	|	|	|	V|
22+50	1.6931	0.17	Q	|	|	|	V|
22+55	1.6943	0.17	Q	|	|	|	V|
23+ 0	1.6954	0.17	Q	|	|	|	V|
23+ 5	1.6966	0.17	Q	|	|	|	V|
23+10	1.6977	0.17	Q	|	|	|	V|

```
   23+15       1.6988      0.17  Q        |         |         |        V|
   23+20       1.7000      0.17  Q        |         |         |        V|
   23+25       1.7011      0.17  Q        |         |         |        V|
   23+30       1.7023      0.17  Q        |         |         |        V|
   23+35       1.7034      0.17  Q        |         |         |        V|
   23+40       1.7045      0.17  Q        |         |         |        V|
   23+45       1.7057      0.17  Q        |         |         |        V|
   23+50       1.7068      0.17  Q        |         |         |        V|
   23+55       1.7080      0.17  Q        |         |         |        V|
   24+ 0       1.7091      0.17  Q        |         |         |        V|
   24+ 5       1.7095      0.06  Q        |         |         |        V|
   24+10       1.7096      0.01  Q        |         |         |         V
-------------------------------------------------------------------------
```

APPENDIX D

HYDROLOGY MAPS





VICINITY MAP
N.T.S.

LEGEND	
	PROJECT BOUNDARY
	SUBAREA BOUNDARY
	FLOW PATH
4.10 AC.	SUBAREA AREA
100	NODE NUMBER
	FLOW DIRECTION

0 20 40 80 120
SCALE: 1"=40'

Last Updated: 5/1/24
G:\4100-4199\4100\4100HYD-EX.dwg

CITY OF MENIFEE
PUBLIC WORKS DEPARTMENT

PREPARED FOR:
CROSLAND BARNES GROUP/UKIAH PARTNERS, LLC
6 CALENDAR COURT SUITE 3
COLUMBIA, SC 29206
PHONE: (723) 580-9053

EXISTING CONDITION HYDROLOGY MAP
LOVETT 215
TRUMBLE ROAD

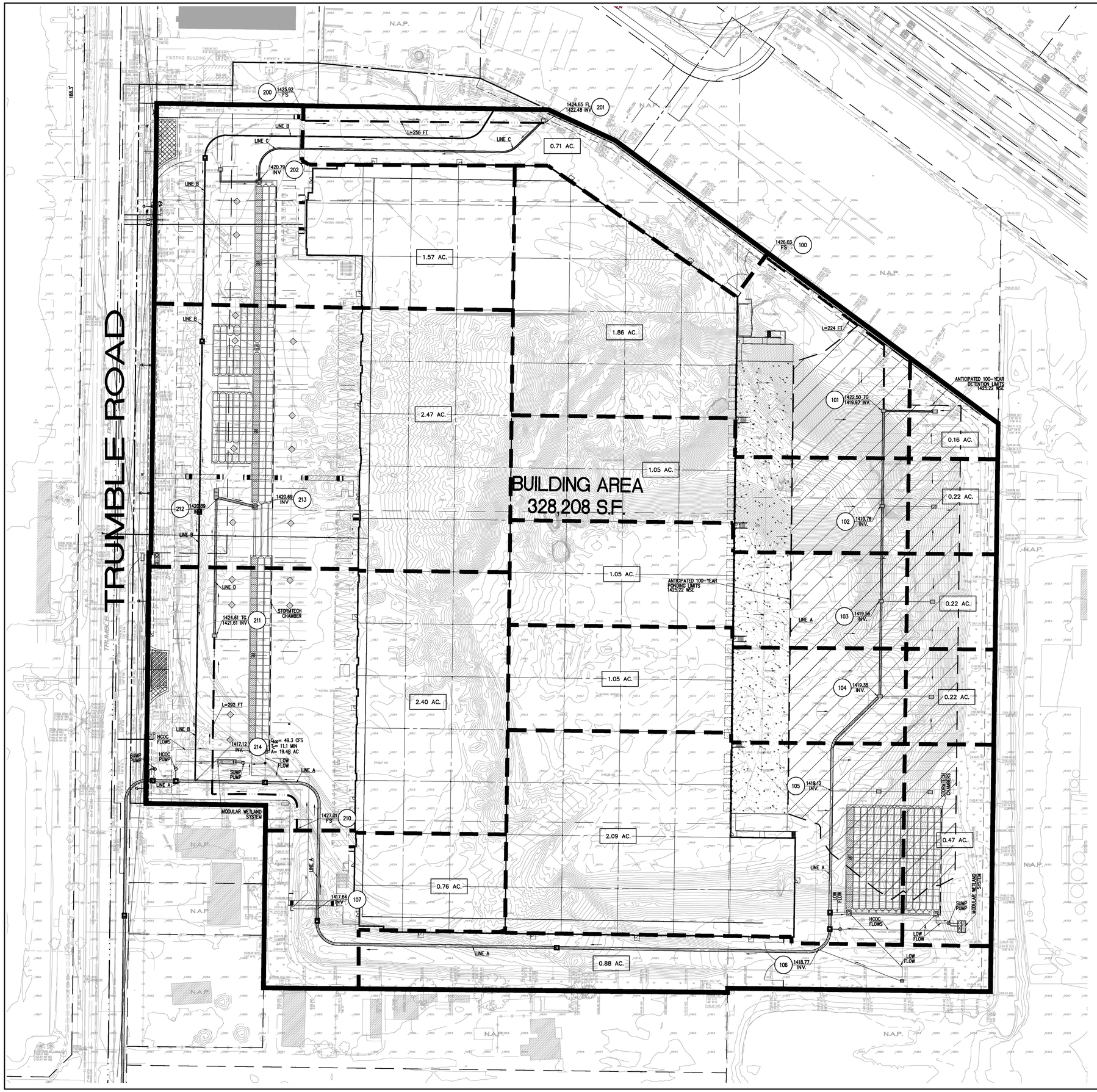
Thienes Engineering, Inc.
CIVIL ENGINEERING · LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH:(714)521-4811 FAX(714)521-4173

Designed by _____ Date _____
Checked by _____ Date _____
Designed by _____ Date _____
Checked by _____ Date _____

Approved by _____ Date _____
Public Works Director _____ R.C.E. XXXXX

Sheet 1 of 1 Sheets

4100/1 OF 1 SHEETS



LEGEND

- PROJECT BOUNDARY
- SUBAREA BOUNDARY
- FLOW PATH
- 4.10 AC. — SUBAREA AREA
- 100 — NODE NUMBER
- PONDING LIMITS

0 20 40 80 120

SCALE: 1"=40'

Last Update: 8/7/25
O:\4100-4199\4100\4100HYD-PRELIM.dwg

CITY OF MENIFEE
PUBLIC WORKS DEPARTMENT

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PROPOSED CONDITION HYDROLOGY MAP
LOVETT 215
TRUMBLE ROAD

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Sheet 1 of 1 Sheets

4100/1 OF 1 SHEETS

APPENDIX E

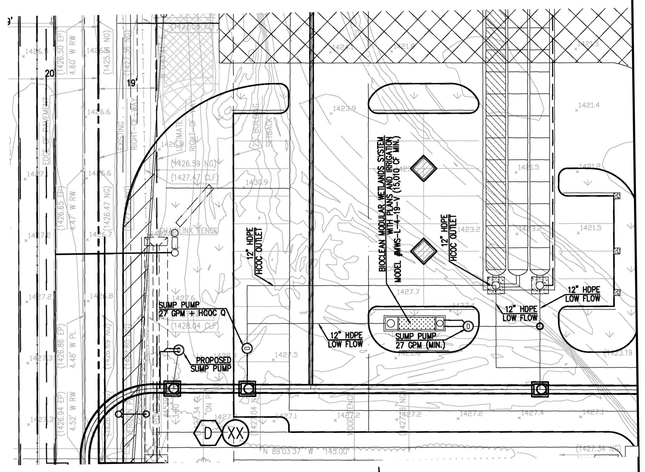
CONCEPTUAL STORM DRAIN PLANS

TRUMBLE ROAD

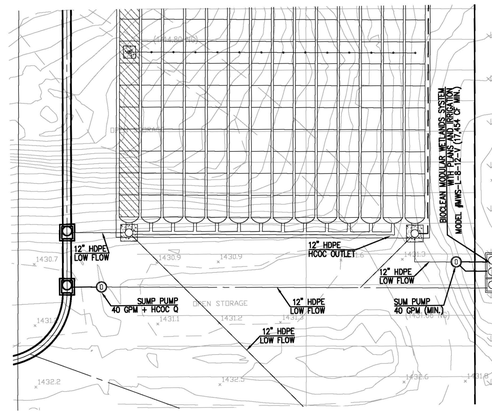
BUILDING AREA
328,208 S.F.

PROPOSED RIDGE LINE

DETAIL "A"



DETAIL "B"



SCALE: 1"=20'

SCALE: 1"=40'

PLOT DATE: 8/7/2025
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CITY OF MENIFEE
PUBLIC WORKS DEPARTMENT

CONCEPTUAL STORM DRAIN PLAN

MENIFEE TRUMBLE ROAD
TRUMBLE ROAD

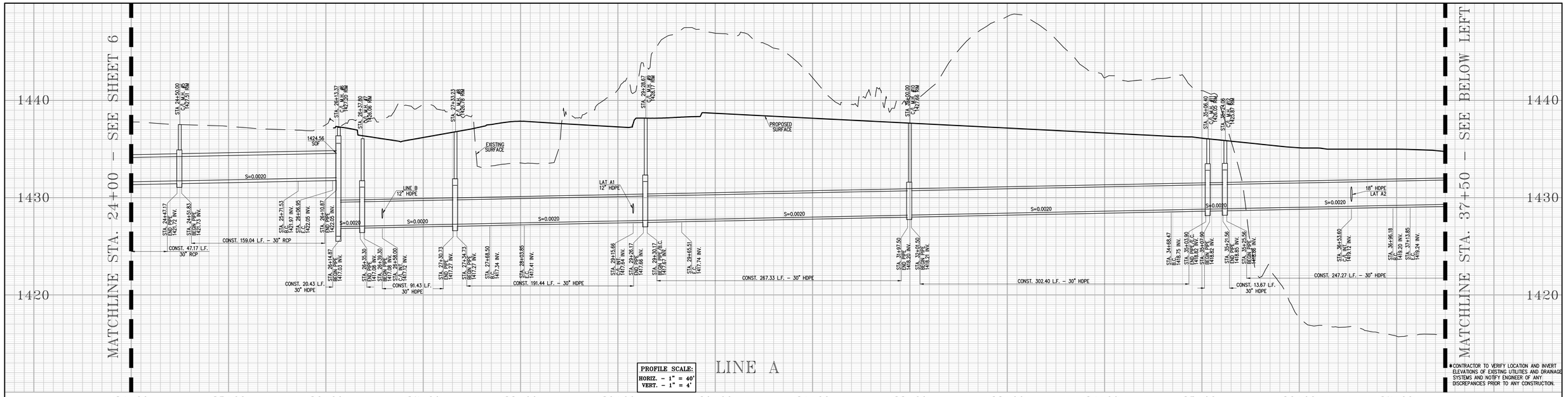
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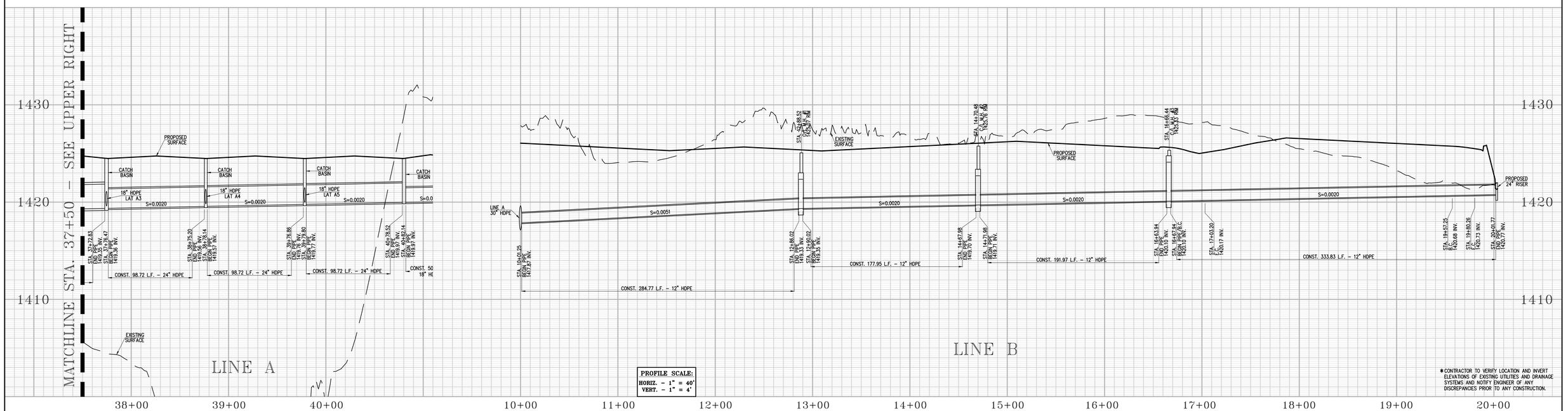
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Sheet 4 of 7 Sheets

4100/4 OF 7 SHEETS





PLOT DATE: 8/7/2025
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CITY OF MENIFEE
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6 CALENDAR COURT SUITE 3
COLUMBIA, SC 29206
PHONE: (732) 580-9053

CONCEPTUAL STORM DRAIN PROFILE
MENIFEE TRUMBLE ROAD
TRUMBLE ROAD

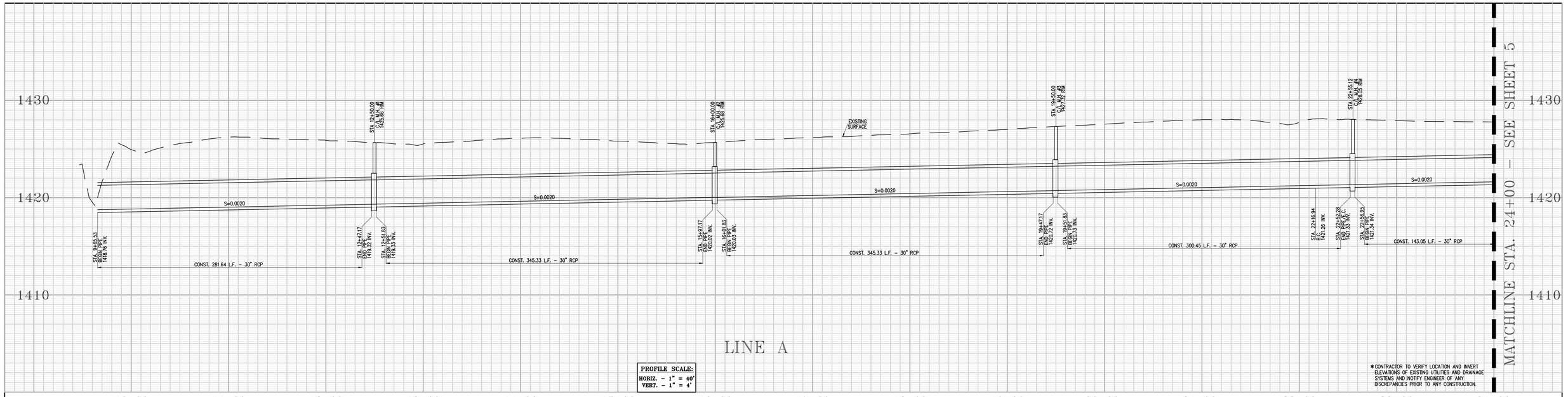
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14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
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Designed by _____ Date _____
Checked by _____ Date _____
Designed by _____ Date _____
Checked by _____ Date _____

Approved by _____ Date _____
Public Works Director _____ R.C.E. XXXXX

Sheet 5 of 7 Sheets

4100/5 OF 7 SHEETS



LINE A

PROFILE SCALE:
HORIZ. - 1" = 40'
VERT. - 1" = 4'

★CONTRACTOR TO VERIFY LOCATION AND INVERT ELEVATIONS OF EXISTING UTILITIES AND DRAINAGE SYSTEMS AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO ANY CONSTRUCTION.



PLOT DATE: 8/7/2025
O:\4100-4199\4100\4100CGP-06-SD-PUB.dwg

CITY OF MENIFEE
PUBLIC WORKS DEPARTMENT

PREPARED FOR:

CROSLAND BARNES GROUP / UKIAH PARTNERS, LLC
6 CALENDAR COURT SUITE 3
COLUMBIA, SC 29206
PHONE: (732) 580-9053

CONCEPTUAL PUBLIC STORM DRAIN PLAN AND PROFILE

MENIFEE TRUMBLE ROAD
TRUMBLE ROAD

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH:(714)521-4811 FAX:(714)521-4173

Designed by _____ Date _____
Checked by _____ Date _____
Designed by _____ Date _____
Checked by _____ Date _____

Approved by _____ Date _____

Public Works Director R.C.E. XXXXX

Sheet 6 of 7 Sheets

4100/6 OF 7 SHEETS

APPENDIX F

CITY OF MENIFEE DETENTION MEMO

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING

September 13, 2024

Mr. Haile Ford
City of Menifee
Senior Engineer, Public Works
29844 Haun Road
Menifee, CA 92586
hford@cityofmenifee.us

Subject: **PL22-0190**
Response to 7/1 Meeting and City Letter Regarding Truck Yard Ponding

Mr. Ford:

See below for responses to your email dated 7/1 regarding the meeting held between City of Menifee and Thienes Engineering.

"As a policy, the City does not allow surface water ponding. Some reasons why we have this policy are as follows:

- Ponding water can become a safety hazard for pedestrians and motorists, as well as site operations"
  RESPONSE: The temporarily detained stormwater will only occur in the 100-year storm event and will be in the easterly truck yard. This area is secured and fenced off from the general public. Only authorized/trained employees will be permitted in the truck yard area. Drivers will dock their trailers and move out while warehouse employees will unload directly from the dock doors. Therefore, the temporarily detained stormwater will not affect site operations. The site/property owner and tenants are made aware that this is an intentional design and they have accepted these conditions as the benefits outweigh the temporary inconvenience.
- "Ponding water on pavement can accelerate the deterioration of the pavement surface."
  RESPONSE: The paved surface is currently estimated as 6.5" thick concrete pavement over a 12" 95% compacted subgrade, which will withstand deterioration from the temporary surface detention that will occur *only* during the 100-year storm event. Concrete will withstand deterioration much better than traditional asphalt.
- "Ponding water can attract vectors."
  RESPONSE: Ponded stormwater is only a vector concern if it is stagnant for 72 hours. The temporary surface detention in the truck yard will be for a maximum of 3 hours, and the truck yard is still sloped down to the catch basins, so stormwater will never become stagnant. It will be constantly flowing to the outlets. This is unlike a traditional detention basin, which has been stated to be allowed within the City, where stormwater will stagnate until it either infiltrates or ponds high enough to discharge out of a riser.

"In consideration of what is stated above, please provide a letter or memo that explains the surface water ponding strategy that you're proposing for the Trumble and Watson Warehouse project. Additionally, update the exhibits to better illustrate this strategy."

REPSONSE: See below detention explanation and attached exhibit for further explanation on surface detention scheme.

"One last thing: Also in our meeting earlier today, you mentioned that flows that exceed a certain threshold would bypass the underground detention system and drain directly to the storm drain. We cannot allow that. All flows up to the 100-year storm must be treated before entering the storm drain / MS4."

RESPONSE: The MS4 Permit (Order No. R8-2010-0033) that Menifee is subjected to requires stormwater treatment of the 85th-percentile, 24-hour storm event – which is closer to the 2-year storm event rather than the 100-year. The 85th-percentile will capture what's commonly known as the "first flush" which is what conveys most of the pollutants that require treatment; that will then be taken to the proposed underground detention system. From here, it is routed through the biofiltration unit for treatment prior to discharging offsite. Storm events exceeding the first flush tend to be "cleaner" and therefore do not require treatment per the MS4 Permit. The site will also adhere to the latest State Waterboard Trash Provisions that require all sites to be designed with full capture devices sized for the 1-year, 1-hour storm event. The 100-year storm event is not subject to treatment under the MS4 Permit; it is only required to be mitigated to preserve the downstream capacities of the connecting storm drain.

Onsite Truck Yard Detention:

The general concept of truck yard surface detention is like a traditional above-ground dirt basin (save for the erosion potential and transfer of sediment associated with a dirt basin). In a dirt basin, discharge from the basin is controlled by the elevation and size of the outlet structure (i.e. riser) and downstream storm drain facility. Truck yard surface detention works the same: stormwater ponds on top of the truck yard catch basins due to the restricted size of the basins and downstream storm drain pipe. The system is designed such that water will only rise to the design elevation in the 100-year storm event. Smaller storm events will flow directly to the catch basins and discharge from the project site without surface ponding. Therefore, the occurrence of temporary surface detention will be a relatively rare scenario.

For preliminary detention design in the County of Riverside, basin sizing may be based on the largest difference in runoff hydrograph volume between the "developed" condition and the "pre-developed" conditions. This occurs during the 10-year 24-hour storm event. A site is considered to have sufficient detention capabilities if this volume can be provided onsite.

For the project site, the easterly truck yard has sufficient surface volume in the truck yard to mitigate the 10-year 24-hour volumes. Therefore, the surface of the truck yard will serve as the temporary detention area for the easterly portion of the project site. The detained volume will be approximately 0.875 ac-ft at a depth of 0.78'. This is compliant with City of Menifee Design Guidelines (adopted February 2020 and amended March 2, 2022) under Appendix A Item 9, which states that above-ground facilities should be designed such that the depth does not exceed 18". The proposed underground chambers in the westerly truck yard are for the 85th percentile storm (per the MS4 Permit) and mitigated HCOC volume.

In the case of the easterly truck yard, storm water is detained on a larger paved/concrete surface area which minimizes the ponding depth when compared to a traditional basin. A traditional basin will pond much deeper, which presents a potential safety hazard. The cross-section of the easterly truck yard (section A-A) shows the detention limits and depth, as well as the top of grate elevation and finished floor elevation. The maximum detention depth of 0.78' (approximately 9", 1425.40 WSE) occurs directly over the top of the catch basins and reduces to 6" within 25' of the easterly catch basins. There will be minimal detention against the building at a depth of approximately 0.18' (approximately 2", 1424.80 WSE). This water surface elevation is significantly lower than finished floor elevation of the proposed building (elevation 1429.26). Therefore, proposed detention does not create a flooding risk for the proposed building. Furthermore, these depths are not safety hazards, but more of a temporary inconvenience that has been accepted by the property owner. Furthermore, this depth does not affect the movements of the large semitrucks, nor the employees working to unload the trucks. Therefore, site operations will not be impacted by this surface detention. The increased number of basins allow the truck yard to drain quickly once the 100-year storm event passes, in less than three hours.

Furthermore, detained water in the truck yard can be compared to stormwater flowing in a public street. Per the Riverside County Flood Control and Water Conservation District Hydraulic Design Manual (March 2024), the 10-year flood level must be contained within the top of curb and the 100-year elevation contained within the street right of way limits. For a general street section with 6' from curb to right of way, this is approximately 0.8' of ponding in the 100-year storm event. This is what is occurring in the easterly truck yard, with stormwater detained at approximately 0.78' of depth. However, stormwater in the street is flowing at a high velocity in a public area, where it poses a safety hazard to pedestrians and the public. Detained water in the truckyard is flowing into the catch basins at a much lower velocity in a secured truck yard area. This poses no danger to the general public.

The westerly portion of the project site is tributary to a vehicle parking area. It is Thienes Engineering policy to limit the depth of the surface detention to approximately 0.5' in vehicle parking areas. Therefore, there is very little surface volume available for storage, and the detained volume was designed to be stored underground along with the design capture volume (per the MS4 Permit) and mitigated HCOC volume.

If you have any questions or require additional information, please contact me at (714) 521-4811 or morgan@thieneseng.com.

Respectfully Submitted,
THIENES ENGINEERING, INC.

Morgan Holve
Design Engineer

ec. Haile Ford, City of Menifee
Christopher Heron, City of Menifee
Brian Thienes, Thienes Engineering
Joshua Lichtman, Urban Hatchery

Enc: Hydrology Detention Exhibit dated 9/13/2024

Appendix G

Noise Modeling Results and Measurement Data

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/14/2025
Case Description: Trumble and Watson

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Site Preparation	Industrial	60.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40	85.0		50.0	0.0
Dozer	No	40	85.0		50.0	0.0
Tractor	No	40	84.0		50.0	0.0
Backhoe	No	40	80.0		50.0	0.0
Front End Loader	No	40	80.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Dozer	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	80.0	76.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	80.0	76.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total	85.0	86.4	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A		

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/14/2025
Case Description: Trumble and Watson

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Grading	Industrial	60.0	55.0	50.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40	85.0		50.0	0.0
Grader	No	40	85.0		50.0	0.0
Dozer	No	40	85.0		50.0	0.0
Scraper	No	40	85.0		50.0	0.0
Backhoe	No	40	80.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	80.0	76.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total	85.0	87.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/14/2025
Case Description: Trumble and Watson

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Building Construction	Industrial	60.0	55.0	50.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16	85.0		50.0	0.0
Generator	No	50	82.0		50.0	0.0
Man Lift	No	20	85.0		50.0	0.0
Tractor	No	40	84.0		50.0	0.0
Backhoe	No	40	80.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Crane	85.0	77.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	82.0	79.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	85.0	78.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84.0	80.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	80.0	76.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total	85.0	85.2	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A	N/A	N/A	N/A		

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/14/2025
Case Description: Trumble and Watson

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Paving	Industrial	60.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50	85.0		50.0	0.0
Paver	No	50	85.0		50.0	0.0
Pavement Scarafier	No	20	85.0		50.0	0.0
Roller	No	20	85.0		50.0	0.0
Roller	No	20	85.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Paver	85.0	82.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	85.0	82.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	85.0	78.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	85.0	78.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	85.0	78.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total	85.0	87.0	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 03/14/2025
Case Description: Trumble and Watson

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Architectural Coating	Industrial	60.0	55.0	50.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40	80.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA)	Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	80.0	76.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.0	76.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Product Catalog

Packaged Rooftop Air Conditioners Precedent™ Heat Pump

Standard Efficiency

12.5 to 25 Tons — 60 Hz



November 2022

PKGP-PRC019A-EN

Fan Performance

Table 22. Outdoor sound power level

Tons	Unit Model Number	Octave Center Frequency								Overall dBA
		63	125	250	500	1000	2000	4000	8000	
12.5	WSJ150A*	83	87	87	85	82	77	74	69	87
15	WSJ180A*	83	87	87	85	82	77	74	69	87
20	WSJ240A*	94	90	92	91	88	84	81	75	93
25	WSJ300A*	94	90	92	91	88	84	81	75	93

Notes:

1. Outdoor sound rating shown is tested in accordance with AHRI 270/370-2015. For additional information reference the outdoor sound power level data in the performance section.
2. Taken in accordance with AHRI 270/370-2015.
3. Indoor sound in accordance with AHRI 260 is available through Trane's selection software.

Table 23. Static pressure drop through accessories (inches water column) - standard efficiency- economizer

Tons	Unit Model Number	cfm[a]	Standard Filters[b]	2" MERV 8 Filter[c]	2" MERV 13 Filter[c]	Reheat Coil	Economizer with OA/RA Dampers[d]							
							Downflow		Horizontal		Low Leak Downflow[e]		Low Leak Horizontal	
							100% OA	100% RA	100% OA	100% RA	100% OA	100% RA	100% OA	100% RA
12.5	WSJ150A	3750	0.02	0.04	0.07	0.02	0.10	0.02	0.10	0.02	0.11	0.09	0.05	0.09
		5000	0.03	0.06	0.10	0.04	0.15	0.03	0.15	0.03	0.17	0.13	0.09	0.14
		6000	0.04	0.08	0.13	0.04	0.20	0.04	0.20	0.04	0.23	0.17	0.12	0.18
15	WSJ180A	4500	0.03	0.05	0.09	0.04	0.13	0.02	0.13	0.02	0.14	0.11	0.07	0.12
		6000	0.04	0.08	0.13	0.04	0.20	0.04	0.20	0.04	0.23	0.17	0.12	0.18
		7200	0.06	0.10	0.17	0.02	0.27	0.05	0.27	0.05	0.32	0.23	0.16	0.25
20	WSJ240A	6000	0.04	0.08	0.13	0.04	0.20	0.04	0.20	0.04	0.23	0.17	0.12	0.18
		8000	0.07	0.12	0.21	0.02	0.32	0.06	0.32	0.06	0.39	0.27	0.19	0.30
		9600	0.09	0.16	0.27	0.05	0.44	0.07	0.44	0.07	0.54	0.37	0.27	0.41
25	WSJ300A	7500	0.06	0.11	0.19	0.02	0.29	0.05	0.29	0.05	0.34	0.24	0.17	0.27
		10000	0.09	0.17	0.29	0.06	0.48	0.08	0.48	0.08	0.58	0.40	0.29	0.45
		12000	0.12	0.23	0.39	0.06	0.66	0.11	0.66	0.11	0.82	0.55	0.39	0.62

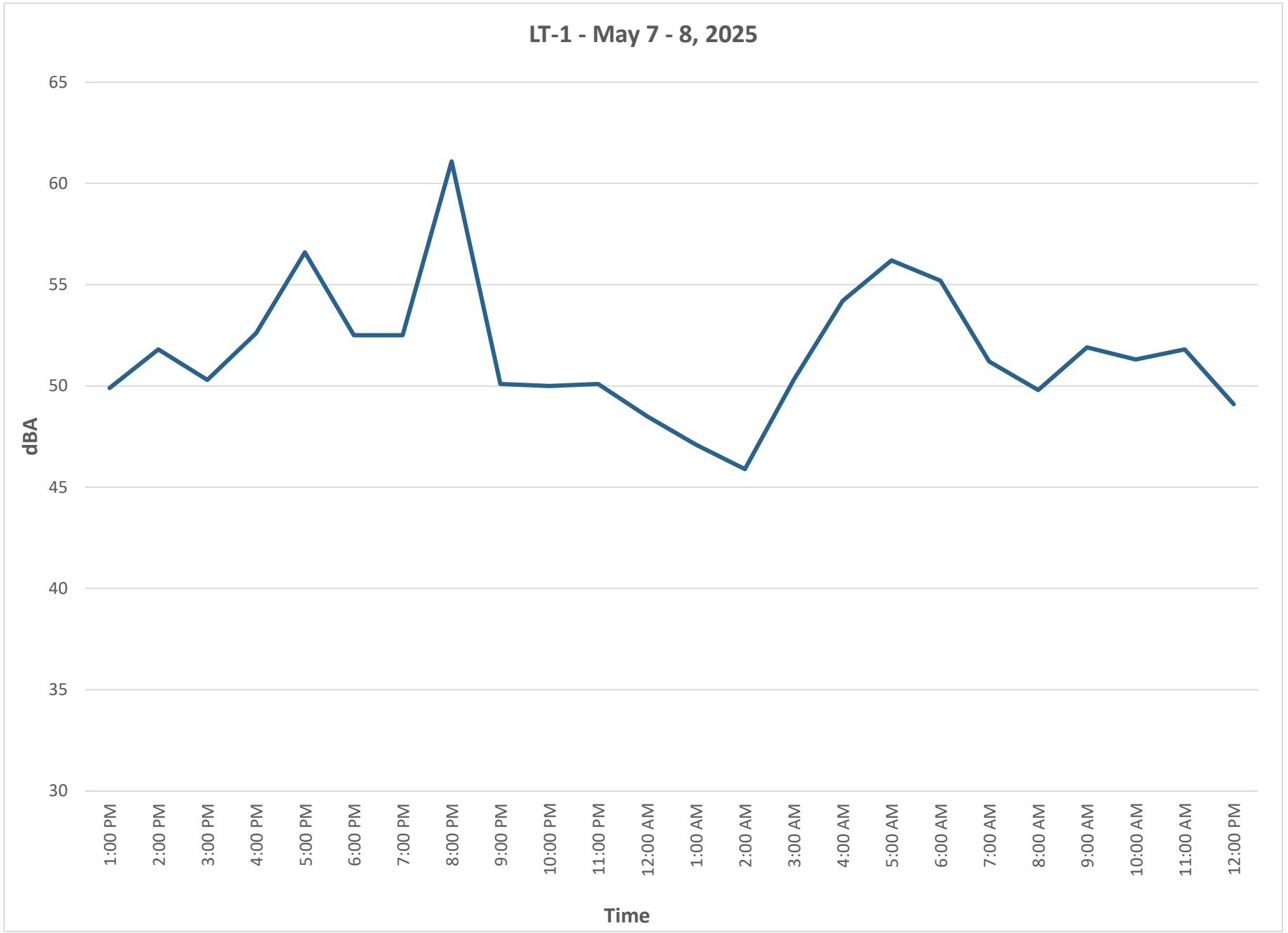
[a] See below for restrictions:
Multi-speed, single zone VAV or multi-zone VAV applications are capable of running below 300 cfm/ton during low speed airflow operation.
[b] Tested with: 2-in filters 12.5 to 25 tons.
[c] Difference in pressure drop should be considered when utilizing optional 2-in pleated filters.
[d] OA = Outside Air and RA = Return Air.
[e] Model digit 11 selection of low gas heat is 5x5, medium gas heat is 7x7, and high gas heat is 8x8 for 12.5 to 25T units.

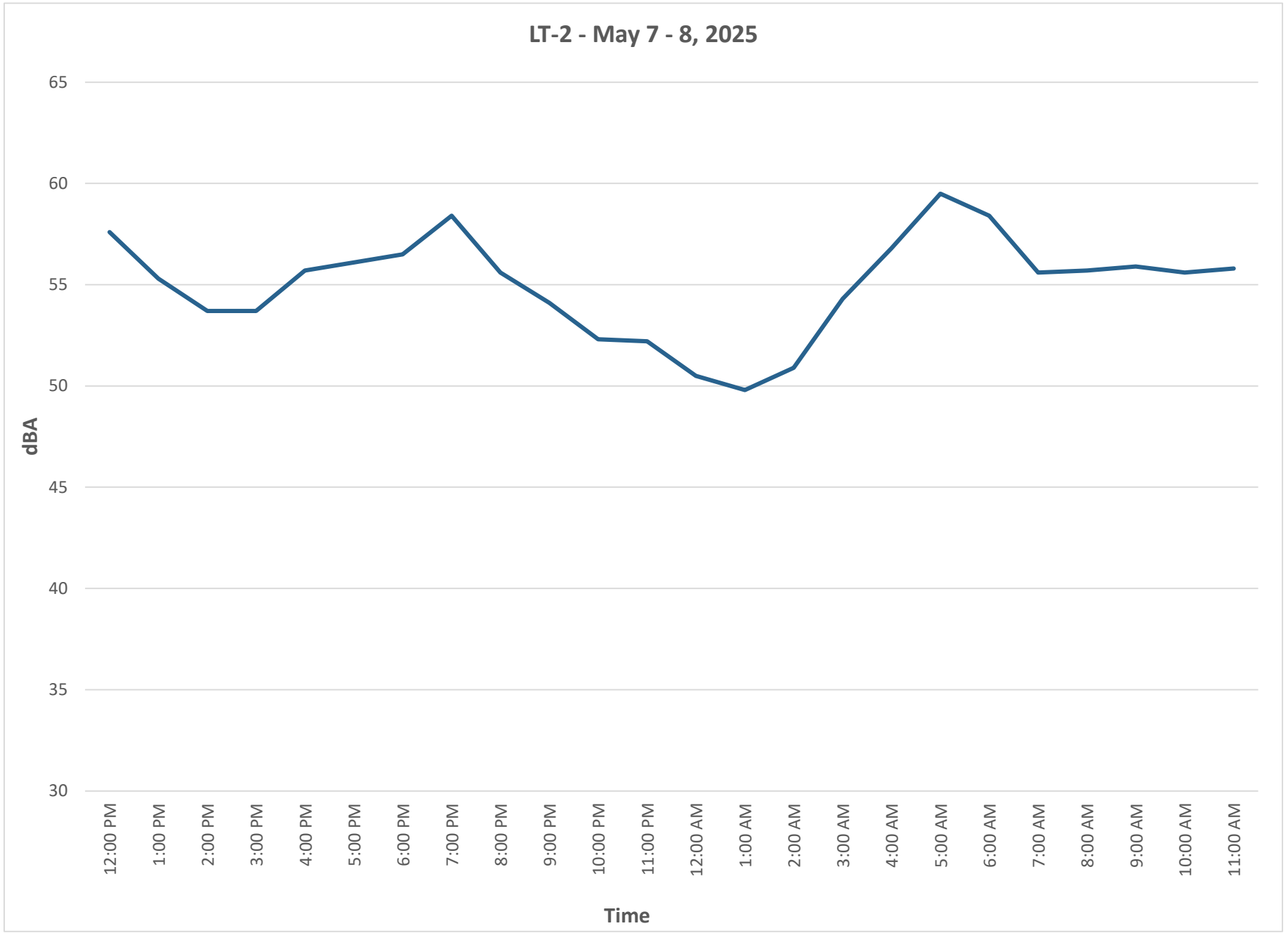
Table 24. Static pressure drop through accessories (inches water column) - standard efficiency- electric

Tons	Unit Model Number	cfm[a]	Electric Heater			
			Accessory (kW)			
			18	36	54	72
12.5	WSJ150A	3750	0	0.01	0.01	N/A
		5000	0.01	0.03	0.03	N/A
		6000	0.01	0.04	0.04	N/A
15	WSJ180A	4500	0.01	0.02	0.02	N/A
		6000	0.01	0.04	0.04	N/A
		7200	0.02	0.06	0.06	N/A
20	WSJ240A	6000	N/A	0.04	0.04	0.04
		8000	N/A	0.08	0.08	0.08
		9600	N/A	0.12	0.12	0.12

Number	Start Date	Start Time	End Time	Duration	LZeq	LCeq	LAeq	LZSmax	LCSmax	LASmax	LZSmin	LCSmin	LASmin	LZE	LCE
ST 1	5/7/2025	11:50:36 AM	12:05:36 PM	0:15:00	75.8	74.1	63.9	86.5	84	74.7	63.9	61.3	48	105.3	103.6
ST 2	5/7/2025	11:29:18 AM	11:44:18 AM	0:15:00	72.7	71.2	59.9	84.5	84.2	73.9	68.8	66.6	50.8	102.2	100.7

Number	LAE	LZpk	LCpk	LApk	LAS1%	LAS2%	LAS5%	LAS8%	LAS10%	LAS25%	LAS50%	LAS90%	LAS95%	LAS99%
ST 1	93.4	99.7	98.1	95.8	72.4	70.3	68.2	67.4	66.9	64.5	62.5	56.3	53.8	48.4
ST 2	89.4	94.9	94.3	90.1	71.8	70.1	66.4	63.7	62.4	56.6	54.5	52.9	52.3	51.3


LT-1 - May 7 - 8, 2025
65
60
55
50
45
40
35
30
dBA
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
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4:00 AM
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6:00 AM
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8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
Time


LT-2 - May 7 - 8, 2025
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dBA
12:00 PM
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6:00 PM
7:00 PM
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3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
Time

Appendix H

Traffic Impact Analysis

TRUMBLE ROAD AND WATSON ROAD WAREHOUSE TRAFFIC STUDY

CITY OF MENIFEE

JUNE 27, 20255

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1.0 INTRODUCTION

This report presents the methodology, findings, and conclusions of the Traffic Study (TS) prepared for the proposed Trumble Road and Watson Road Warehouse project. The proposed project site is located at the southeast corner of the intersection of Trumble Road and Watson Road in the City of Menifee. The proposed project includes construction of a 328,205 square foot warehouse.

2.1 Purpose of Traffic Study and Study Objectives

This report is intended to satisfy the requirements for a Traffic Study (TS) established by the City of Menifee. City of Menifee follows the *City of Menifee Engineering Department LOS Traffic Study Guidelines* (October 2020) for level of service analyses. The operational analysis includes a quantitative evaluation of the project's access and circulation operations. The study area, analysis scenarios, and analysis methodologies are based on the guidelines and on discussion with City Staff. The approved scoping agreement is included in Appendix A.

2.2 Project Location & Study Area

As stated earlier, the project is located at the southeast corner of the intersection of Trumble Road and Watson Road in the City of Menifee. Figure 1 shows the regional location of the project. The proposed project includes construction of a 328,205 square foot warehouse. The project opening year is expected to be 2026. Figure 2 illustrates the site plan of the proposed project. Based on the trip generation and trip distribution of the proposed project, and based on discussion with City staff, this report analyzes the following intersections and roadway segments for traffic operations. Figure 3 illustrates the study intersections included in the Traffic Study

Study Intersections

1. Trumble Road/ Watson Road
2. Trumble Road / Driveway 1
3. Trumble Road / Driveway 2
4. Trumble Road / Illinois Avenue
5. Trumble Road / Ethanac Road
6. Watson Road/ SR-74

Roadway Segments

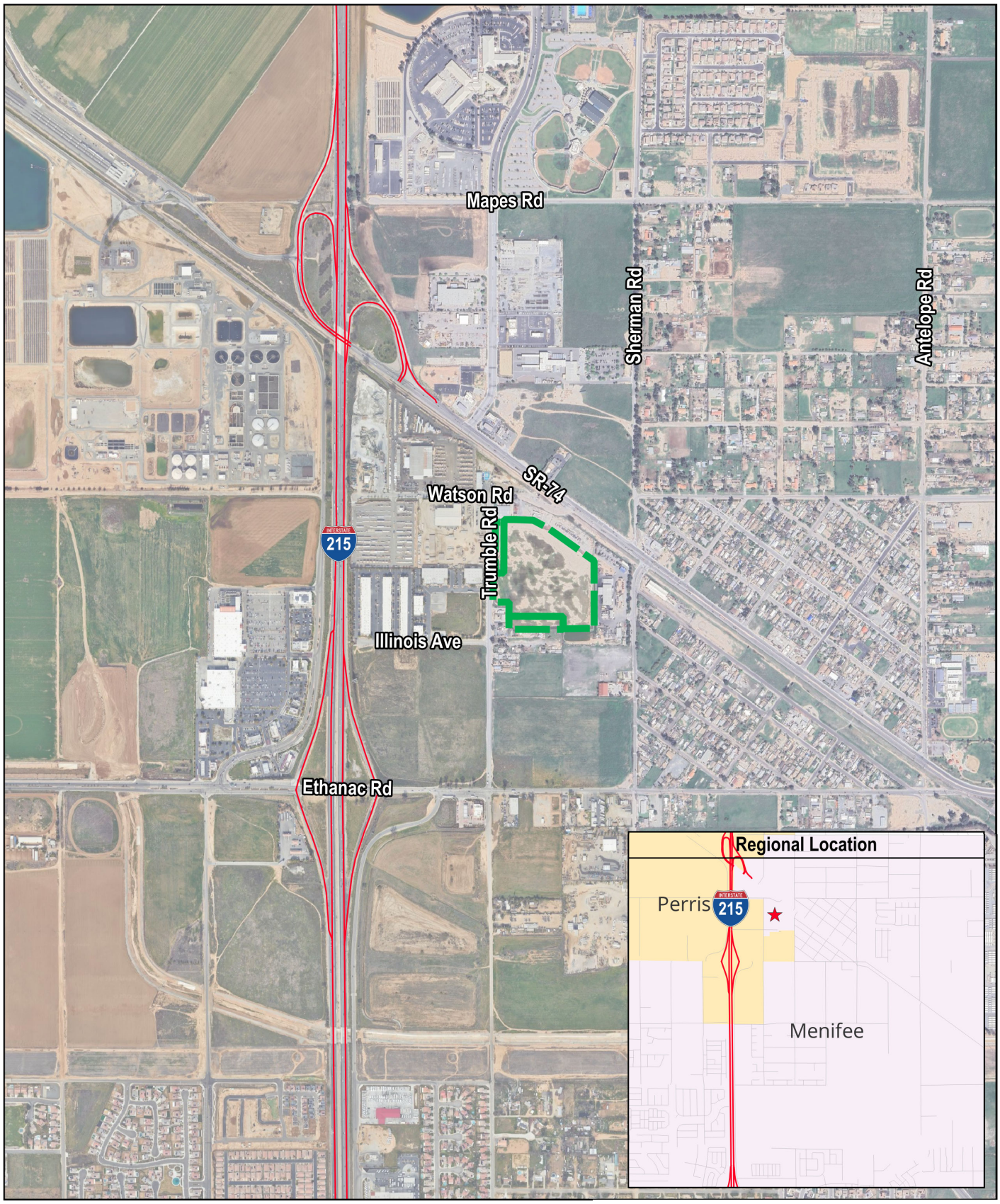
1. Trumble Road from Watson Road to Driveway 1
2. Trumble Road from Driveway 1 to Driveway 2
3. Trumble Road from Driveway 2 to Illinois Avenue
4. Trumble Road from Illinois Avenue to Ethanac Road

2.3 Analysis Scenarios

Based on the City guidelines, this report analyzes traffic conditions for the following eight scenarios:

1. Existing Conditions
2. Existing Plus Project Conditions
3. Opening Year (2026) without Project Conditions
4. Opening Year (2026) with Project Conditions
5. Opening Year (2026) Cumulative without Project Conditions
6. Opening Year (2026) Cumulative with Project Conditions
7. Horizon Year (2050) without Project Conditions
8. Horizon Year (2050) with Project Conditions

Consistent with the guidelines, this report analyzes weekday a.m. and p.m. peak hour conditions. In this area, the a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. The p.m. peak



Legend

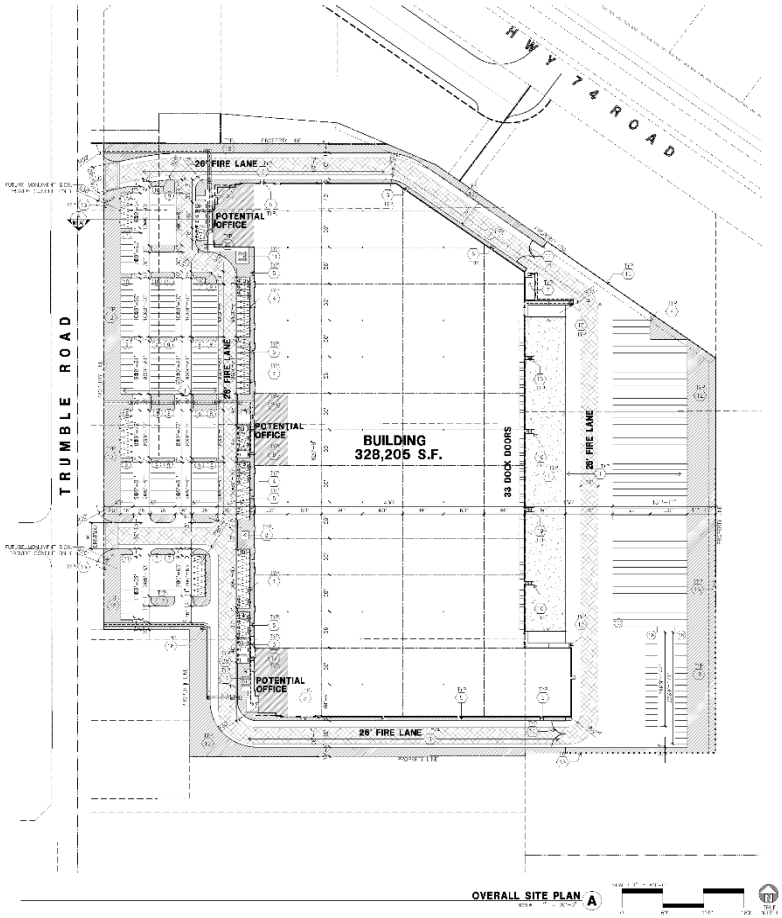
Project Boundary

FIGURE 1

Trumble Road and Watson Road Warehouse
Regional Project Location

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PROJECT INFORMATION

VICINITY MAP



TABULATION

Area	
In s.f.	748,812 s.f.
In acres	17.190 ac
BUILDING AREA	
Office	15,000 s.f.
Warehouse	313,205 s.f.
TOTAL	328,205 s.f.
COVERAGE	43.8%
AUTO PARKING REQUIRED	
Office: 1/300 s.f.	50 stalls
Whse: 1/1500 s.f. (first 100k s.f.)	100 stalls
Whse: 1/1500 s.f. (100k-500k s.f.)	143 stalls
TOTAL	293 stalls
AUTO PARKING PROVIDED	
Standard (9' x 18')	257 stalls
Accessible (9' x 18')	6 stalls
Van Accessible (12' x 18')	2 stalls
EVCS (9' x 18')	13 stalls
EVCS ADA (9' x 18')	1 stalls
EVCS Van ADA (12' x 18')	1 stalls
EVCS Future Accessory (10' x 18')	2 stalls
EV Capable (9' x 18')	51 stalls
Total	333 stalls
TRAILER PARKING PROVIDED	
Trailer (10' x 55')	92 stalls
ZONING ORDINANCE FOR CITY	
Zoning Designation - Economic Development Corridor - Northern Gateway (EDC-NG)	
MAXIMUM BUILDING HEIGHT ALLOWED	
Height - 100'	
MAXIMUM FLOOR AREA RATIO	
FAR - 1.0	
ACTUAL FLOOR AREA RATIO	
FAR - 0.44	
LANDSCAPE REQUIREMENT	
Percentage - 10%	
LANDSCAPE PROVIDED	
Percentage - 11.4%	
SETBACKS	
Front - 25'	
Street side - 15'	
Rear - 10'	
STATEMENT OF OPERATION	
Speculative Development - Occupancy / Operations TBD (Potential Uses: General warehouse, distribution centers and storage; Manufacturing, Light or Medium-Intensity.)	

SITE PLAN KEYNOTES

SITE PLAN GENERAL NOTES

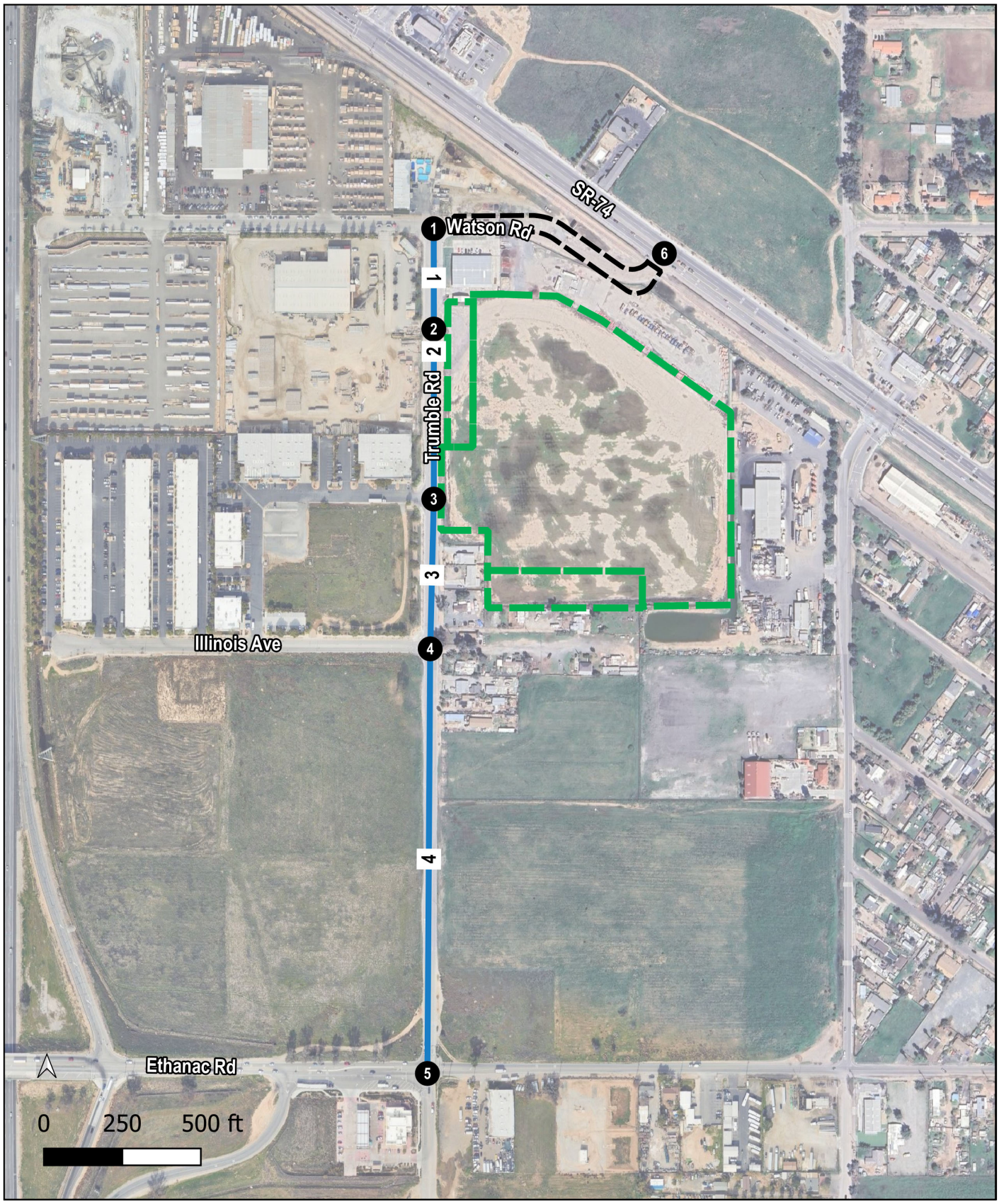
SITE LEGEND

OFFICIAL USE ONLY

Figure 2

Trumble Road and Watson Road Warehouse
Project Site Plan

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Legend

Project Boundary

Study Area Intersections

Study Area Roadway Segments

FIGURE 3

Trumble Road and Watson Road Warehouse
Study Area Intersections and Roadway Segments

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hour is defined as the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m. Roadway segment was analyzed during a 24-hour period using daily volume counts.

Based on the City's guidelines and the trip generation of the project, a Horizon Year Analysis would not be required. However, the additional Horizon Year analysis has been included since the project is located within a Connectivity Analysis Zone as identified in the City of Menifee's General Plan *Roadway Network Exhibit C-3*. The City's Roadway Network identifies four Connectivity Analysis Zones that may be subject to review and future consideration by the City of Menifee to recognize that additional evaluation of the roadway alignments, intersection geometrics and traffic control features may be needed.

3.0 PROJECT DESCRIPTION

The proposed project includes construction of a 328,205 square foot warehouse. Project access will be provided via two driveways on Trumble Road. The project will also realign the intersection of Watson Road and SR 74.

3.1 Project Trip Generation

Trip generation for the project is based on rates from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* (11th Edition) and are based on Land Use 150 "Warehousing". The passenger vehicle/truck splits are based on percentages from the ITE Trip Generation, 11th Edition and the truck splits by axle type are based on percentages from the Fontana Truck Trip Generation Study (August 2003). The recommended passenger car equivalent (PCE) factors are from Riverside County's Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled. Table A shows a summary of the project trip generation. As shown in Table A, the project is anticipated to generate 65 trips during the a.m. peak hour, 74 trips during the p.m. peak hour, and 861 daily trips.

3.2 Project Trip Distribution & Assignment

Project trip distribution patterns for the proposed project were developed based on the location of local and regional destinations, and in consultation with City staff. The project trip distribution was developed separately for passenger vehicles and trucks. The project trip generation was applied to the project trip distribution pattern to develop project trip assignment.

Figure 4 and Figure 5 illustrate the project trip distribution for passenger vehicles for the proposed study intersections respectively. Figure 6 and Figure 7 illustrate the project trip distribution for trucks for the proposed study intersections respectively. The resulting total trip assignment for passenger vehicles and truck PCE are shown in Figure 8.

4.0 LOS DEFINITIONS, PROCEDURES, AND THRESHOLDS

Level of service (LOS) is a measure of the quality of operational conditions within a traffic stream and is generally expressed in terms of such measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Levels range from A to F, with LOS A representing excellent (free-flow) conditions and LOS F representing extreme congestion. Consistent to the guidelines, the Highway Capacity Manual (HCM) procedures have been used to evaluate levels of service. This section discusses the LOS definitions, procedures, and thresholds used in this report.

4.1 Intersection Levels of Service

The analysis of traffic operations at intersections was conducted according to the *Highway Capacity Manual 7th Edition* (HCM, Transportation Research Board, Washington, D.C., June 2022) delay methodologies using Synchro 12 software. Under the HCM methodology, LOS for signalized intersections and all-way stop controlled intersections is based on the average delay experienced by vehicles traveling through an intersection, whereas for unsignalized two way stop controlled intersections (or one way for three legged intersections), the LOS is based on the worst approach where the minor leg has a shared lane and on the worst movement where the minor leg has dedicated turn lanes. Table B presents a brief description of each level of service letter grade, as well as the range of delays associated with each grade.

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Table A: Project Trip Generation

Land Use		Units	Peak Hour						Daily
			AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
Total Vehicle Rates									
Trip Generation Rates[1]	328.205	TSF	0.131	0.039	0.170	0.050	0.130	0.180	1.710
PCE Inbound/Outbound Splits			73%	27%	100%	33%	67%	100%	100%
Passenger Car Equivalent Rates Calculations									
Passenger Cars									
Recommended Mix (%)[2]			92.06%	75.45%	88.24%	69.05%	88.89%	83.33%	64.91%
PCE Factor[3]			1.0	1.0	1.0	1.0	1.0	1.0	1.0
PCE Rates			0.121	0.030	0.150	0.035	0.115	0.150	1.110
2-Axle Trucks									
Recommended Mix (%)[2]			1.35%	4.16%	1.99%	5.24%	1.88%	2.82%	5.94%
PCE Factor[3]			1.5	1.5	1.5	1.5	1.5	1.5	1.5
PCE Rates			0.003	0.002	0.005	0.004	0.004	0.008	0.152
3-Axle Trucks									
Recommended Mix (%)[2]			1.80%	5.58%	2.67%	7.03%	2.52%	3.79%	7.97%
PCE Factor[3]			2.0	2.0	2.0	2.0	2.0	2.0	2.0
PCE Rates			0.005	0.004	0.009	0.007	0.007	0.014	0.273
4-Axle Trucks									
Recommended Mix (%)[2]			4.79%	14.82%	7.10%	18.68%	6.71%	10.06%	21.18%
PCE Factor[3]			3.0	3.0	3.0	3.0	3.0	3.0	3.0
PCE Rates			0.019	0.017	0.036	0.028	0.026	0.054	1.086
Warehouse Net PCE Rate			**0.147**	**0.054**	**0.200**	**0.074**	**0.151**	**0.226**	**2.621**
Project Trip Generation (Trips, By Vehicle Type)									
Warehouse	328.205	TSF							
Passenger Cars			**39**	**10**	**49**	**11**	**38**	**49**	**364**
2-Axle Trucks			0	1	1	1	1	2	33
3-Axle Trucks			0	1	1	1	1	2	45
4+ Axle Trucks			2	2	4	3	3	6	119
All Trucks			**2**	**4**	**6**	**5**	**5**	**10**	**197**
Total Vehicles			**41**	**14**	**55**	**16**	**43**	**59**	**561**
Project Trip Generation (Passenger Car Equivalent Trips, By Vehicle Type)									
Passenger Cars			**39**	**10**	**49**	**11**	**38**	**49**	**364**
Truck PCE									
2-Axle Trucks			0	2	2	1	2	3	50
3-Axle Trucks			0	2	2	2	2	4	90
4+ Axle Trucks			6	6	12	9	9	18	357
Total Truck PCE			**6**	**10**	**16**	**12**	**13**	**25**	**497**
Total PCE			**45**	**20**	**65**	**23**	**51**	**74**	**861**

[1] Rates based on Land Use 150 "Warehousing" from Institute of Transportation Engineers (ITE) Trip Generation (11th Edition).

[2] Passenger Vehicle/Truck splits are based on percentages provided in ITE Trip Generation (11th Edition). Truck Splits by axle-type based on Fontana Truck Trip Generation Study, August 2003.

[3] Recommended PCE Factor per County of Riverside *Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment (December 2020)*



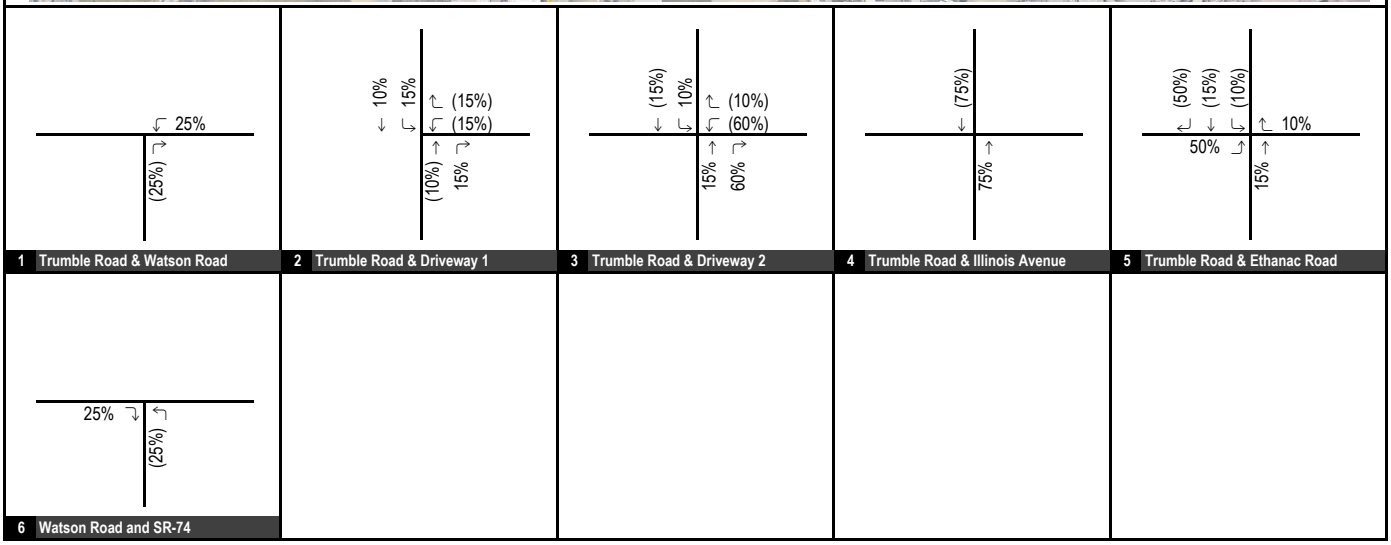


FIGURE 4

XX%(YY%) Inbound%(Outbound%) Distribution

Trumble Road and Watson Road Warehouse
Project Trip Distribution - Passenger Vehicles

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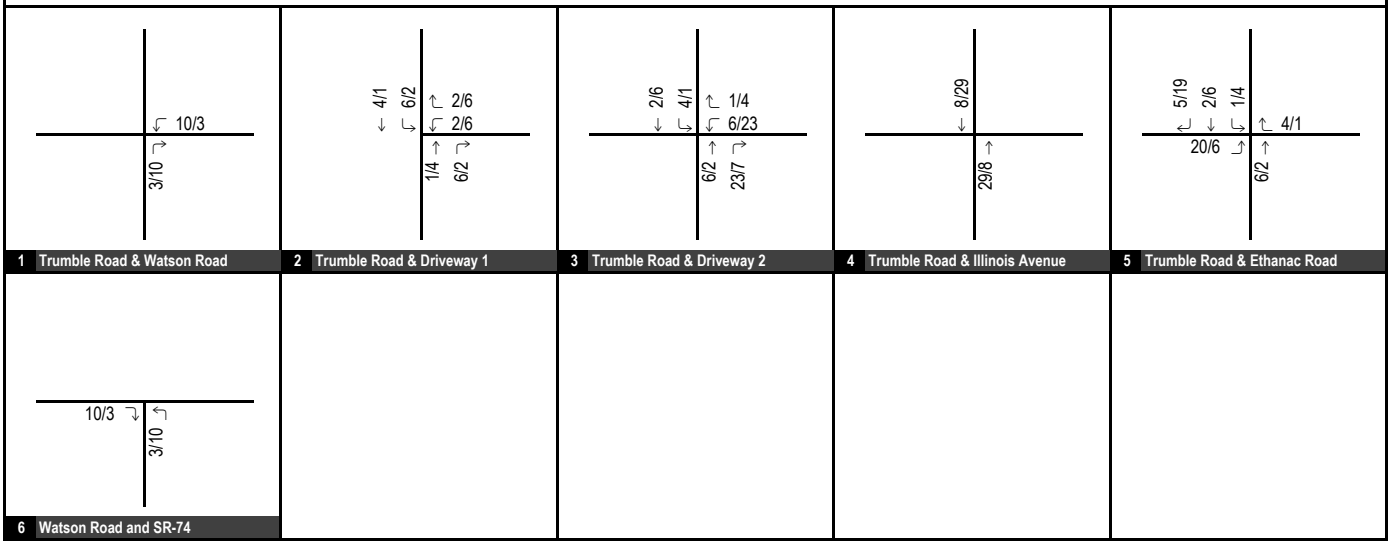


FIGURE 5

XX/YY AM/PM Peak Hour Project Trips

Trumble Road and Watson Road Warehouse
Project Trip Assignment - Passenger Vehicles

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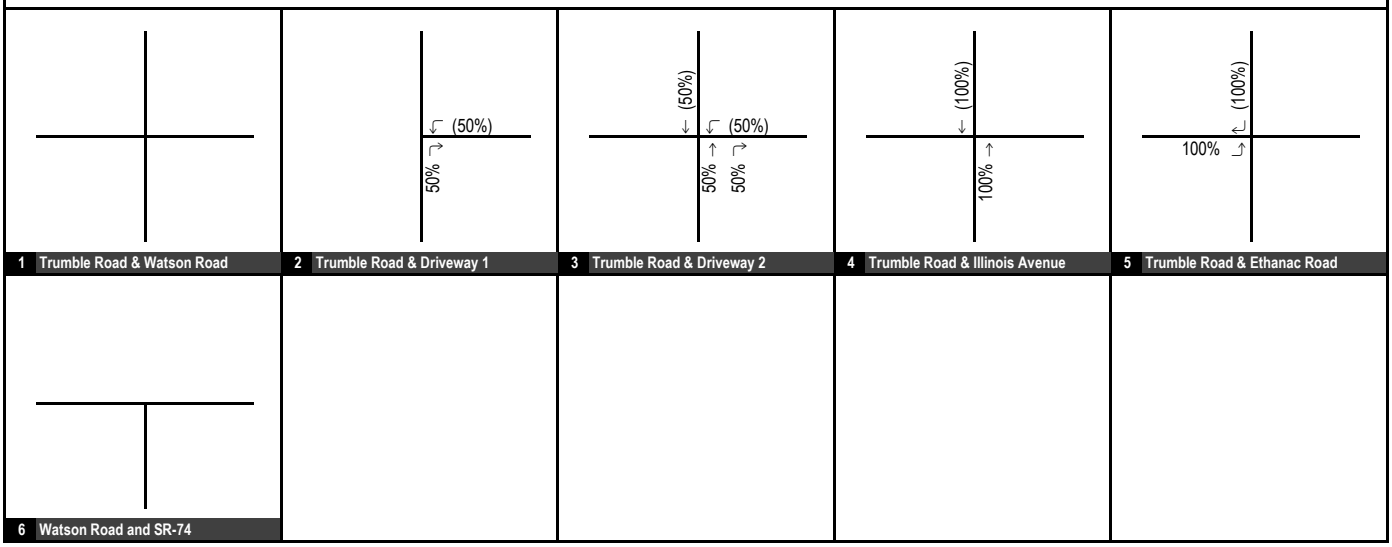
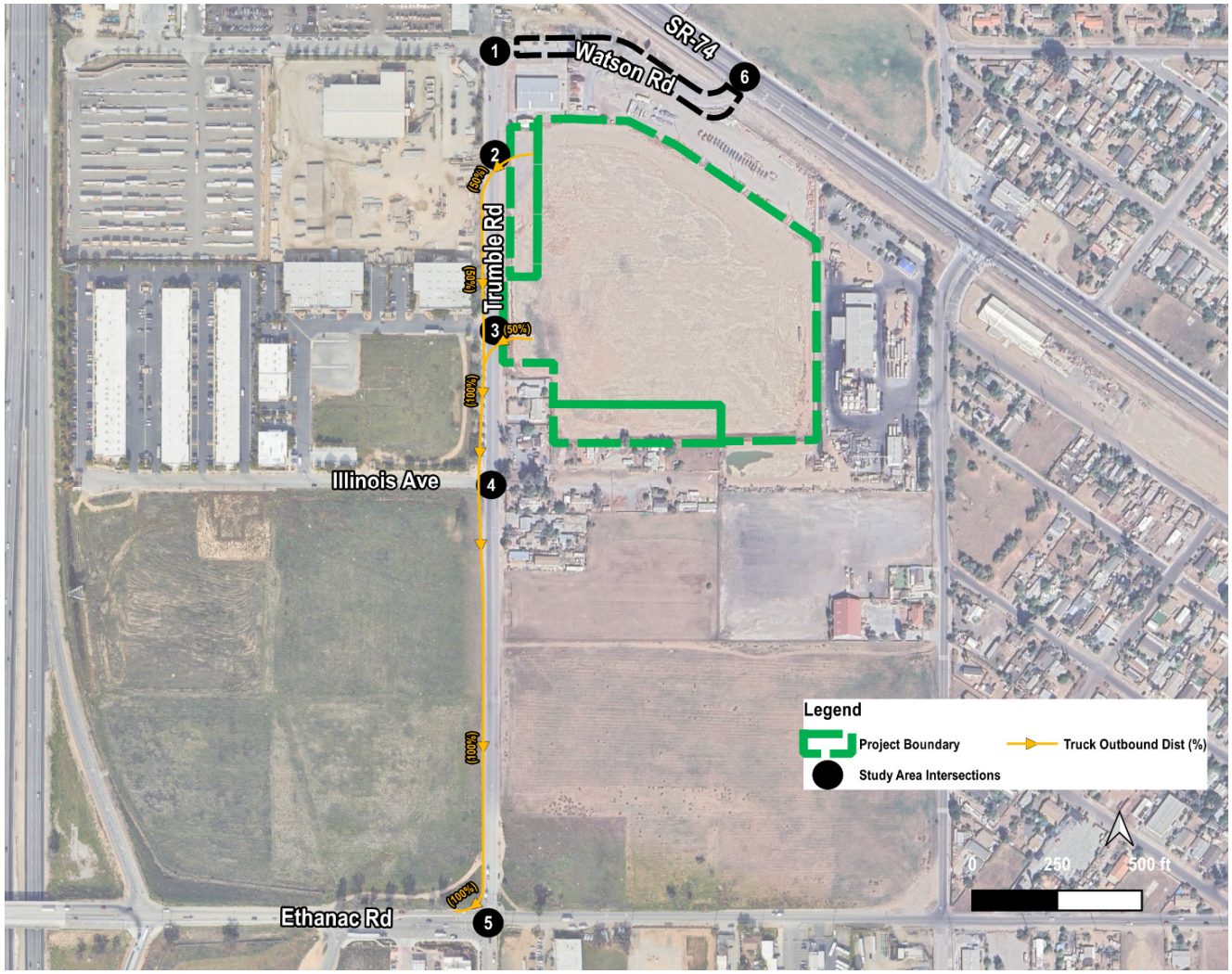


FIGURE 6

XX%(YY%) Inbound%(Outbound%) Distribution

Trumble Road and Watson Road Warehouse
Project Trip Distribution - Trucks

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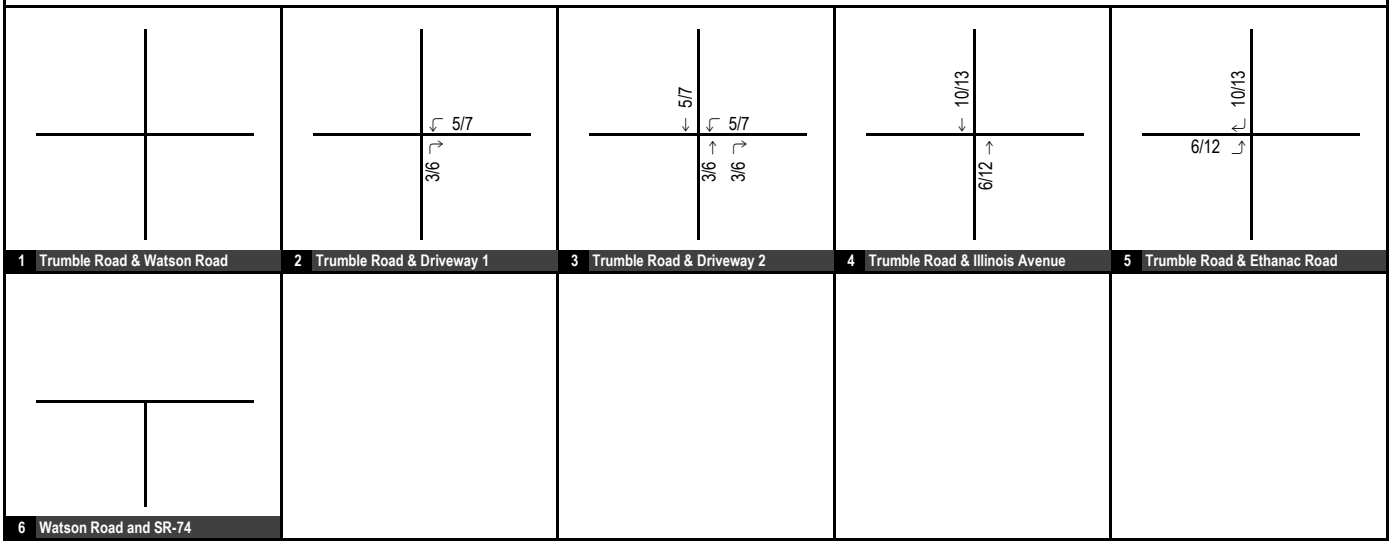
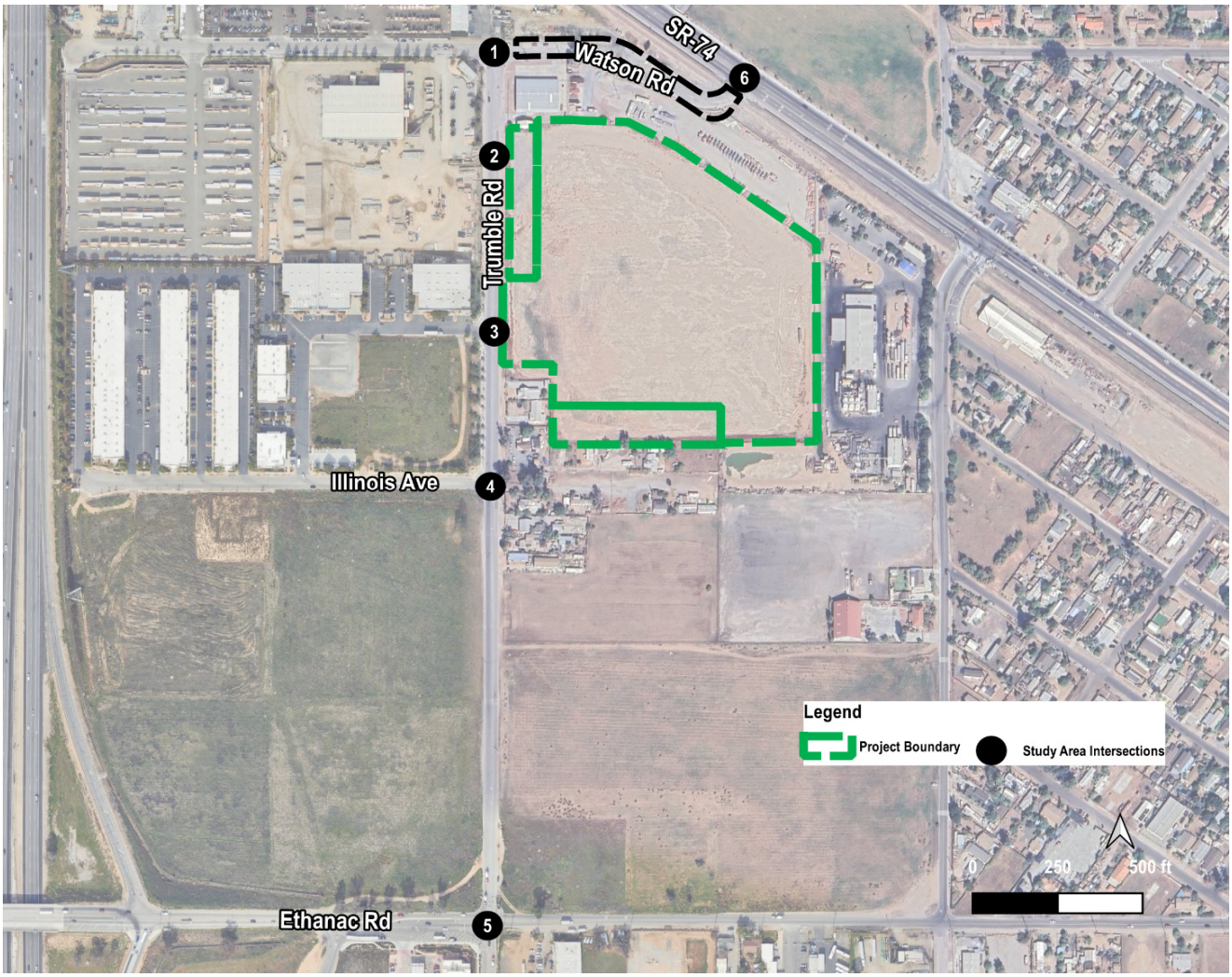


FIGURE 7

XX/YY AM/PM Peak Hour Project Trips

Trumble Road and Watson Road Warehouse
Project Trip Assignment - Trucks

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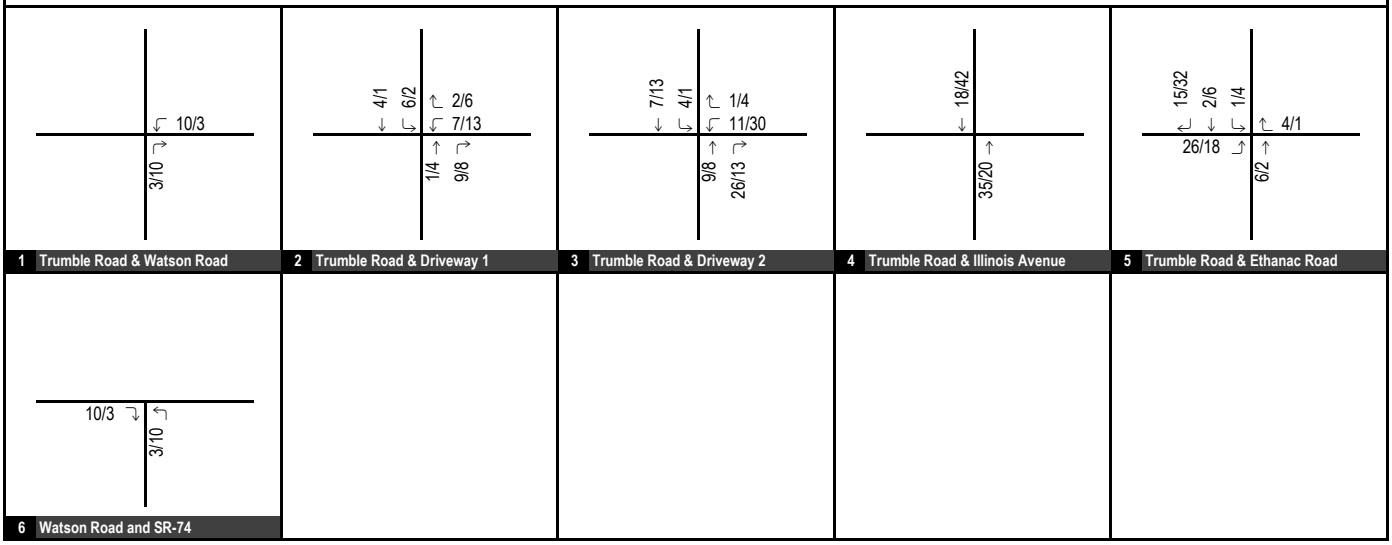


FIGURE 8

XX/YY AM/PM Peak Hour Project Trips

Trumble Road and Watson Road Warehouse
Total Project Trip Assignment

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Table B : Intersection LOS Criteria

LOS	Description of Drivers' Perception and Traffic Operation	Delay in Seconds	
		Unsignalized	Signalized
A	This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable, or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.	≤ 10	≤ 10
B	This level is 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 and ≤ 15	> 10 and ≤ 20
C	This level is typically assigned when 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.	> 15 and ≤ 25	> 20 and ≤ 35
D	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.	> 25 and ≤ 35	> 35 and ≤ 55
E	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.	> 35 and ≤ 50	> 55 and ≤ 80
F	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.	> 50	> 80

Source: *Highway Capacity Manual, 7th Edition*

4.2 Roadway Segment Levels of Service

The City evaluates roadway segments by comparing average daily traffic (ADT) volumes to street capacity. Capacity is a measure of the ability of the street system to meet and serve the demands placed on it. Table C illustrates the Roadway Segment Capacity Thresholds based on roadway classification. The capacity of a roadway is affected by a number of factors, including street width, roadway design, number of travel lanes, number of roadway intersections, number of driveways, presence of on-street parking, and traffic signal cycle length. Roadway capacity values are based on the City's LOS Traffic Study Guidelines.

4.3 Levels of Service Thresholds

All the study intersections except for the intersection of Watson Road and SR-74 fall under the shared jurisdiction of City of Menifee and City of Perris. Level of service thresholds for both cities are described below and stricter thresholds out of the two are applied to evaluate project related impact.

City of Menifee - The City of Menifee LOS Traffic Study Guidelines identifies LOS D as the standard for acceptable operating conditions for intersections except at constrained intersections and roadway segments in close proximity to I-215, where LOS E is accepted during peak hours. Intersections or roadway segments not meeting the required LOS may be conditioned for improvements towards meeting the LOS standards. Based on the guidelines, a project would not meet the LOS standard under the following conditions:

- If the pre-project condition at an intersection or roadway segment is at or better than the minimum acceptable LOS (LOS D, or LOS E at constrained locations near I-215) and the addition of project trips results in unacceptable LOS (LOS E or LOS F).
- If the pre-Project condition is LOS E or F, and the Project adds 50 or more peak hour trips to the intersection or roadway segment, the impact would be considered a "cumulative" project impact in which the project would be required to contribute a fair share payment toward reducing the impact.

City of Perris - The City of Perris does not have TIA guidelines but generally follows the Riverside County Transportation Analysis Guidelines for Level of Service and Vehicle Miles Traveled (December 2020). Based on these guidelines the City maintains the following target level of service:

Table C: Roadway Segment Capacity Thresholds

Roadway Classification	Number of Lanes	Maximum Two-Way Average Daily Traffic(ADT) Volume		
		LOS C	LOS D	LOS E
Collector	2	10,400	11,700	13,000
Secondary	4	20,700	23,300	25,900
Major	4	27,300	30,700	34,100
Arterial	4	29,600	33,400	37,000
Mountain Arterial	2	12,900	14,500	16,100
Mountain Arterial	4	25,500	28,700	31,900
Urban Arterial	6	45,000	50,600	56,300
Urban Arterial	8	69,000	78,000	87,000
Expressway	4	53,000	58,000	64,000
Expressway	6	79,000	87,000	95,000
Expressway	8	106,000	119,000	132,000
Freeway	4	80,000	91,000	100,000
Freeway	6	102,000	123,000	132,000
Freeway	8	136,000	164,000	176,000
Freeway	10	169,000	205,000	220,000
Ramp[1]	1	16,000	18,000	20,000

Footnotes:

1. Ramp Capacity is given as a one-way traffic volume.

Source: Riverside County Transportation Department

- LOS D along all City maintained roads (Including intersections) and LOS D along I-215 and SR-74 (including intersections with local streets and roads). An exception to the local road standard is LOS E, at intersections of any Arterials and Expressways with SR-74, the Ramona-Cajalco Expressway, or at I-215 freeway ramps.
- LOS E may be allowed within the boundaries of the Downtown Specific Plan Area to the extent that it would support transit-oriented development and walkable communities.

The City of Perris has established thresholds of traffic impacts to determine whether the addition of project-generated trips (or alternative-generated trips) results in a project traffic impact and requires improvements. Project related traffic impacts are evaluated based on the following criteria:

- A project-related traffic impact is considered direct when a study intersection operates at an acceptable Level of Service for existing conditions (without the project) and the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection delay to increase by 2 seconds or more and causes the intersection to operate at an unacceptable Level of Service for existing plus project conditions.
- A project-related traffic impact is considered direct when a study intersection operates at an unacceptable Level of Service for existing conditions (without the project) and the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection delay to increase by 2 seconds or more.
- A cumulative impact is considered direct when a study intersection is forecast to operate at an acceptable Level of Service without the project and with the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection delay to increase by 2 seconds or more and causes the intersection to operate at an unacceptable Level of Service.
- A cumulative impact is considered an indirect traffic impact when a study intersection is forecast to operate at an unacceptable Level of Service with the addition of cumulative/background traffic and the project contributes 50 or more a.m. or p.m. peak hour project trips and causes the intersection delay to increase by 2 seconds or more.

5.0 CUMULATIVE PROJECTS

Information regarding cumulative projects was obtained from the City of Menifee's Land Development/CIP Projects List (September 2024). All approved and pending development projects located within a 3-mile radius of the project site were identified and included in the analysis. This included projects from City of Menifee and Perris. The list of cumulative projects is provided in Appendix B and location of cumulative projects is shown in Figure 9.

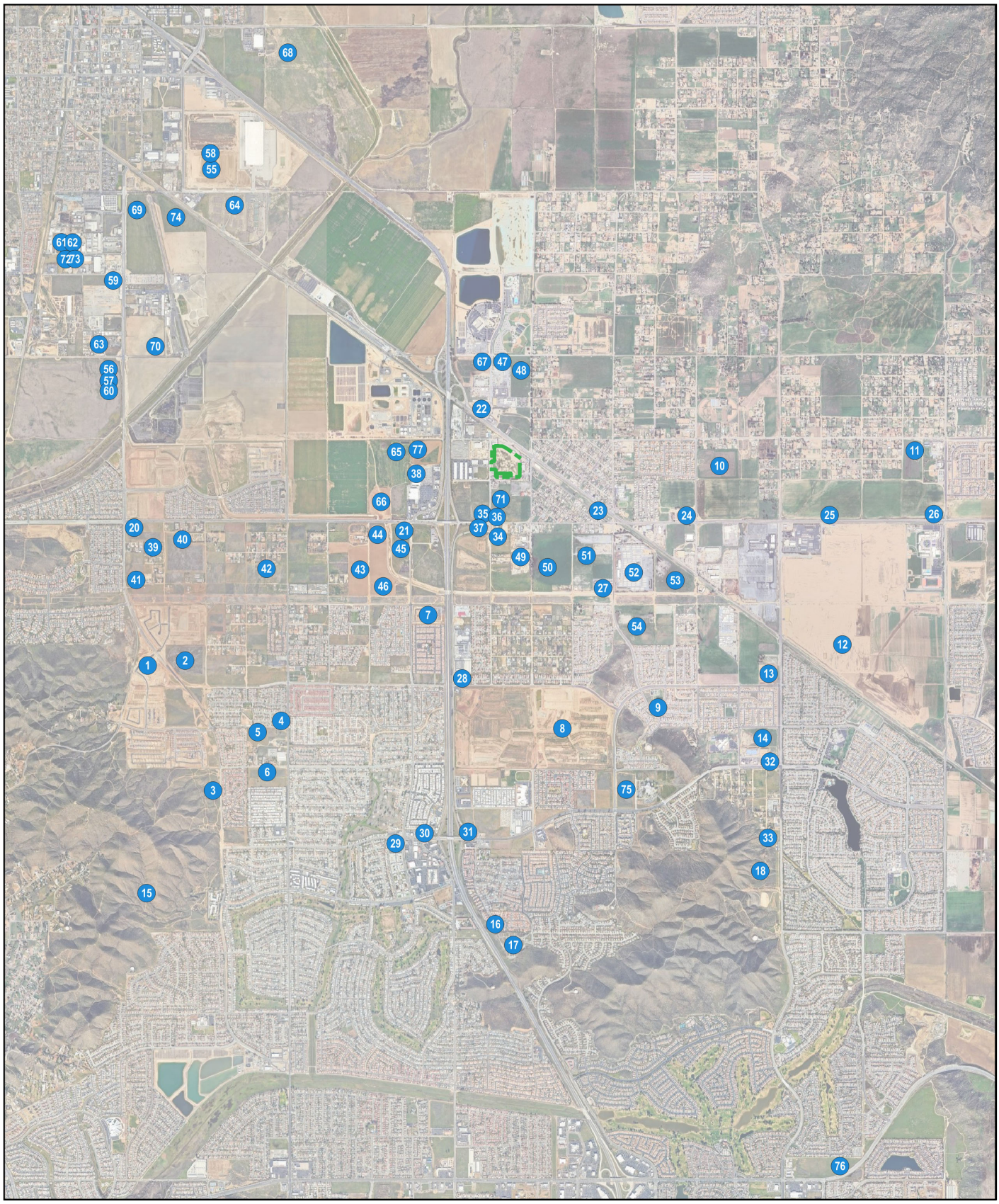
Some of the citywide development projects are phased over multiple years. Depending on the timing of the proposed opening year cumulative scenario, the City of Menifee LOS Traffic Study Guidelines recommend using absorption rates that assume partial buildout of these phased projects. For a typical opening year scenario that is about 2-3 years into the future following absorption rates are recommended:

- <= 100 dwelling units (assume 100% complete)
- 101 to 249 dwelling units (assume 50% complete)
- >= 250 dwelling units (assume 25% complete)
- Non-residential uses (assume 100% complete)

Trip generation for cumulative projects is provided in Appendix C and net trip assignment for cumulative projects is shown in Figure 10.

6.0 VOLUME DEVELOPMENT METHODOLOGY

Forecast traffic volumes at study intersections were developed based on discussion with City staff and consistent with the City of Menifee LOS Traffic Study Guidelines. This section discusses the volume development methodology used to forecast future traffic volumes.



Legend

Cumul Project No.

Project Boundary

FIGURE 9

Trumble Road and Watson Road Warehouse
Cumulative Project Locations

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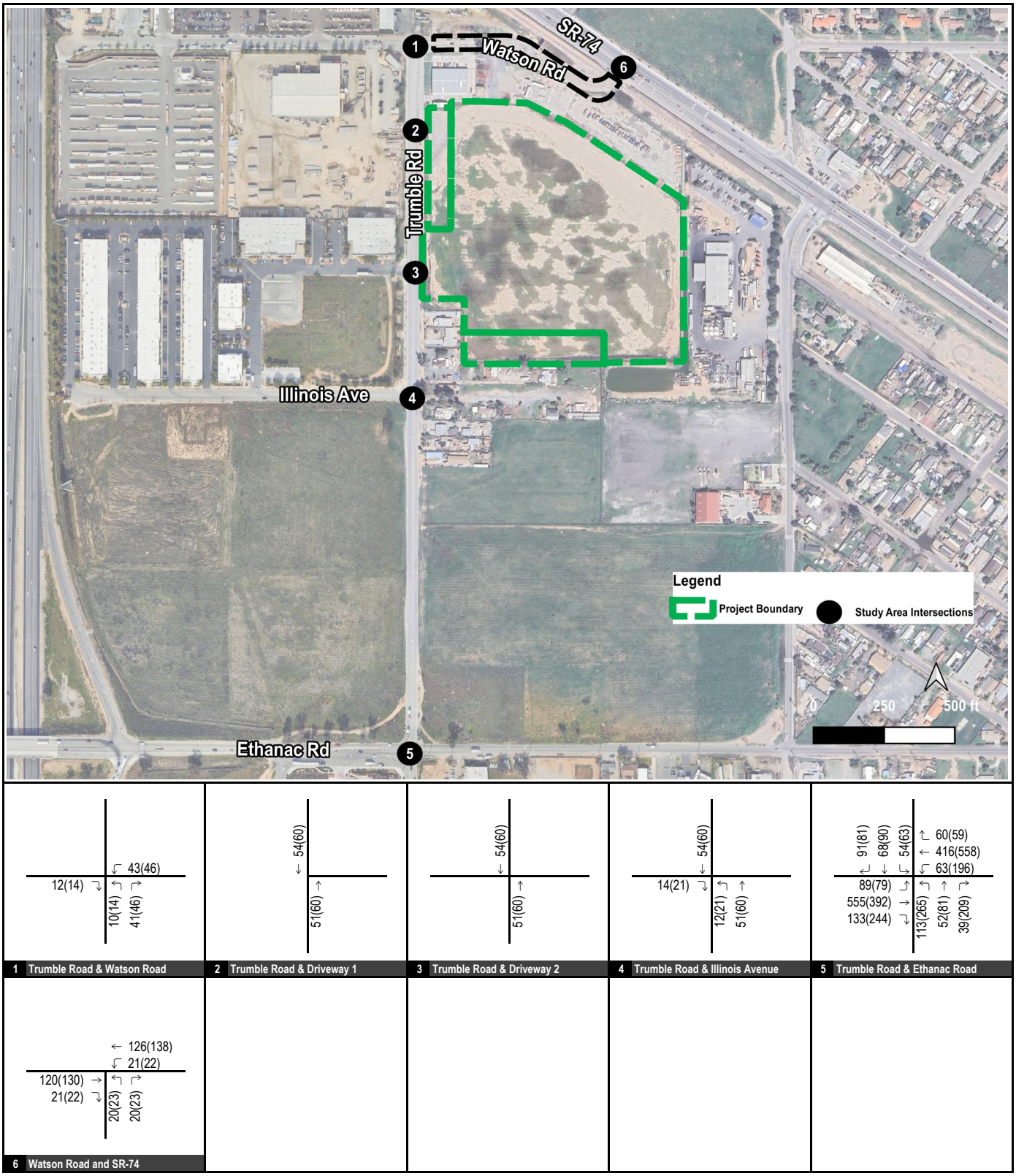


FIGURE 10

XX(YY) AM(PM) Trips

Trumble Road and Watson Road Warehouse
Cumulative Projects Net Trip Assignment

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6.1 Existing Traffic Volumes

Existing traffic volumes for intersections and roadway segments are based on peak hour intersection turn movement counts and daily counts collected by Counts Unlimited Inc. in February 2025. The counts included vehicle classification and are contained in Appendix D.

The vehicle classification counts were converted to Passenger Car Equivalent (PCE) volumes using PCE factors. Passenger Car Equivalent is the number of passenger cars that will result in the same operational conditions as a single heavy vehicle of a particular type under identical roadway, traffic, and control conditions. PCE factors are used to convert counts of heavy vehicles into counts of passenger cars such that a mixed flow of heavy and light vehicles is converted to an equivalent traffic stream consisting entirely of passenger cars. The City Guidelines does not provide PCE factors therefore PCE factors provided in the County of Riverside, *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled* (December 2020) were used for this analysis. Consistent with the County of Riverside guidelines, PCE volumes at the study intersections were calculated by using a PCE factor of 1.5 for 2-axle trucks, 2.0 for 3-axle trucks and 3.0 for trucks with 4 or more axles. Detailed volume development worksheets are included in Appendix E.

Traffic volumes for Existing Plus Project conditions were developed by adding trips generated by the proposed project to the existing traffic volumes. Detailed volume development worksheets for intersection and roadway segments are included in Appendix E.

6.2 Opening Year Traffic Volumes

Traffic volumes for Opening Year Without Project conditions for intersection and roadway segments were developed by applying an annual growth rate of 3 percent per year for 1 year (2025 to 2026) to the existing traffic volumes.

Traffic volumes for Opening Year With Project conditions for intersection and roadway segments were developed by adding trips generated by the proposed project to the Opening Year Without Project traffic volumes. Detailed volume development worksheets are included in Appendix E.

6.3 Opening Year Cumulative Traffic Volumes

Traffic volumes for Opening Year Cumulative Without Project conditions for intersection and roadway segments were developed by adding trips generated by the cumulative projects to the Opening Year Without Project traffic volumes. Detailed volume development worksheets are included in Appendix E.

Traffic volumes for Opening Year Cumulative With Project conditions for intersection and roadway segments were developed by adding trips generated by the proposed project to the Opening Year Cumulative Without Project traffic volumes. Detailed volume development worksheets are included in Appendix E.

6.4 Horizon Year Traffic Volumes

Future build-out year (2050) without project traffic volumes were developed using RIVCOM. The base year for the traffic model is 2018 and the forecast year is 2045. The difference between the modeled 2018 and 2045 peak period directional arterial traffic volumes (for each intersection approach and departure) was identified from loaded network model plots. This difference defines the growth in traffic over the 27-year period. This incremental growth in peak period approach and departure volumes were factored in developing the incremental change in peak hour volumes. RIVCOM uses a three-hour a.m. peak period and a four-hour p.m. peak period. Southern California Association of Governments (SCAG), the regional Metropolitan Transportation Organization (MPO) has established that the a.m. peak hour comprises 38 percent of the a.m. peak period and that the p.m. peak hour comprises 28 percent of the p.m. peak period. Therefore, the incremental changes in peak period volumes were multiplied by the appropriate factor to develop incremental changes in peak hour volumes. The incremental growth in approach and departure volumes between 2018 and 2045

was factored to reflect the forecast growth between the year of the ground counts (2025) and 2050. For this purpose, linear growth between 2018 and year 2045 was assumed. Since the increment between 2025 and 2050 is 25 years of the 27-year time span, a factor of 92.59 percent (i.e., 25/27) was used. This forecast growth in approach and departure volumes was added to the 2025 ground counts, resulting in post-processed forecast year 2050 link volumes. Future build-out year (2050) without project turn volumes were developed using existing turn volumes and the future approach and departure volumes, based on the methodologies contained in National Cooperative Highway Research Program Report (NCHRP) 765: *Analytical Travel Forecasting Approaches for Project-Level Planning and Design* (Transportation Research Board, June 2014). At some locations, forecast turning movements were forecast to be less than those under existing conditions. This can be attributed to network improvements, planned transit, or changes in land use. Therefore, these turning movements were adjusted by applying a growth factor of five percent. Detailed volume development worksheets are included in Appendix E.

7.0 EXISTING CONDITIONS

This section discusses the existing transportation conditions in the study area.

7.1 Existing Roadway Conditions

The Menifee Roadway Classification has organized the roadways into the following six street types: Expressways, Urban Arterial, Arterial, Major, Secondary and Collector/Rural Collector and Local Streets.

- **Expressway/Limited Access Conventional Highway**: The Expressway/Limited Access Conventional Highway accommodates 6 to 8 through travel lanes, applicable to the Ethanac Road/SR-74 east-west corridor on the northern edge of the City of Menifee.
- **Urban Arterial**: The Urban Arterial is generally a 6-lane section with a curbed median.
- **Arterial**: An Arterial is a 4-lane section with a raised median. Shoulders on these roadways may accommodate exclusive bike lanes or share NEV/bike lanes. Sidewalks may be curb-adjacent or separated from the roadway by a landscaped parkway or on-street parking.
- **Major**: The Major is a 4-lane section with a painted median. Shoulders on these roadways may accommodate exclusive bike lanes or shared NEV/bike lanes. Sidewalks may be curb adjacent or separated from the roadway by a landscaped parkway.
- **Secondary**: The Secondary is a 4-lane roadway that provides median turn lanes and bike lanes or shared NEV/bike lanes when median turn lanes are not needed. The Secondary roadway provides a 100-foot' right-of-way.
- **Collector/Rural Collector and Local Streets**: Collector/Rural Collector and Local streets provide an important function for neighborhood-to-neighborhood interaction involving autos, bikes, pedestrians, and NEVs/golf carts. These are 2-lane, low-to-moderate speed connections. They provide an alternative to traveling on higher-capacity and higher-speed roads in order to navigate through the City of Menifee for short trips.

Regional access to the project site is provided by Interstate 215 to the west. Local access is provided by the following roadways:

- **Trumble Road** is a is a two-lane local roadway oriented in the north-south direction. In the City's General Plan, it is classified as a Collector (2 Lanes, Undivided) roadway.
- **Watson Road** is a is a two-lane local roadway oriented in the east-west direction in the project vicinity and extends west of Highway 74. In the City's General Plan, it is classified as a Collector (2 Lanes, Undivided) roadway.
- **Illinois Avenue** is a is a two-lane local roadway oriented in the east-west direction and extends west of Trumble Road. East of Trumble Road Illinois Avenue is an unpaved driveway.

- **Ethanac Road** is oriented in the east-west direction. It is a four-lane divided roadway west of Trumble Road and a two-lane undivided roadway east of Trumble Road. In the City's General Plan, it is classified as an Expressway (6 to 8 Lanes, Divided) roadway.
- **Highway 74** is a is a four-lane roadway oriented in the east-west direction. In the City's General Plan, it is classified as a Major (4 Lanes, Divided) roadway.

7.2 Existing Transit Service, Bicycle & Pedestrian Facilities

Public transportation services within the City of Menifee includes bus transit service provided by the Riverside Transit Agency (RTA) and commuter rail service provided by Metrolink.

Bus Service: RTA has one route that provides service near the project site. This service is further described below.

- **Route 28** provides service near the project site. The nearest stop is located at Hwy 74 west of Watson Road (approx. 0.3 miles from the project site). Route 28 provides service at varying headways during the day. Route 28 connects the project site to the Perris Station Transit Center towards the north and Hemet Valley Mall in Hemet towards east.

Commuter Rail Service: Commuter rail service is provided by Metrolink, which is operated by the Southern California Regional Rail Authority (SCRRA). Metrolink train service is available between the counties of Ventura, Los Angeles, San Bernardino, Orange, Riverside, and north San Diego. The area is served by the Perris – South Metrolink Station and is approximately 1.3 miles northwest of the project site.

Bicycle and Pedestrian Facilities: There are existing sidewalks on Trumble Road in the southbound direction between Watson Road and Illinois Avenue and South of Ethanac Road. There are no existing sidewalks on Trumble Road in the northbound direction bordering the project site. There is an existing sidewalk on Illinois Avenue in the westbound direction and on the Hwy 74 in the westbound direction. There are no existing bike lanes in the project vicinity.

Figure 11 illustrates the existing bus stop, Metrolink Station and existing sidewalks in the project vicinity.

7.3 Existing Conditions - Levels of Service

An intersection level of service (LOS) analysis was conducted for Existing Conditions to determine current circulation system performance. Figure 12 shows the existing lane geometrics and stop controls at the study intersections. Existing traffic volumes at study intersections are shown in Figure 13. The existing levels of service for the study area intersections are summarized in Table D. Detailed Level of Service (LOS) calculation worksheets are included in Appendix F. As shown in Table D, all existing study area intersections are currently operating at a satisfactory level of service during both a.m. and p.m. peak hours.

The existing levels of service for the study area roadway segments are summarized on Table E. As shown in Table E, the study area roadway segments are currently operating at satisfactory level of service.

7.4 Existing Plus Project Conditions - Levels of Service

An intersection level of service (LOS) analysis was conducted for existing plus project conditions to determine current circulation system performance. Existing Plus Project traffic volumes at study intersections are shown in Figure 14. The Existing Plus Project levels of service for the study area intersections are summarized in Table D. Detailed Level of Service (LOS) calculation worksheets are included in Appendix F. As shown in Table D, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours.

The existing plus project levels of service for the study area roadway segments are summarized in Table E. As shown in Table E, the study area roadway segments are forecast to operate at satisfactory level of service.



Legend

Project Boundary
Bus Stops
Perris-South Metrolink Station
Sidewalks
Route 28

FIGURE 11

Trumble Road and Watson Road Warehouse
Existing Transit and Pedestrian Facilities

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1 Trumble Road & Watson Road	2 Trumble Road & Driveway 1	3 Trumble Road & Driveway 2	4 Trumble Road & Illinois Avenue	5 Trumble Road & Ethanac Road
Does Not Exist	Does Not Exist			

6 Watson Road and SR-74				

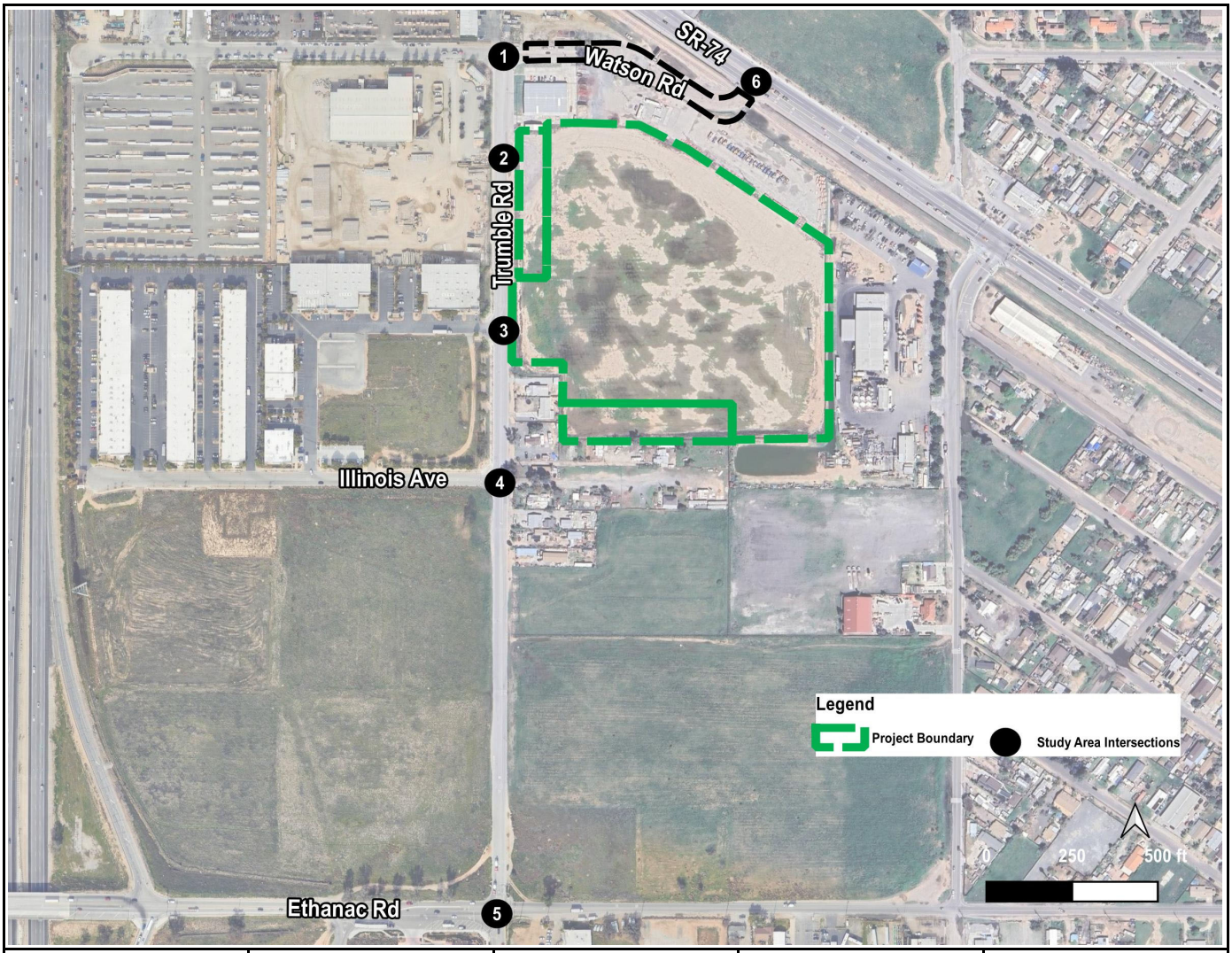
FIGURE 12

Legend

Signal
RT Overlap
Stop Sign
Defacto right turn

Trumble Road and Watson Road Warehouse
Existing Intersection Geometrics and Stop Control

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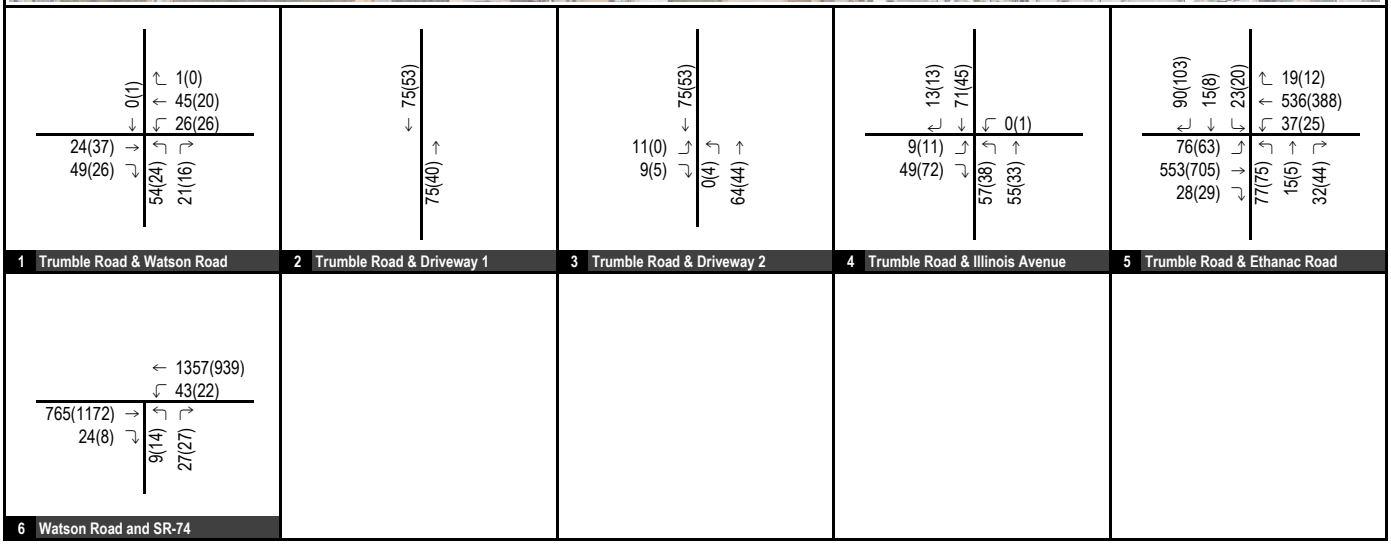


FIGURE 13

XX(YY) AM(PM) Trips

Trumble Road and Watson Road Warehouse
Existing Peak Hour Traffic Volumes

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Table D: Existing Levels of Service

Intersection	LOS Std.	Control	Existing				Existing With Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 . Trumble Road & Watson Road	D	TWSC	9.6	A	10.4	B	9.8	A	10.4	B
2 . Trumble Road & Driveway 1	D	TWSC	Does Not Exist		Does Not Exist		9.4	A	0	A
3 . Trumble Road & Driveway 2	D	TWSC		A	8.6	A	9.4	A	9.3	A
4 . Trumble Road & Illinois Avenue	D	TWSC	10	A	10.1	B	10.2	B	10.5	B
5 Trumble Road & Ethanac Road	D	Signal	26.4	C	23.7	C	27.3	C	24.5	C
6 Watson Road and SR-74	D	TWSC	14.3	B	18.1	C	15	B	20.3	C

Notes:

* Exceeds LOS Standard

TWSC = Two-Way Stop Control; For TWSC intersections, reported delay is for worst-case movement.

LOS = Level of Service

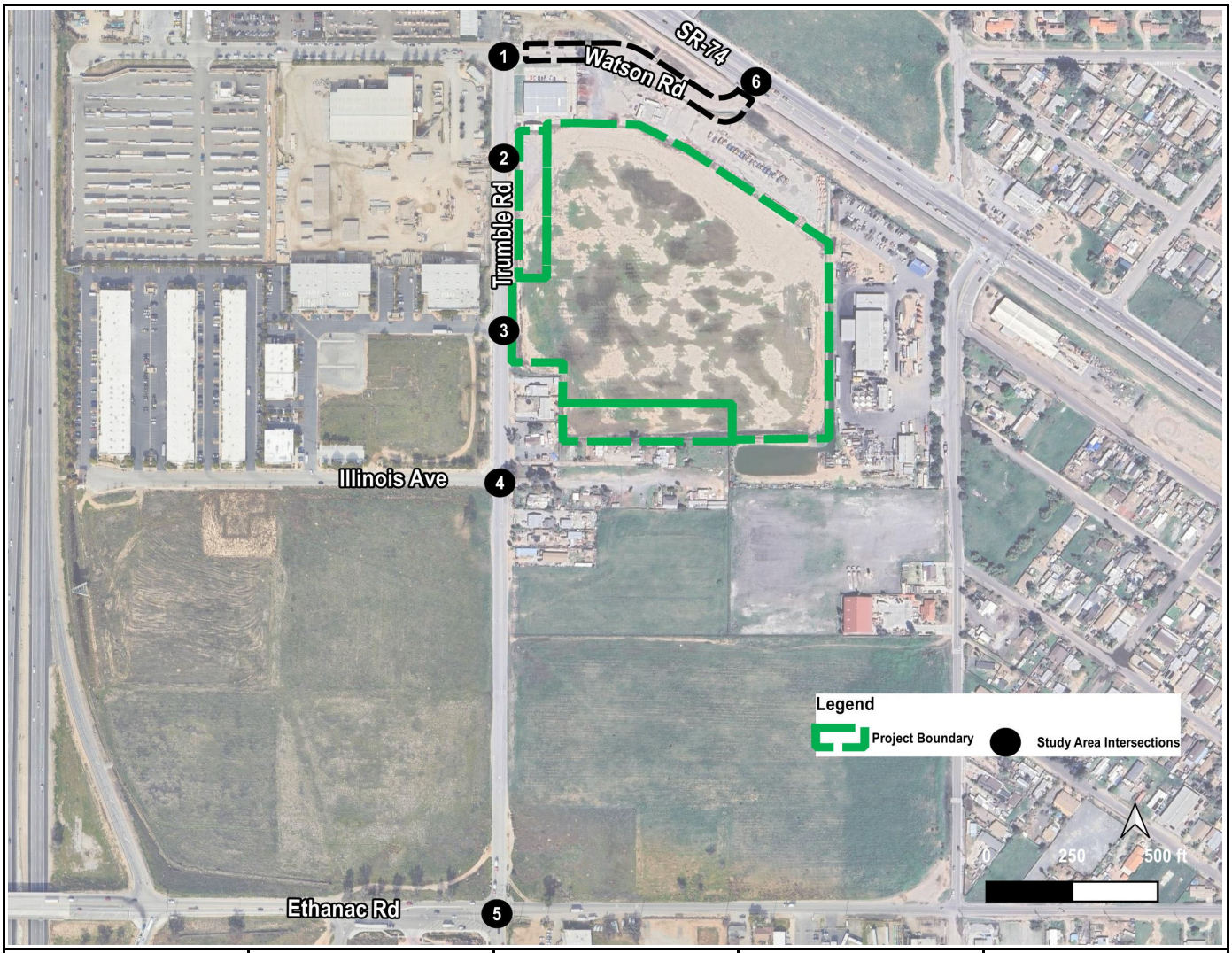
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Table E: Existing Roadway Segment Levels of Service

Roadway Segment	LOS Standard	Classification	Roadway Capacity	Without Project			With Project			V/C Delta
				Daily Volume	V/C	LOS	Daily Volume	LOS	V/C	
1 . Trumble Road from Watson Road to Driveway 1	D	Collector	13,000	1,968	0.151	A	2,060	A	0.158	0.007
2 . Trumble Road from Driveway 1 to Driveway 2	D	Collector	13,000	1,796	0.138	A	2,134	A	0.164	0.026
3 . Trumble Road from Driveway 2 to Illinois Avenue	D	Collector	13,000	1,850	0.142	A	2,622	A	0.202	0.059
4 . Trumble Road from Illinois Avenue to Ethanac Road	D	Collector	13,000	3,050	0.235	A	3,820	A	0.294	0.059

Notes:

LOS = Level of Service, * = Exceeds Level of Service



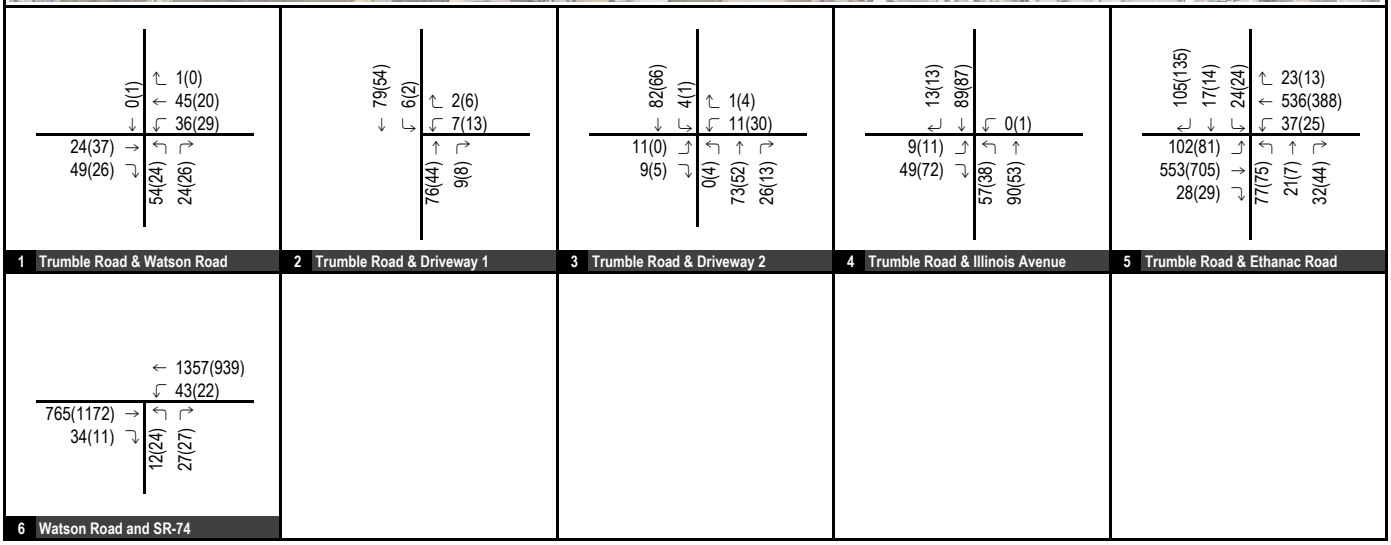


FIGURE 14

XX(YY) AM(PM) Trips

Trumble Road and Watson Road Warehouse
Existing Plus Project Peak Hour Traffic Volumes

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8.0 OPENING YEAR (2026) CONDITIONS

This section discusses opening year transportation conditions in the study area. It is anticipated that the project will open in 2026. For the opening year 2026 conditions transit service and pedestrian facilities are anticipated to remain the same as under existing conditions. Figure 15 shows the opening year lane geometrics and stop controls at the study intersections.

8.1 Opening Year Without Project - Levels of Service

An intersection level of service (LOS) analysis was conducted for opening year conditions to determine current circulation system performance. Opening year without project traffic volumes at study intersections are shown in Figure16. The opening year without project levels of service for the study area intersections are summarized in Table F. Detailed Level of Service (LOS) calculation worksheets are included in Appendix F. As shown in Table F, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours.

The opening year without project levels of service for the study area roadway segments are summarized on Table G. As shown in Table G, the study area roadway segments are forecast to operate at a satisfactory level of service.

8.2 Opening Year With Project- Levels of Service

An intersection level of service (LOS) analysis was conducted for opening year with project conditions to determine current circulation system performance. Opening year with project traffic volumes at study intersections are shown in Figure17. The opening year with project levels of service for the study area intersections are summarized in Table F. Detailed Level of Service (LOS) calculation worksheets are included in Appendix F. As shown in Table F, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours.

The opening year project levels of service for the study area roadway segments are summarized in Table G. As shown in Table G, the study area roadway segments are forecast to operate at satisfactory level of service.

9.0 OPENING YEAR (2026) CUMULATIVE CONDITIONS

This section discusses opening year cumulative transportation conditions in the study area. For the opening year cumulative conditions, transit service and pedestrian facilities are anticipated to remain the same as under existing conditions.

9.1 Opening Year Cumulative Without Project - Levels of Service

An intersection level of service (LOS) analysis was conducted for opening year conditions to determine current circulation system performance. Opening year without project traffic volumes at study intersections are shown in Figure 18. The opening year cumulative without project levels of service for the study area intersections are summarized in Table H. Detailed Level of Service (LOS) calculation worksheets are included in Appendix F. As shown in Table H, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours with the exception of the following:

- Trumble Road and Ethanac Road (a.m. and p.m. peak hours).

The opening year cumulative without project levels of service for the study area roadway segments are summarized in Table I. As shown in Table I, all study area roadway segments are forecast to operate at a satisfactory level of service.

9.2 Opening Year Cumulative With Project - Levels of Service

An intersection level of service (LOS) analysis was conducted for opening year cumulative with project conditions to determine current circulation system performance. Opening year cumulative with project traffic volumes at study intersections are shown in Figure19. The opening year cumulative with project levels of service for the study area intersections are summarized in Table H. Detailed Level of Service (LOS) calculation worksheets are included in Appendix F. As shown in Table H, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours with the exception of the following:



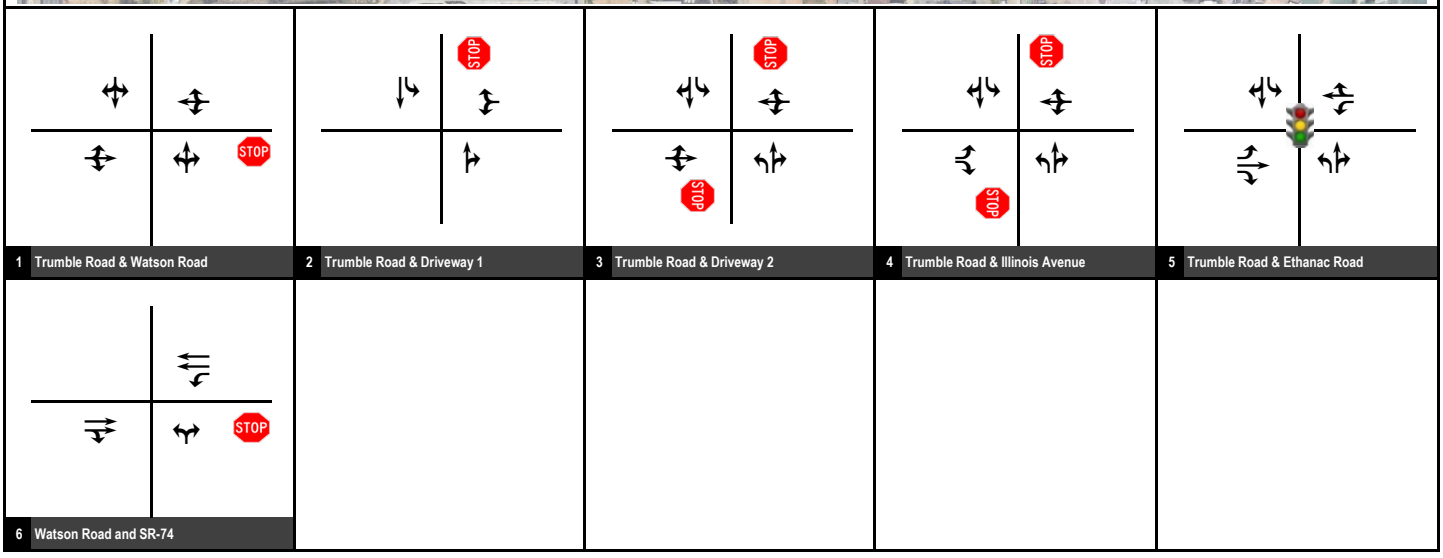


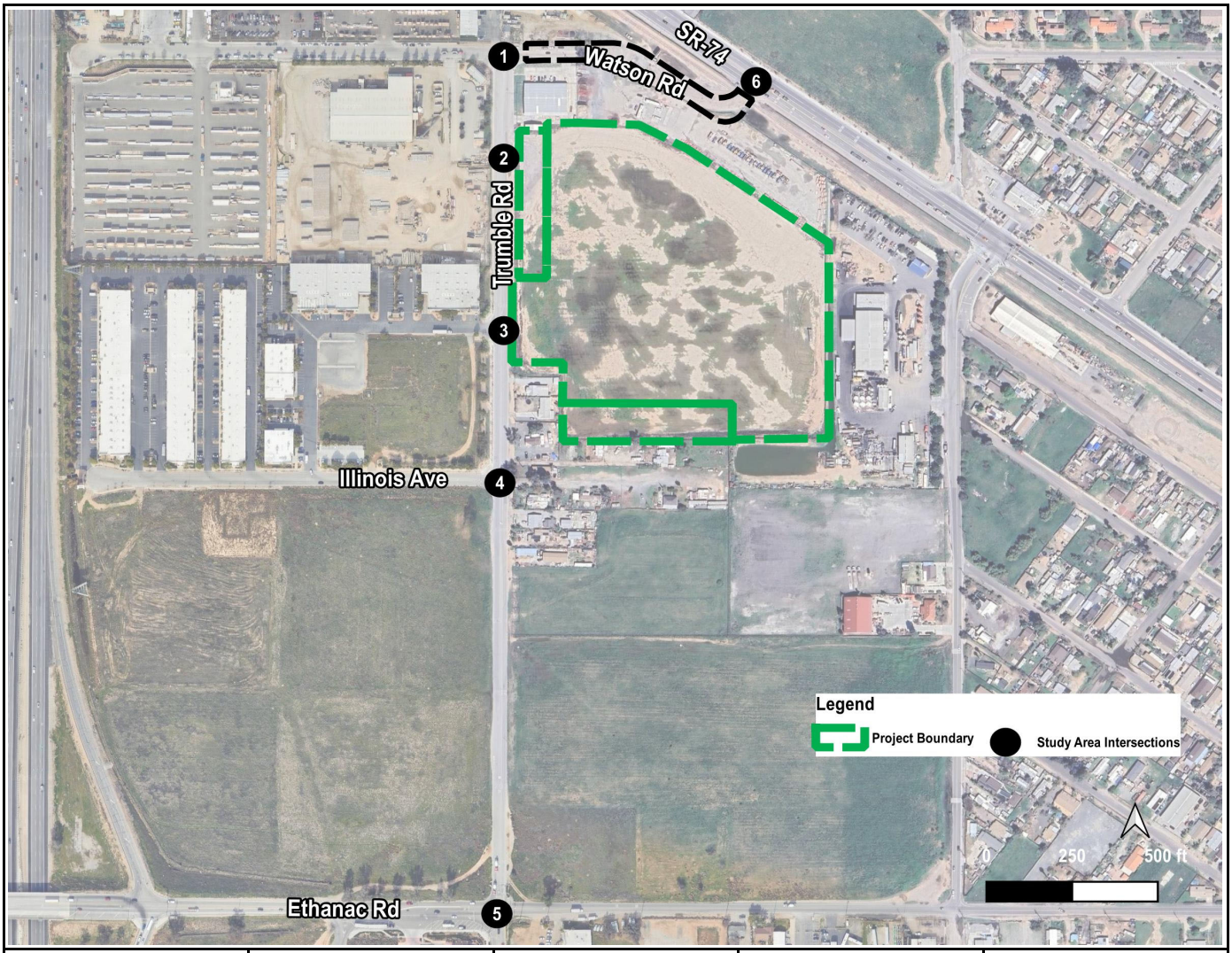
FIGURE 15

Legend

Signal
Stop Sign
RT Overlap
Defacto right turn

Trumble Road and Watson Road Warehouse
Opening Year Intersection Geometrics and Stop Control

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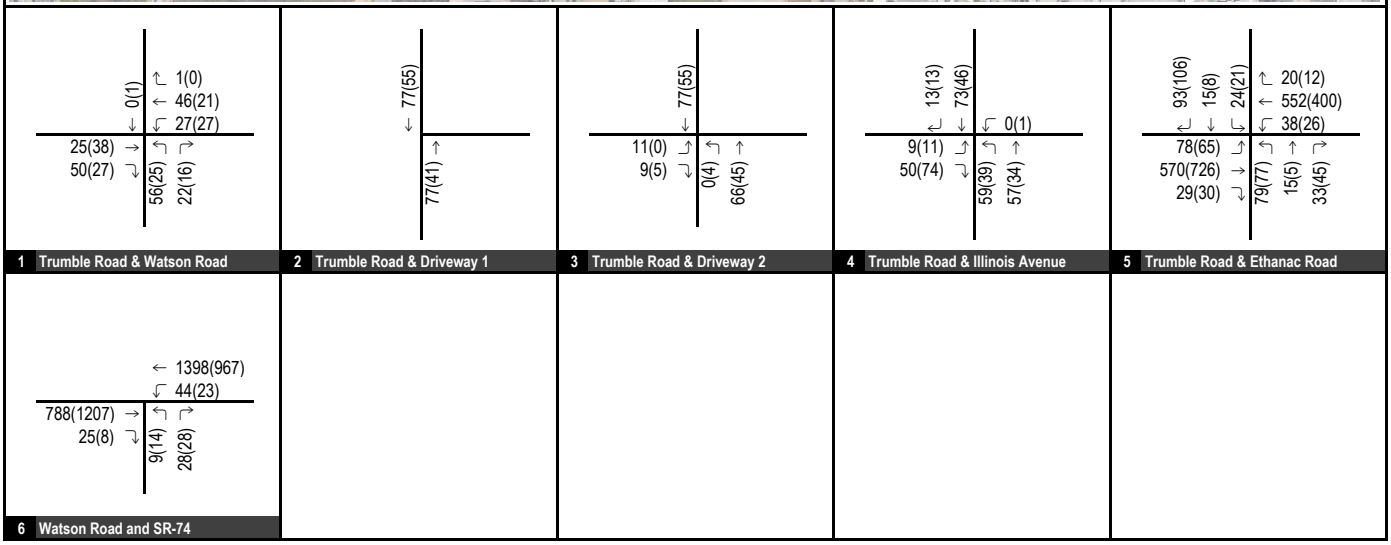


FIGURE 16

XX(YY) AM(PM) Trips

Trumble Road and Watson Road Warehouse
Opening Year Without Project Peak Hour Traffic Volumes

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Table F: Opening Year Levels of Service

Intersection	LOS Std.	Control	OY Without Project				OY With Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 . Trumble Road & Watson Road	D	TWSC	9.7	A	10.4	B	9.8	A	10.5	B
2 . Trumble Road & Driveway 1	D	TWSC	Does Not Exist		Does Not Exist		9.4	A	9.1	A
3 . Trumble Road & Driveway 2	D	TWSC	9.1	A	8.6	A	9.4	A	9.4	A
4 . Trumble Road & Illinois Avenue	D	TWSC	10	A	10.1	B	10.3	B	10.6	B
5 Trumble Road & Ethanac Road	D	Signal	26.9	C	24.4	C	27.8	C	25.3	C
6 Watson Road and SR-74	D	TWSC	14.5	B	18.6	C	15.3	C	21	C

Notes:

* Exceeds LOS Standard

TWSC = Two-Way Stop Control; For TWSC intersections, reported delay is for worst-case movement.

LOS = Level of Service

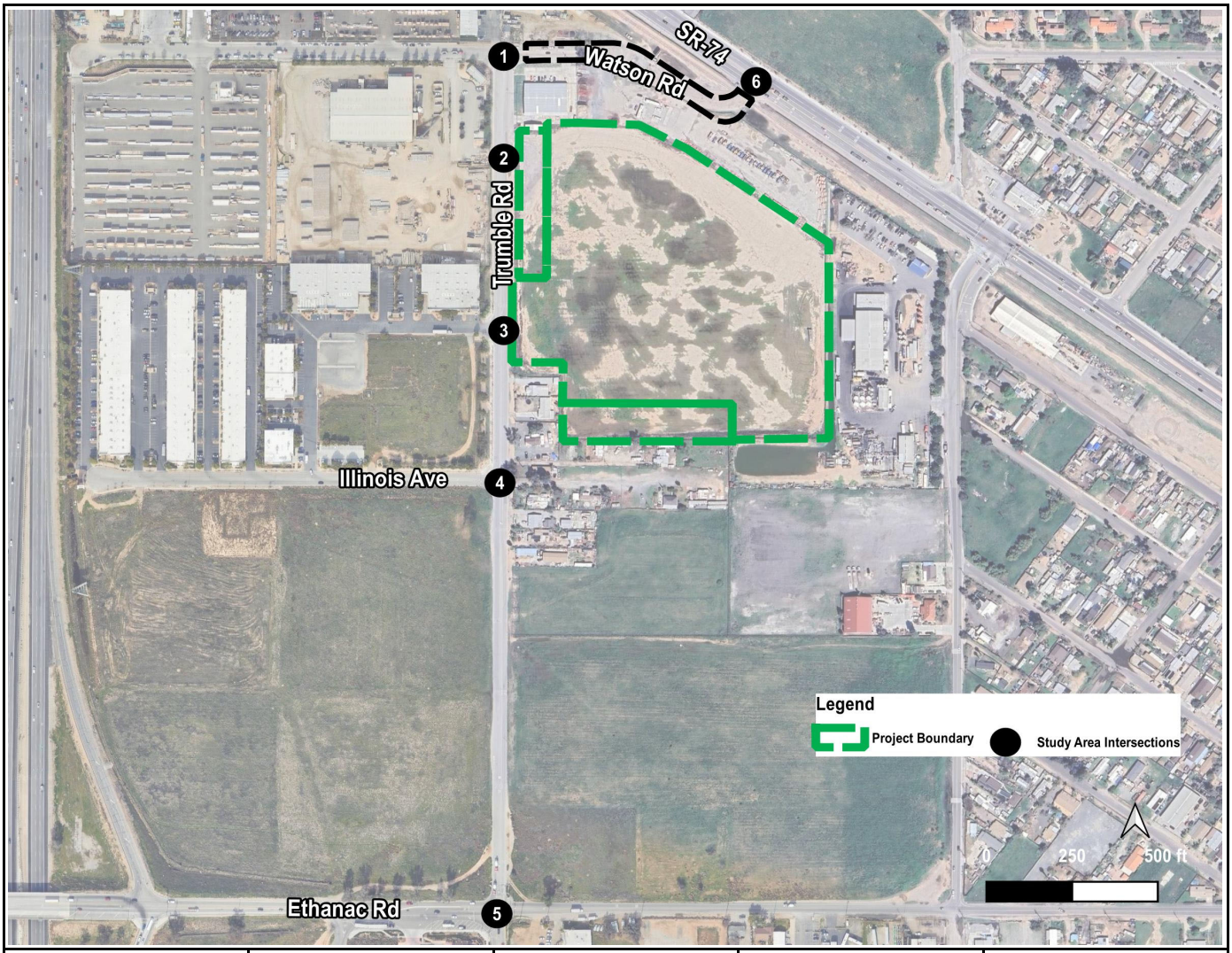
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Table G: Opening Year Roadway Segment Levels of Service

Roadway Segment	LOS Standard	Classification	Roadway Capacity	Without Project			With Project			V/C Delta
				Daily Volume	V/C	LOS	Daily Volume	LOS	V/C	
1 . Trumble Road from Watson Road to Driveway 1	D	Collector	13,000	2,027	0.156	A	2,119	A	0.163	0.007
2 . Trumble Road from Driveway 1 to Driveway 2	D	Collector	13,000	1,850	0.142	A	2,188	A	0.168	0.026
3 . Trumble Road from Driveway 2 to Illinois Avenue	D	Collector	13,000	1,905	0.147	A	2,677	A	0.206	0.059
4 . Trumble Road from Illinois Avenue to Ethanac Road	D	Collector	13,000	3,142	0.242	A	3,912	A	0.301	0.059

Notes:

LOS = Level of Service, * = Exceeds Level of Service



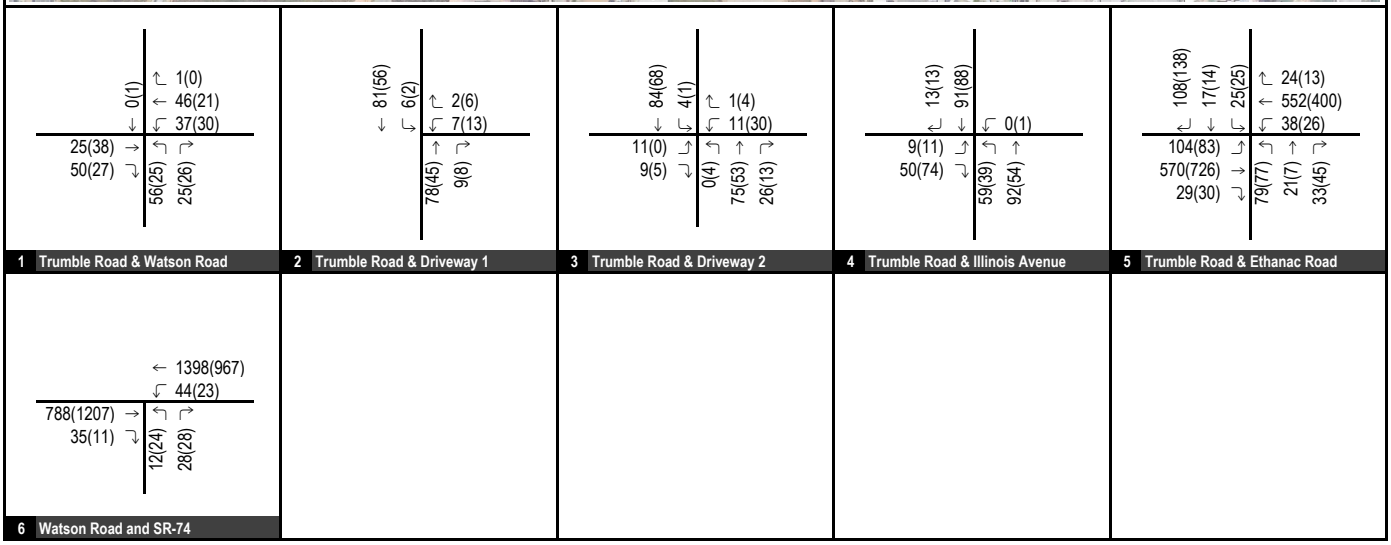
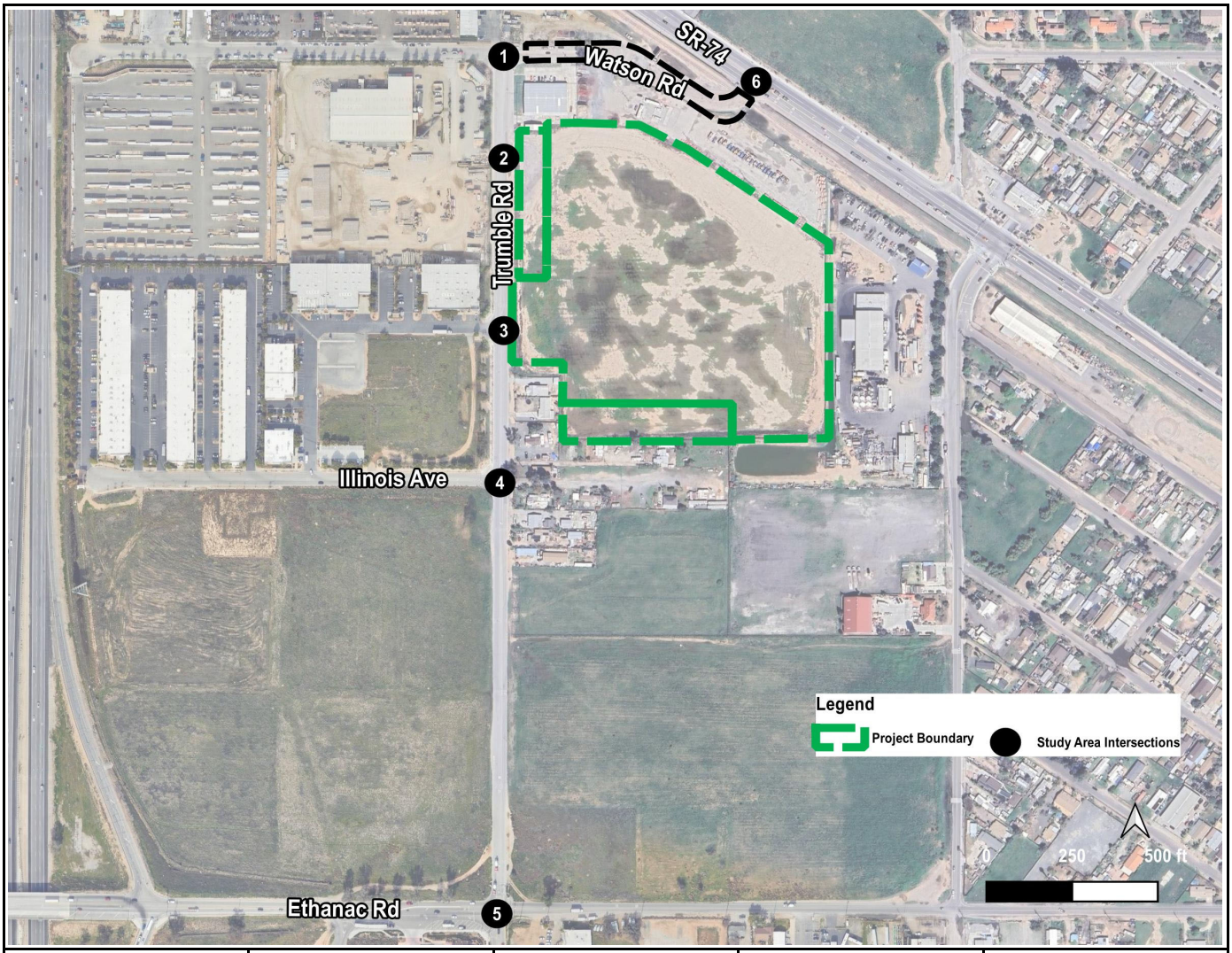


FIGURE 17

XX(YY) AM(PM) Trips

Trumble Road and Watson Road Warehouse
Opening Year With Project Peak Hour Traffic Volumes

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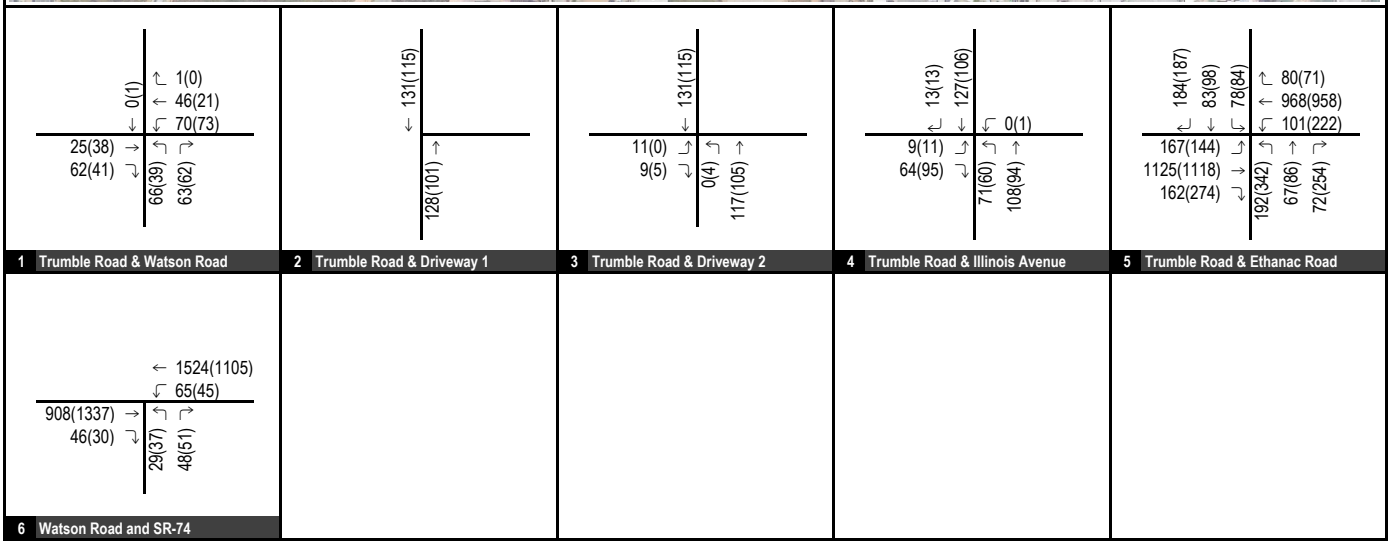


FIGURE 18

XX(YY) AM(PM) Trips

Trumble Road and Watson Road Warehouse
Opening Year Cumulative Without Project Peak Hour Traffic Volumes

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Table H: Opening Year Cumulative Levels of Service

Intersection	LOS Std.	Control	OY Cumulative Without Project				OY Cumulative With Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 . Trumble Road & Watson Road	D	TWSC	10.4	B	10.89	B	10.5	B	11	B
2 . Trumble Road & Driveway 1	D	TWSC	Does Not Exist		Does Not Exist		9.85	A	9.6	A
3 . Trumble Road & Driveway 2	D	TWSC	9.5	A	8.9	A	9.9	A	9.9	A
4 . Trumble Road & Illinois Avenue	D	TWSC	9.46	A	10.7	B	11	B	11.1	B
5 Trumble Road & Ethanac Road	D	Signal	>100	F *	>100	F *	>100	F *	>100	F *
6 Watson Road and SR-74	D	TWSC	18.9	C	28.7	D	19.6	C	32.5	D

Notes:

* Exceeds LOS Standard

TWSC = Two-Way Stop Control; For TWSC intersections, reported delay is for worst-case movement.

LOS = Level of Service

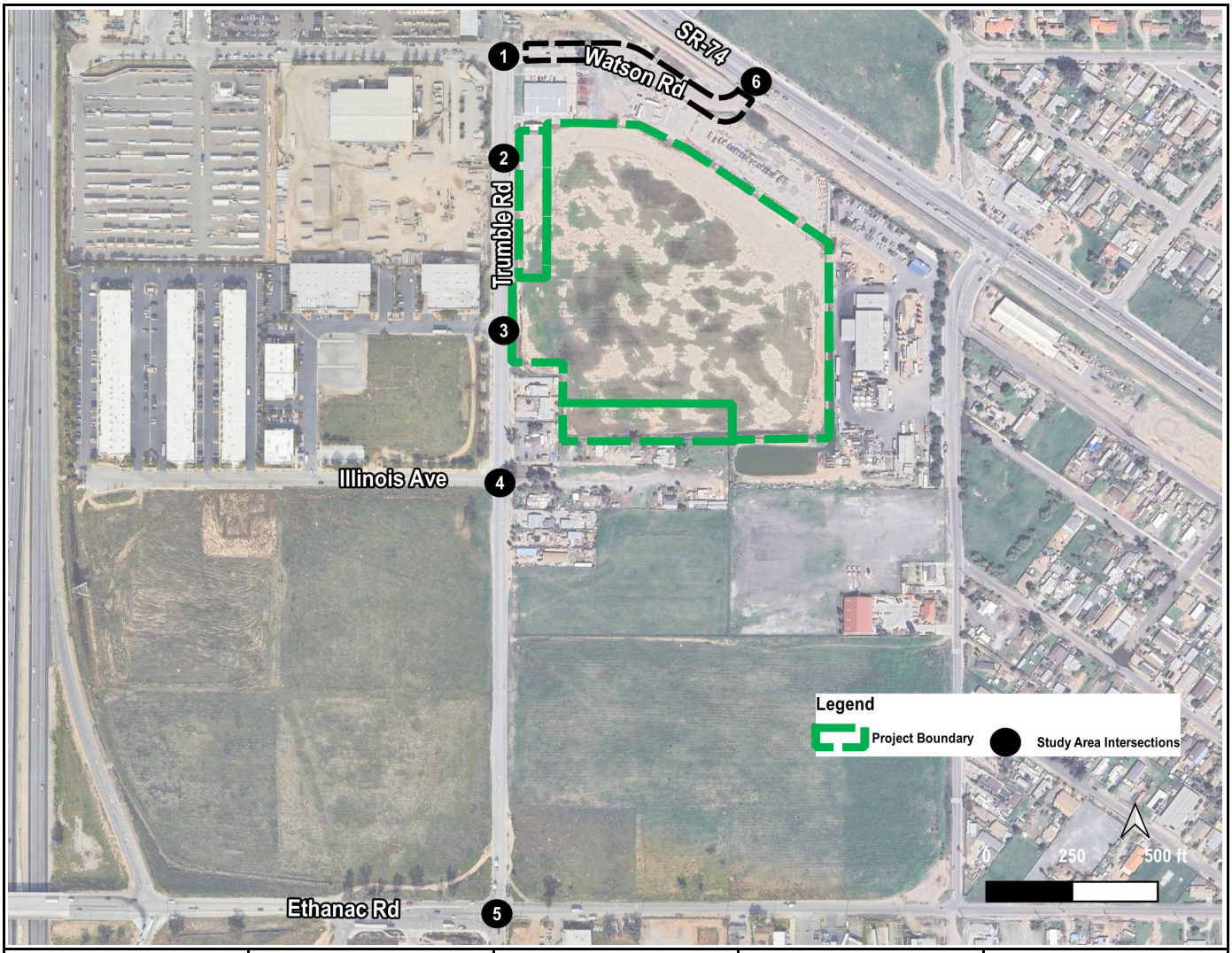
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Table I: Opening Year Cumulative Roadway Segment Levels of Service

Roadway Segment	LOS Standard	Classification	Roadway Capacity	Without Project			With Project			V/C Delta
				Daily Volume	V/C	LOS	Daily Volume	LOS	V/C	
1 . Trumble Road from Watson Road to Driveway 1	D	Collector	13,000	3,531	0.272	A	3,623	A	0.279	0.007
2 . Trumble Road from Driveway 1 to Driveway 2	D	Collector	13,000	3,356	0.258	A	3,694	A	0.284	0.026
3 . Trumble Road from Driveway 2 to Illinois Avenue	D	Collector	13,000	3,411	0.262	A	4,183	A	0.322	0.059
4 . Trumble Road from Illinois Avenue to Ethanac Road	D	Collector	13,000	8,735	0.672	B	9,505	C	0.731	0.059

Notes:

LOS = Level of Service, * = Exceeds Level of Service



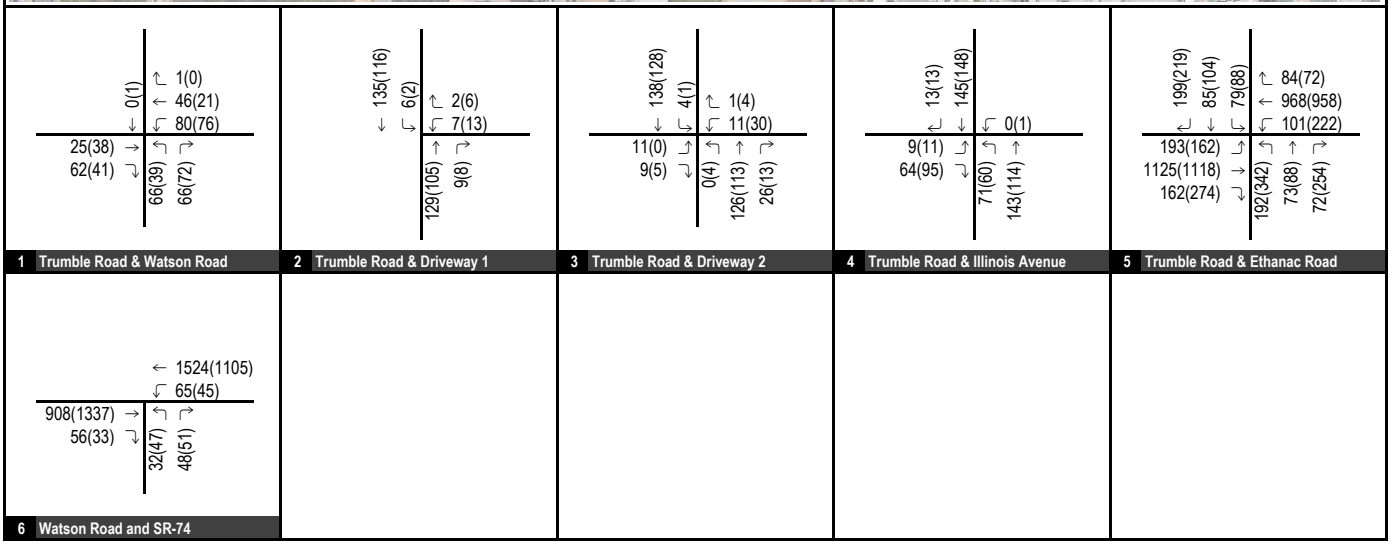


FIGURE 19

XX(YY) AM(PM) Trips

Trumble Road and Watson Road Warehouse
Opening Year Cumulative With Project Peak Hour Traffic Volumes

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- Trumble Road and Ethanac Road (a.m. and p.m. peak hours). This intersection also operates at an unsatisfactory level of service under opening year cumulative no project conditions. This intersection is shared by the Cities of Menifee and Perris. According to the City of Perris' Guidelines "A cumulative impact is considered an indirect traffic impact when a study intersection is forecast to operate at an unacceptable Level of Service with the addition of cumulative/background traffic and the project contributes 50 or more a.m. or p.m. peak hour project trips and causes the intersection delay to increase by 2 seconds or more." Since the trips added by the project at this intersection are more than 50 during both a.m. and p.m. peak hours and the delay added by the project is more than 2 seconds, the impact at this intersection is considered to be an indirect impact.

The opening year cumulative with project levels of service for the study area roadway segments are summarized in Table I. As shown in Table I, all study area roadway segments are forecast to operate at satisfactory level of service.

10.0 HORIZON YEAR (2050) CONDITIONS

This section discusses horizon year cumulative transportation conditions in the study area. For the horizon year cumulative conditions, transit service and pedestrian facilities are anticipated to remain the same as under existing conditions.

As stated earlier, based on the City's guidelines and the trip generation of the project, a horizon year analysis would not be required. However, the additional horizon year analysis has been included since the project is located within a Connectivity Analysis Zone as identified in the City of Menifee's General Plan *Roadway Network Exhibit C-3*. The City's Roadway Network identifies four Connectivity analysis Zones that may be subject to review and future consideration by the City of Menifee to recognize that additional evaluation of the roadway alignments, intersection geometrics and traffic control features may be needed.

10.1 Horizon Year Without Project - Levels of Service

An intersection level of service (LOS) analysis was conducted for horizon year conditions to determine current circulation system performance. Horizon year without project traffic volumes at study intersections are shown in Figure 20. The horizon year without project levels of service for the study area intersections are summarized in Table J. Detailed Level of Service (LOS) calculation worksheets are included in Appendix F. As shown in Table J, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours with the exception of the following:

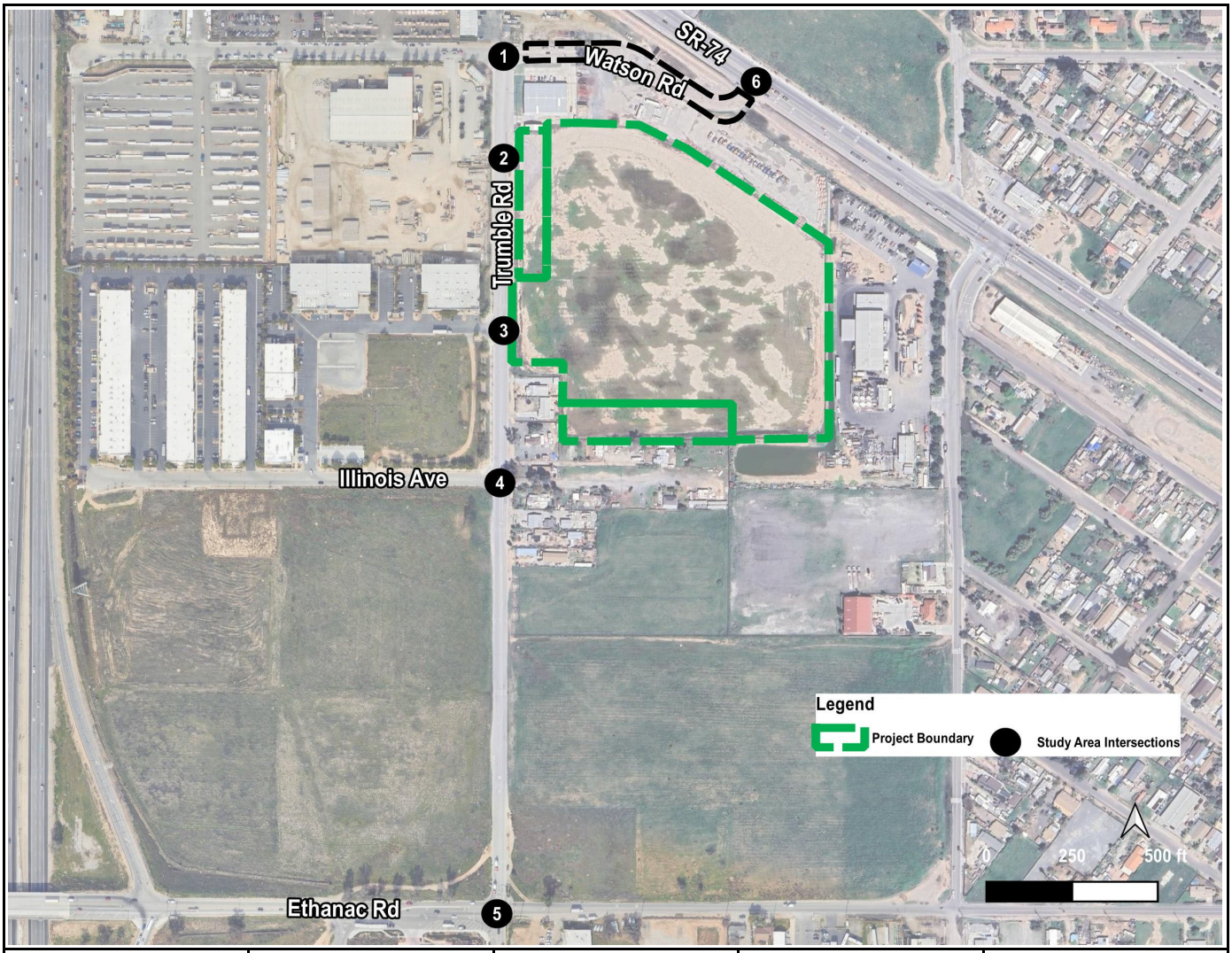
- Trumble Road and Ethanac Road (a.m. and p.m. peak hours).
- Watson Road and SR-74 (a.m. and p.m. peak hours).

The horizon year without project levels of service for the study area roadway segment is summarized on Table K. As shown in Table K, all study area roadway segments are forecast to operate at satisfactory level of service.

10.2 Horizon Year With Project - Levels of Service

An intersection level of service (LOS) analysis was conducted for horizon year with project conditions to determine current circulation system performance. Horizon year with project traffic volumes at study intersections are shown in Figure 21. The horizon year cumulative with project levels of service for the study area intersections are summarized in Table J. Detailed Level of Service (LOS) calculation worksheets are included in Appendix F. As shown in Table J, all study area intersections are forecast to operate at a satisfactory level of service during both a.m. and p.m. peak hours with the exception of the following:

- Trumble Road and Ethanac Road (a.m. and p.m. peak hours). This intersection also operates at an unsatisfactory level of service under horizon year no project conditions. This intersection is shared by the Cities of Menifee and Perris. According to the City of Perris' Guidelines "A cumulative impact is considered an indirect traffic impact when a study intersection is forecast to operate at an unacceptable Level of Service with the



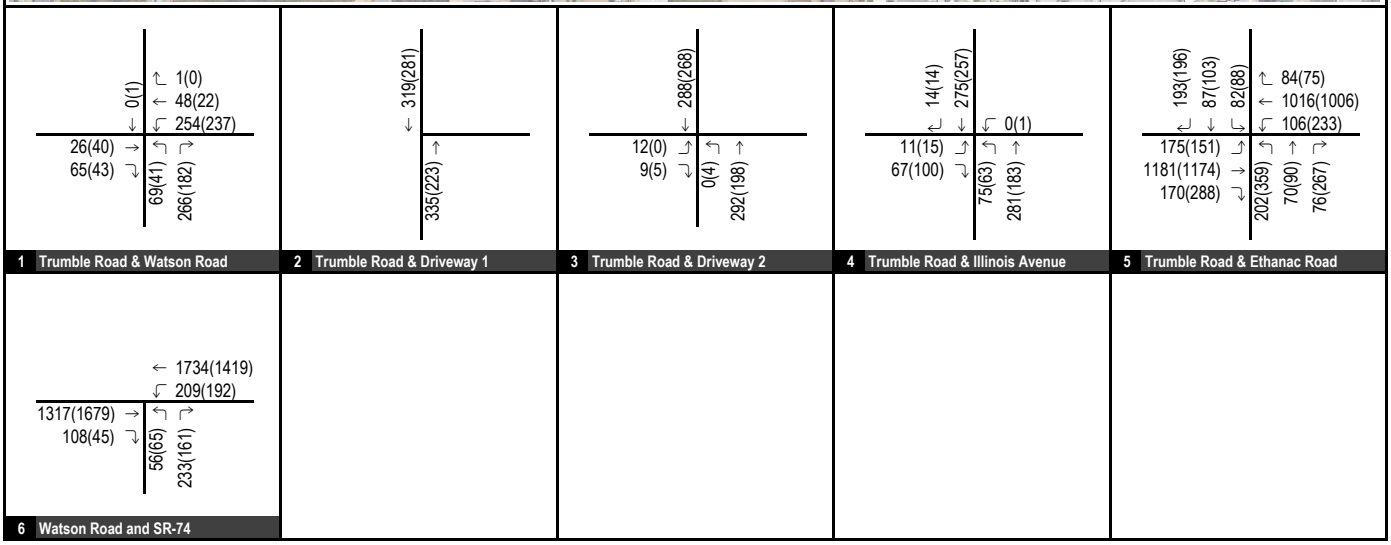


FIGURE 20

XX(YY) AM(PM) Trips

Trumble Road and Watson Road Warehouse
Horizon Year Without Project Peak Hour Traffic Volumes

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Table J: Horizon Year Levels of Service

Intersection	LOS Std.	Control	Horizon Year Without Project				Horizon Year With Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 . Trumble Road & Watson Road	D	TWSC	14.9	B	15.6	C	15.2	C	15.7	C
2 . Trumble Road & Driveway 1	D	TWSC	Does Not Exist		Does Not Exist		11.8	B	10.9	B
3 . Trumble Road & Driveway 2	D	TWSC	10.9	B	9.8	A	11.6	B	11.1	B
4 . Trumble Road & Illinois Avenue	D	TWSC	12.7	B	11.7	B	10.5	B	12.9	B
5 Trumble Road & Ethanac Road	D	Signal	>100	F *	>100	F *	>100	F *	>100	F *
6 Watson Road and SR-74	D	TWSC	>100	F *	>100	F *	>100	F *	>100	F *

Notes:

* Exceeds LOS Standard

TWSC = Two-Way Stop Control; For TWSC intersections, reported delay is for worst-case movement.

LOS = Level of Service

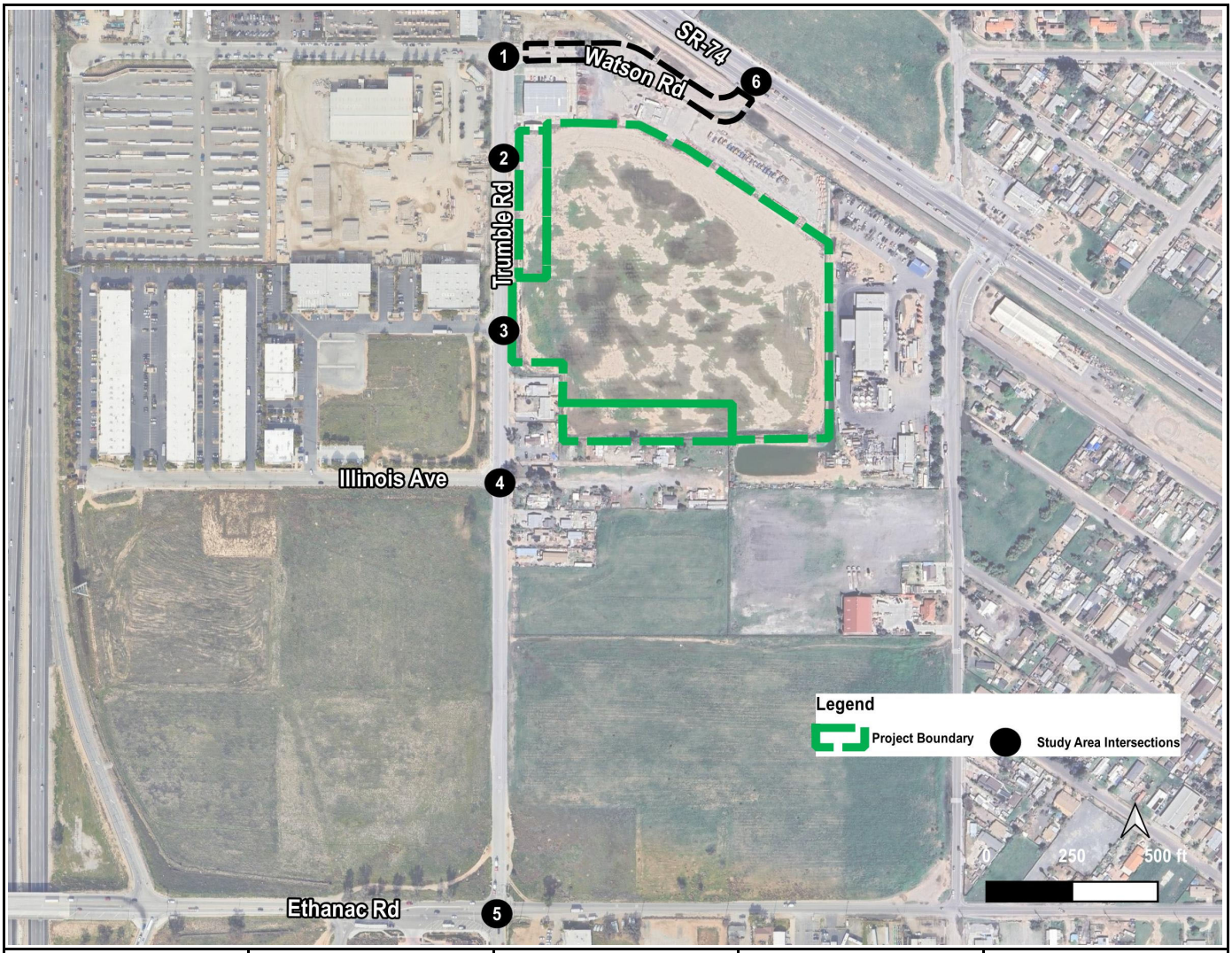
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Table K: Horizon Year Roadway Segment Levels of Service

Roadway Segment	LOS Standard	Classification	Roadway Capacity	Without Project			With Project			V/C Delta
				Daily Volume	V/C	LOS	Daily Volume	LOS	V/C	
1 . Trumble Road from Watson Road to Driveway 1	D	Collector	13,000	5,145	0.396	A	5,237	A	0.403	0.007
2 . Trumble Road from Driveway 1 to Driveway 2	D	Collector	13,000	5,021	0.386	A	5,359	A	0.412	0.026
3 . Trumble Road from Driveway 2 to Illinois Avenue	D	Collector	13,000	5,069	0.390	A	5,841	A	0.449	0.059
4 . Trumble Road from Illinois Avenue to Ethanac Road	D	Collector	13,000	9,172	0.706	C	9,942	C	0.765	0.059

Notes:

LOS = Level of Service, * = Exceeds Level of Service



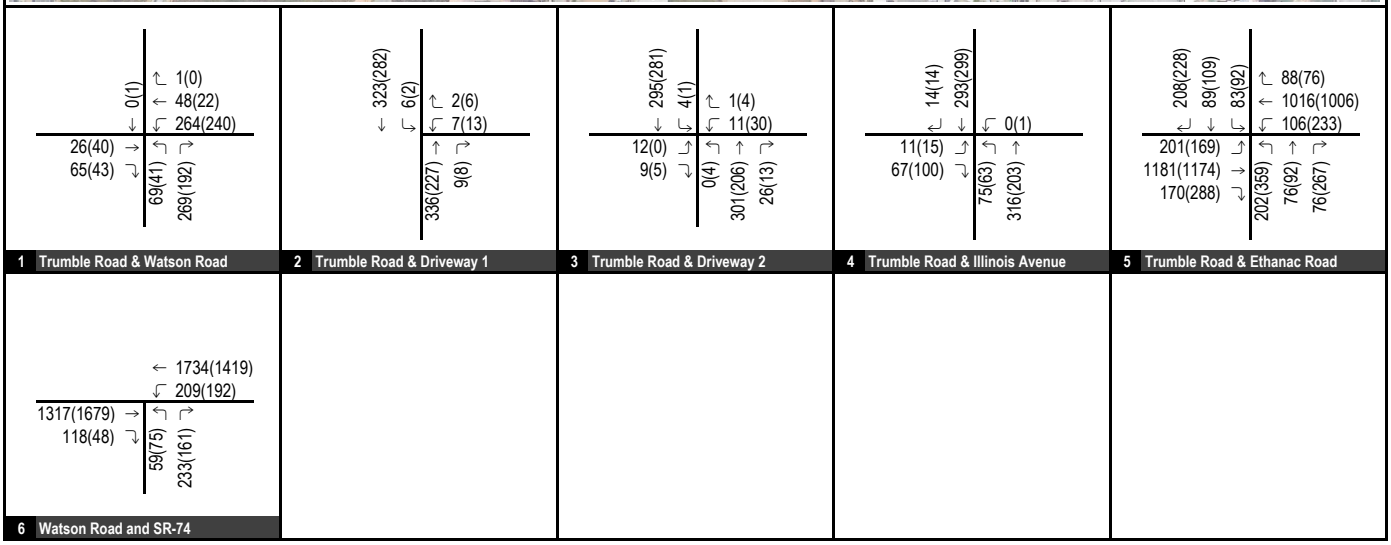


FIGURE 21

XX(YY) AM(PM) Trips

Trumble Road and Watson Road Warehouse
Horizon Year With Project Peak Hour Traffic Volumes

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addition of cumulative/background traffic and the project contributes 50 or more a.m. or p.m. peak hour project trips and causes the intersection delay to increase by 2 seconds or more." Since the trips added by the project at this intersection are more than 50 during both a.m. and p.m. peak hours and the delay added by the project is more than 2 seconds, the impact at this intersection is considered to be an indirect impact. The project's fair share is 2.71%.

- Watson Road and SR-74 (a.m. and p.m. peak hours). This intersection also operates at an unsatisfactory level of service under horizon year no project conditions. According to the City of Menifee's Guidelines "If the pre-Project condition is LOS E or F, and the Project adds 50 or more peak hour trips to the intersection or roadway segment, the impact would be considered a "cumulative" project impact in which the project would be required to contribute a fair share payment toward reducing the impact." Since the trips added by the project at this intersection are less than 50 during both a.m. and p.m. peak hours, the impact at this intersection is not considered to be a cumulative impact.

The horizon year with project levels of service for the study area roadway segment is summarized on Table K. As shown in Table I, all study area roadway segments are forecast to operate at satisfactory level of service.

11.0 CIRCULATION IMPROVEMENTS

The City guidelines require that circulation improvements be recommended at any intersection which operates at an unsatisfactory level of service. These include conversion of stop control, signalization, changes to signal phasing, and/or addition of lanes as appropriate.

11.1 Opening Year Cumulative Conditions Circulation Improvements

Under opening year cumulative conditions, the following modifications to intersection configuration are recommended as mitigation measure and are as follows:

- Intersection 5: Trumble Road and Ethanac Road - Add one eastbound through lane, one westbound through lane, one dedicated westbound right turn lane, one northbound left turn lane, one dedicated northbound right turn lane, and one dedicated southbound right turn lane. As stated earlier, since the trips added by the project at this intersection are more than 50 during the peak hours and the delay added by the project is more than 2 seconds, the impact at this intersection is considered to be an indirect impact. The project's fair share is 2.71%.

Figure 22 shows the lane geometries and stop control for study intersections with recommended improvements for the opening year cumulative conditions. Table L shows the resulting levels of service for the opening year cumulative conditions with the recommended circulation Improvements.

11.2 Horizon Year Conditions Circulation Improvements

Under horizon year conditions, the following modifications to intersection configuration are recommended as mitigation measure and are as follows:

- Intersection 5: Trumble Road and Ethanac Road – Add one eastbound through lane, one westbound through lane, one dedicated westbound right turn lane, one northbound left turn lane, one dedicated northbound right turn lane, and one dedicated southbound right turn lane. As stated earlier, since the trips added by the project at this intersection are more than 50 during the peak hours and the delay added by the project is more than 2 seconds, the impact at this intersection is considered to be an indirect impact. The project's fair share is 2.71%.
- Intersection 6: Watson Road and Highway 74 – Add a traffic signal. Since the trips added by the project at this intersection are less than 50 during both a.m. and p.m. peak hours, the impact at this intersection is not considered to be a cumulative impact. The project's fair share is 0.93%.

Figure 23 shows the lane geometries and stop control for study intersections with recommended improvements for the horizon year conditions. Table M shows the resulting levels of service for the horizon year conditions with the recommended circulation Improvements.



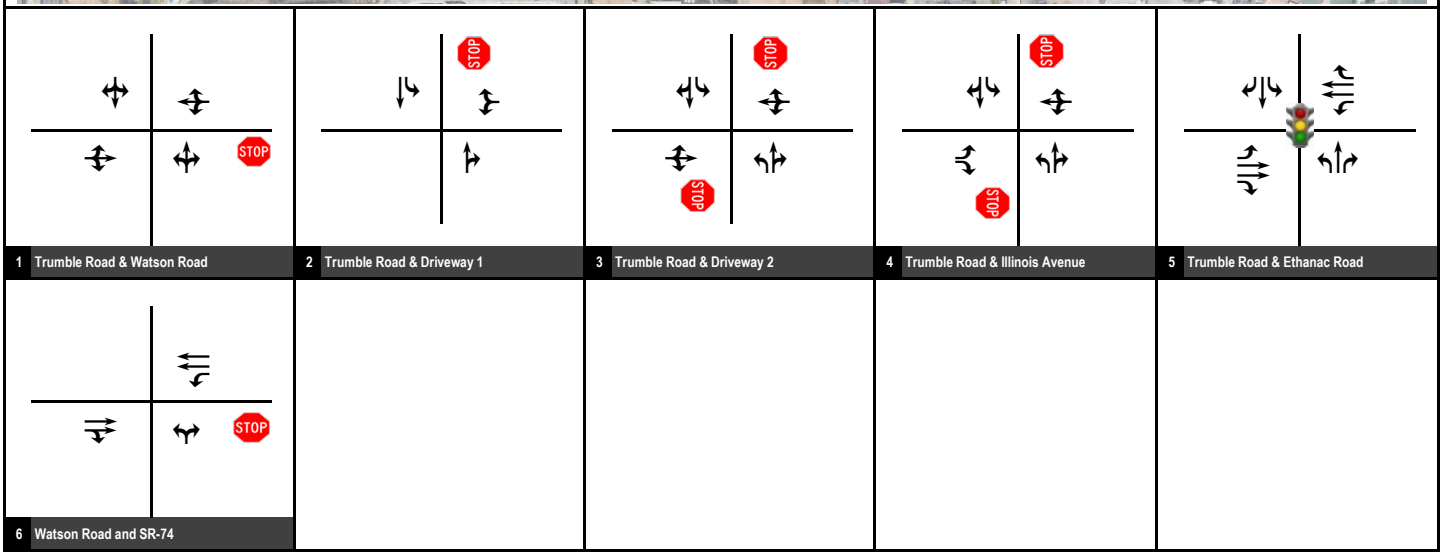


FIGURE 22

Legend

Signal
Stop Sign
RT Overlap
Defacto right turn

Trumble Road and Watson Road Warehouse
Recommended Circulation Improvements - Opening Year Cumulative Conditions

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Table L: Opening Year Cumulative With Circulation Improvements Levels of Service

Intersection	LOS Std.	Control	Without Circulation Improvements				With Circulation Improvements			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
5 . Trumble Road & Ethanac Road	D	Signal	>100	F *	>100	F *	38.9	D	40.8	D

Notes:

* Exceeds LOS Standard

TWSC = Two-Way Stop Control; For TWSC intersections, reported delay is for worst-case movement.

LOS = Level of Service

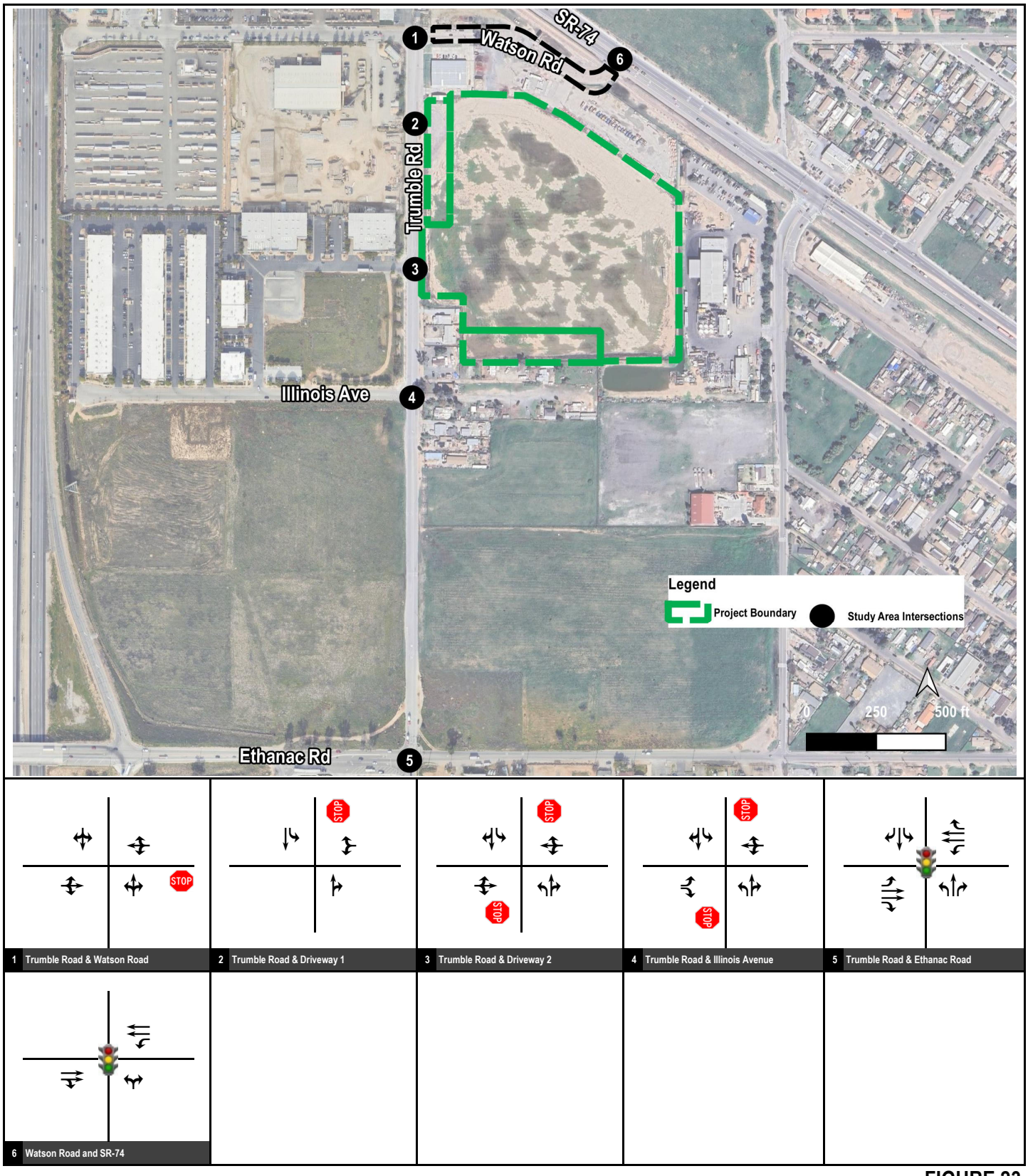


FIGURE 23

Legend

Signal
Stop Sign
RT Overlap
Defacto right turn

Trumble Road and Watson Road Warehouse
Recommended Circulation Improvements - Horizon Year Conditions

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Table M: Horizon Year With Circualtion Improvemetns Levels of Service

Intersection	LOS Std.	Without Circulation Improvements					With Circulation Improvements				
			AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour	
		Control	Delay	LOS	Delay	LOS	Control	Delay	LOS	Delay	LOS
5 . Trumble Road & Ethanac Road	D	Signal	>100	F *	>100	F *	Signal	28.1	C	51.5	D
6 . Watson Road and SR-74	D	TWSC	>100	F *	>100	F *	Signal	23	C	22.2	C

Notes:

* Exceeds LOS Standard

TWSC = Two-Way Stop Control; For TWSC intersections, reported delay is for worst-case movement.

LOS = Level of Service

12.0 ACCESS ANALYSIS

An access analysis for both driveways were conducted considering factors like truck size, truck turning radius, driveway width and driveway spacing.

12.1 Turning Radii

Truck turning templates for both project driveways are shown in Figure 24 and Figure 25. The templates are based on California Legal Heavy-Duty Truck (Kenworth W900 series) used for long haul and heavy-haul trips. As seen on the figures, trucks can make turns without encroaching onto the oncoming traffic lanes.

As stated earlier, the project will realign the intersection of Watson Road and SR 74. Figure 26 shows the turning truck turning templates at this location. As seen on Figure 26, trucks can make turns safely without encroaching onto the oncoming traffic lanes.

12.2 Driveway Width

Riverside County Standard Plans (Standard Plan No. 207 A- Commercial Drive Approach) requires a minimum width of 24 feet and a maximum width of 40 feet for commercial driveways. Both project access driveways are 40 feet wide and are therefore consistent with the Riverside County Standard Plan requirements.

12.3 Driveway Spacing

Both project access driveways have a spacing of 500 feet in between them. Riverside County Standard Plans (Standard Plan No. 114 Roadway Design Requirements) recommends an intersection interval of 200 feet for intersections along Collector Streets. As mentioned earlier, Trumble Road is a Collector Street and both project access driveways are located along Trumble Road with spacing more than the recommended spacing.

Along Trumble Road the spacing between the proposed study intersections is more than 200 feet with the exception of a private driveway adjacent to and north of Driveway 1. The location of this private driveway is approximately 30 feet north of Driveway 1. It should be noted that the proximity of the driveway will not create a hazardous situation since there is good visibility. In addition, this will not create issues with truck queueing on Trumble Road as all trips to the project are anticipated to travel to and from the south.

13.0 SUMMARY & CONCLUSIONS

The proposed project is forecast to generate 65 trips during the a.m. peak hour, 74 trips during the p.m. peak hour, and 861 daily trips. Access to the project will be provided via two driveways on Trumble Road. Under existing and opening year (2026) conditions, all intersections are forecast to operate at satisfactory levels of service. Under opening year cumulative (2026) conditions, the intersection of Trumble Road/Ethanac Road is forecast to operate at an unsatisfactory level of service under both without and with project conditions. Under horizon year (2050) conditions, the intersections of Trumble Road/Ethanac Road and Watson Road/SR-74 are forecast to operate at an unsatisfactory level of service under both without and with project conditions. With the implementation of the circulation improvements, all intersections are forecast to operate at satisfactory levels of service.

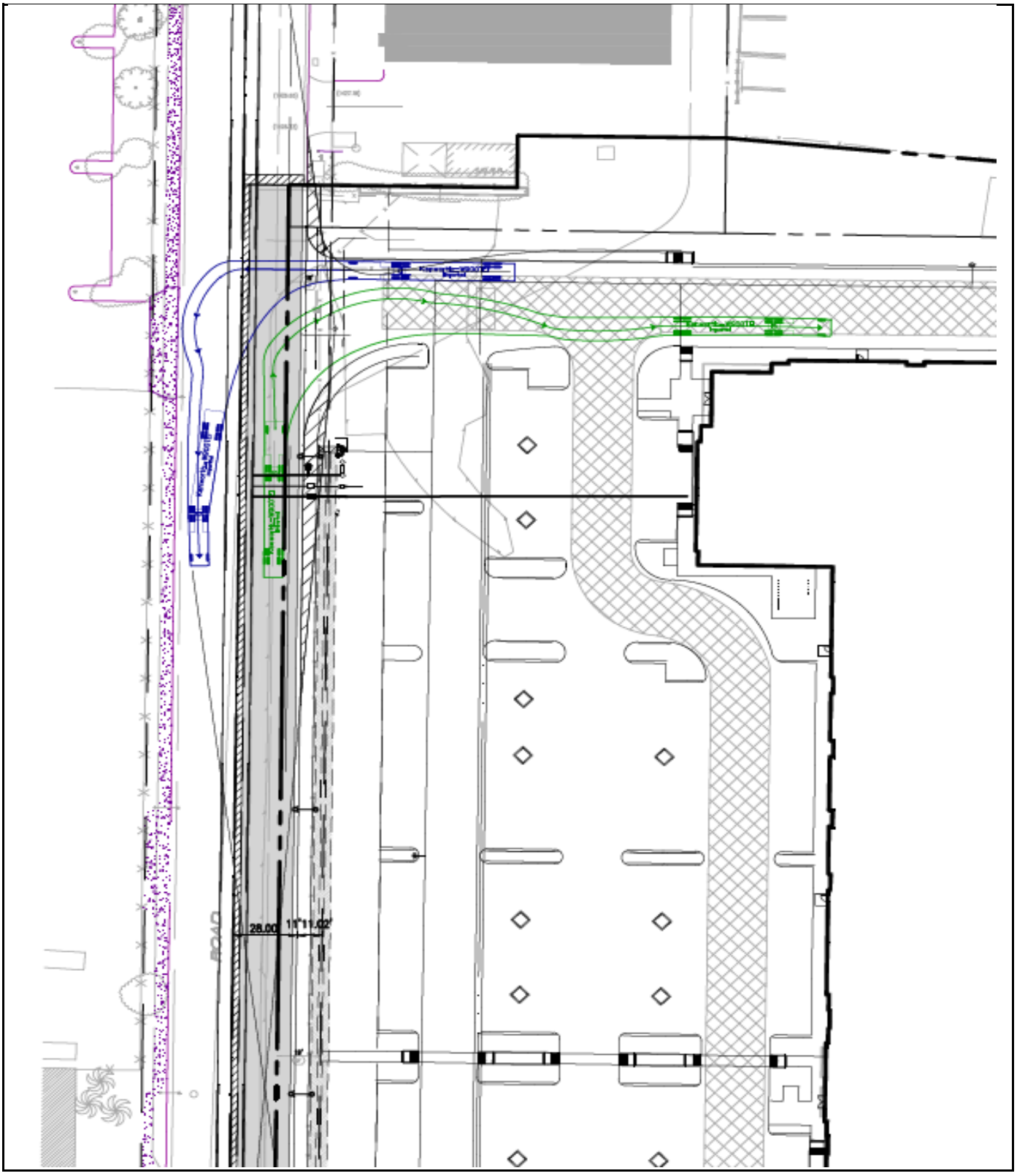


FIGURE 24

Trumble Road and Watson Road Warehouse
Turning Radii - Driveway 1

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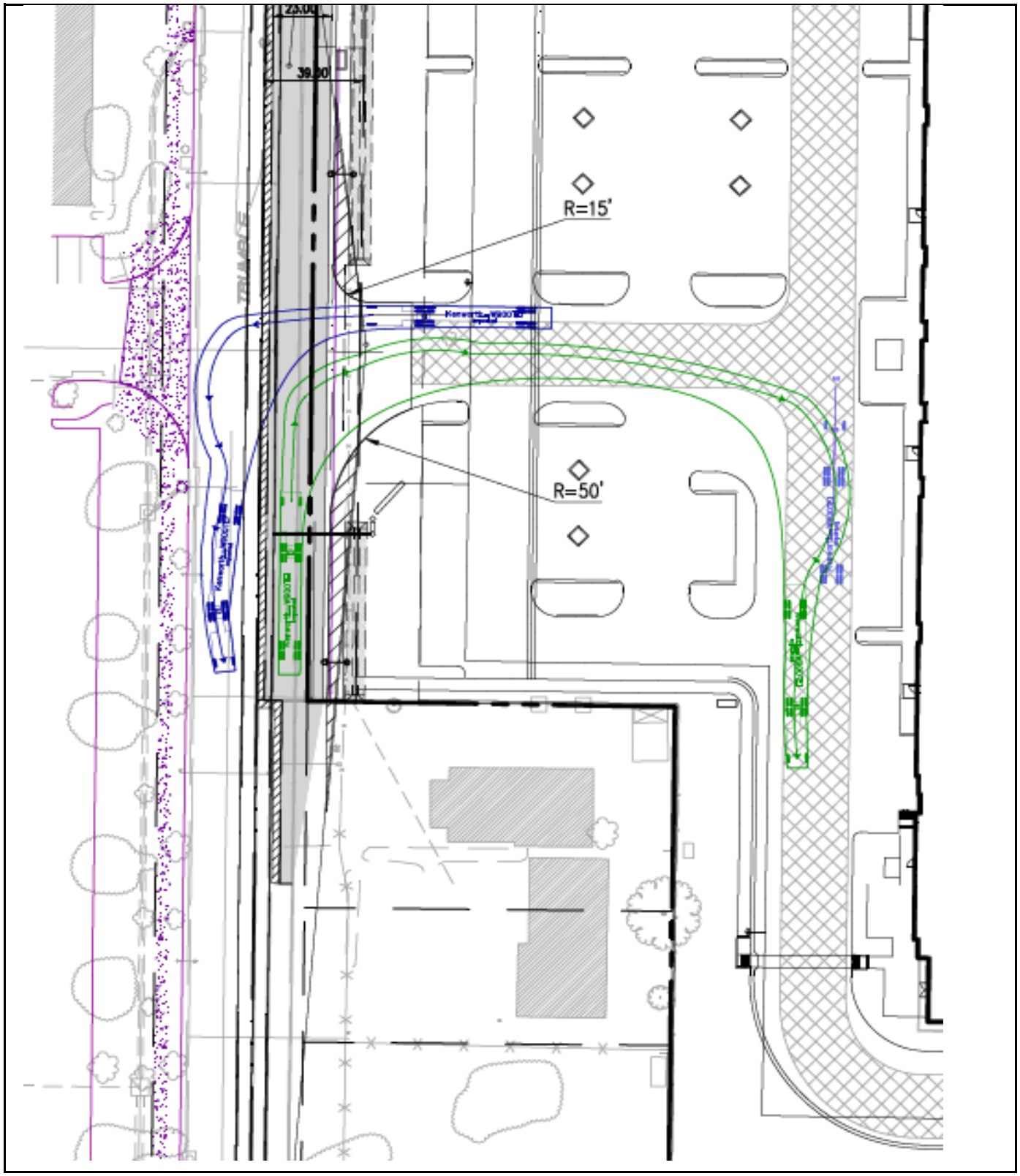


FIGURE 25

Trumble Road and Watson Road Warehouse
Turning Radii - Driveway 2

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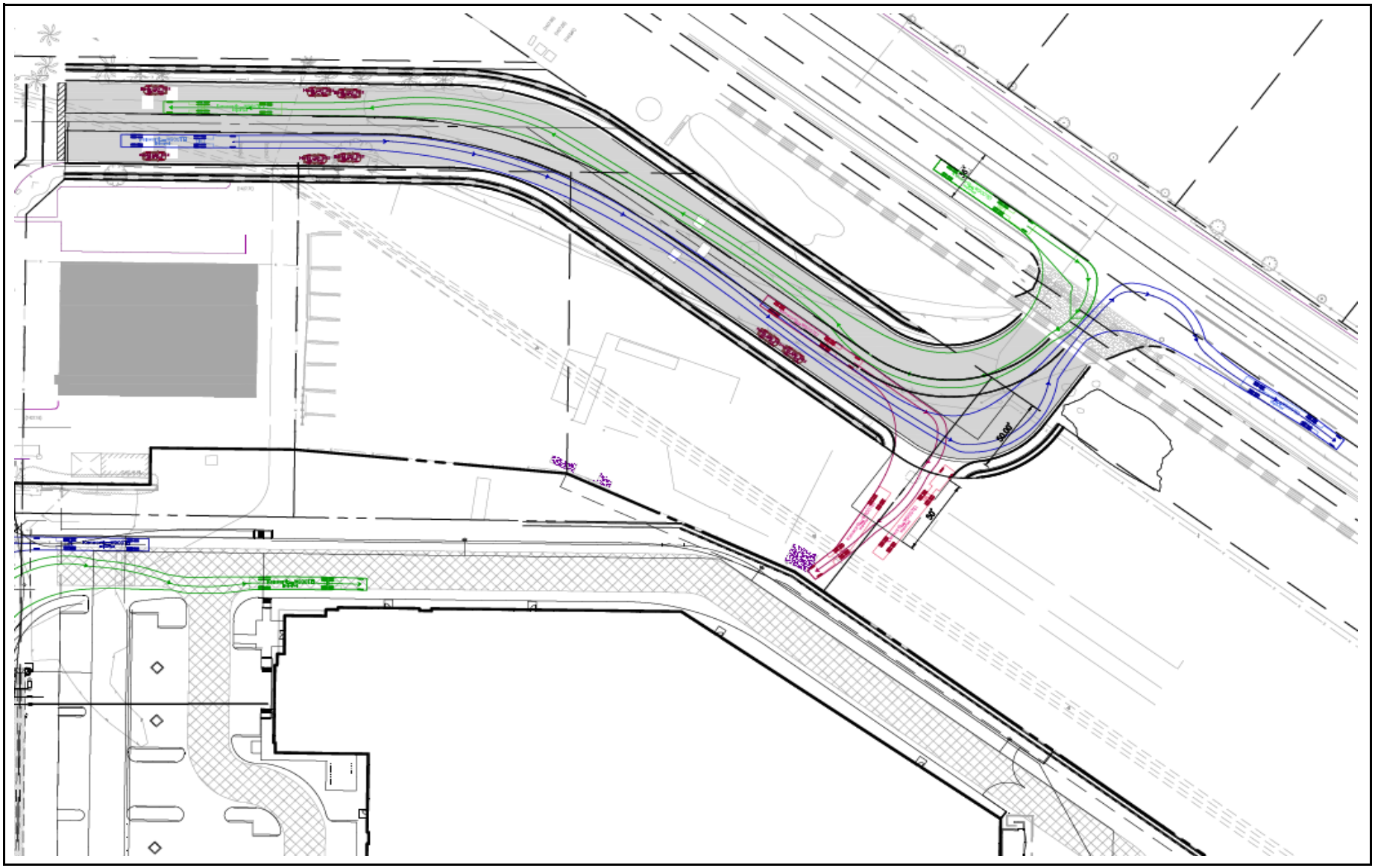


FIGURE 26

Legend

Traffic Signal

Stop Sign

RT Overlap

Defacto right turn

Trumble Road & Watson Road Warehouse

Turning Radii - Watson Road & SR-74

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APPENDIX A:
Approved Scoping Agreement

Sandipan Bhattacharjee

From: Christopher Heron <cheron@cityofmenifee.us>
Sent: Thursday, January 16, 2025 10:15 AM
To: Sandipan Bhattacharjee
Cc: Ryan Luckert; Russell Brown
Subject: Re: Discuss Watson & Trumble

Good Morning,

No further comments on the Watson and Trumble Scope.

Thank you,

Christopher Heron, EIT | Associate Engineer
Engineering Department
City of Menifee | 29844 Haun Road | Menifee, CA 92586
Direct: (951) 723-3723 | City Hall: (951) 672-6777
cheron@cityofmenifee.us |

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From: Sandipan Bhattacharjee <sandipan@translutions.com>
Sent: Monday, January 13, 2025 12:18 PM
To: Christopher Heron <cheron@cityofmenifee.us>
Cc: Ryan Luckert <rluckert@rinconconsultants.com>
Subject: RE: Discuss Watson & Trumble

[CAUTION]: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Christopher,
I have attached the revised scope in this email.

ATTACHMENT A

SCOPING AGREEMENT FOR TRAFFIC STUDY

This letter acknowledges the City Menifee Engineering Department requirements for the traffic study of the following project. The analysis must follow the latest City Traffic Study Guidelines dated October 2020

Case No. PLN22-0190
Related Cases -
SP No. -
EIR No. -
GPA No. -
CZ No. -
Project Name: Trumble Rd. and Watson Rd. Warehouse
Project Location: SEC Trumble Rd & Watson Rd.
Project Description: 328,205 s.f. Warehouse

	Consultant	Developer
Name:	Translutions	Rincon Consultants
Address:	17632 Irvine Blvd. Suite 200 Tustin CA 92780	250 East 1st St. Suite 1400 Los Angeles, CA 90012
Telephone:	949-656-3131	213-788-4842

A. Trip Generation Source: ITE *Trip Generation Manual,* most recent edition

Existing Land Use	EDC	Proposed Land Use	EDC
Existing Zoning	EDC-NG	Proposed Zoning	EDC-NG
Total Daily Trips	861		

	In	Out	Total
AM Trips	45	20	65
PM Trips	23	51	74

Internal Trip Allowance: Yes ☐ No ☒ (% Trip Discount)

Pass-By Trip Allowance: ☐ Yes ☒ No (% Trip Discount)

(Attach additional sheet if this is a multi-use site with a breakdown of trips generated)

B. Trip Geographic Distribution: N % S % E % W %
(See attached exhibit for detailed assignment)

C. Background Traffic

Project Completion Year: 2026 Annual Ambient Growth Rate: 3 %
Other area projects to be included: -

Please contact the Engineering Department or use the most recently provided data

Model/Forecast methodology if required RIVCOM

D. Horizon Year Analysis: Does this project require a Horizon Year Analysis? [x] Yes [ ] No

E. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. Trumble Rd/Watson Rd.
2. Trumble Rd/Dwy 1
3. Trumble Rd/Dwy 2
4. Trumble Rd/Illinois Ave
5. Trumble Rd/Ethanac Rd
6. Watson Rd/SR-74
7.
8. _____

F. Study Roadway Segments:

1. Trumble Rd-Watson Rd. to Dwy 1
2. Trumble Rd-Dwy 1 to Dwy 2
3. Trumble Rd-Dwy 2 to Illinois Ave
4. Trumble Rd-Illinois Ave to Ethanac Rd
5.
6.
7.
8. _____

G. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or one-mile radius of boundaries? [y] Y [ ]

es

No

If so, name of Jurisdiction: Perris

H. Site Plan (please attach a legible 11'X17' copy)

I. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Engineering Department)

_____

_____

Recommended by:

Robert Aguirre — 1/9/25

Consultant's Representative — Date

1/10/25

Scoping Agreement Submitted on — Date

Scoping Agreement Resubmitted on — Date

Approved Scoping Agreement:

_____

City of Menifee — Date

BACKGROUND

In October 2023, a traffic study was prepared for the project by TJW Engineering, Inc. Since then, an additional analysis is required that addresses the possible Watson Road realignment and improvements at the railroad crossing. The additional analysis is due to the project being located within a Connectivity Analysis Zone as identified in the City of Menifee's General Plan *Roadway Network Exhibit C-3*. The City's Roadway Network identifies four Connectivity analysis Zones that may be subject to review and future consideration by the City of Menifee to recognize that additional evaluation of the roadway alignments, intersection geometrics and traffic control features may be needed. Since the project is located within a Connectivity Analysis Zone, the following scope of work includes a focused evaluation of future traffic conditions with the Watson Road re-alignment and improvements at railroad crossing.

INTRODUCTION

This scope of work proposes to evaluate the potential traffic and circulation impacts associated with the Trumble Road and Watson Road warehouse project. The proposed project site is located at the southeast corner of Trumble Road and Watson Road in the City of Menifee, California. The project includes the construction of a 328,025 square foot warehouse development.

The City of Menifee *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (June 3, 2020)* includes standardized criteria and established thresholds of significance for analyzing transportation impacts for CEQA. The City also maintains the City of Menifee *LOS Traffic Study Guidelines (October 2020) for* LOS policies as part of the General Plan and discretionary review process. Therefore, the analysis will be prepared consistent with the City's guidelines.

PROJECT DESCRIPTION

The project site is located at the southeast corner of Trumble Road and Watson Road in the City of Menifee, California.

Access to the project will be provided via two driveways on Trumble Road. Figure 1 illustrates the site plan and Figure 2 includes the Watson Road re-alignment and improvements.

PROJECT TRIP GENERATION

The project trip generation was developed using rates for Land Use 150 "Warehousing" from the Institute of Transportation Engineers' (ITE) *Trip Generation*, 11th Edition. The passenger vehicle/truck splits are based on percentages from the ITE *Trip Generation*, 11th Edition and the truck splits by axle-type are based on percentages from the Fontana Truck Trip Generation Study (August 2003). The recommended passenger car equivalent (PCE) factors are from Riverside County's Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled. Table A shows the project trip generation forecast for the project under the a.m. peak hour, p.m. peak hour, and weekday. As shown in Table A, the proposed project is forecast to generate 65 PCE trips in the a.m. peak hour, 74 PCE trips in the p.m. peak hour, and 861 PCE daily trips.

PROJECT TRIP DISTRIBUTION/TRIP ASSIGNMENT

The project trip distribution was developed separately for passenger vehicles and trucks based on the location of local destinations. It should be noted the trucks were not distributed to Watson Road and SR-74 because trucks are restricted on SR-74. The passenger vehicle trip distribution and assignment are shown in Figures 3 and 4. The truck trip distribution and assignment are shown in Figures 5 and 6. The resulting total trip assignment for passenger vehicles and truck PCE are shown in Figure 7.

STUDY AREA

The study area is anticipated to include the following study area intersections and roadway segments:

Intersections

1. Trumble Road & Watson Road.
2. Trumble Road & Driveway 1.
3. Trumble Road & Driveway 2.
4. Trumble Road & Illinois Avenue.
5. Trumble Road & Ethanac Road.
6. Watson Road and SR-74.

Roadway Segments

1. Trumble Road from Watson Road to Driveway 1.
2. Trumble Road from Driveway 1 to Driveway 2.
3. Trumble Road from Driveway 2 to Illinois Avenue.
4. Trumble Road from Illinois Avenue to Ethanac Road.

The study area intersections and roadway segments are shown in Figure 8.

The weekday peak hours to be analyzed are from 7:00 a.m. to 9:00 a.m. in the morning and 4:00 p.m. to 6:00 p.m. in the evening. The analysis of traffic operations and LOS during the a.m. and p.m. peak hours will be provided for the following analysis years:

- Existing Without Project Conditions.
- Existing With Project Conditions.
- Opening Year (2026) Cumulative Without Project Conditions.
- Opening Year (2026) Cumulative With Project Conditions.
- Horizon Year without Project Conditions.
- Horizon Year with Project Conditions.

EXISTING WITHOUT PROJECT TRAFFIC VOLUMES

Traffic counts will be collected at the proposed study area intersections on a weekday (Tuesday, Wednesday, Thursday) during the school year between 7-9 a.m. and 4-6 p.m.

FUTURE TRAFFIC VOLUMES

The opening year without project traffic volumes will be developed by applying a 3% annual ambient growth rate to the existing traffic volumes and adding approved and pending project trips. The horizon year without project volumes will be developed by using forecast volumes obtained from the RivCOM and will be post-processed using methodologies consistent with National Cooperative Highway Research Program Report 255 (NCHRP-255).

INTERSECTION ANALYSIS METHODOLOGY

Traffic volumes for forecast year conditions will be used to calculate levels of service at the study intersections using the HCM 7th Edition Methodology using Synchro software.

SPECIAL ISSUES

The following Special Issues will be included in the traffic impact analysis and are based on discussion with the City staff:

- Inbound/outbound truck turning templates at all project driveways serving trucks will be included in several graphics.
- The proposed driveway spacing will be compared to the Riverside County Standard Plans (Standard Plan No. 114).

VMT SCREENING ANALYSIS

A VMT screening analysis will be conducted based on the city guidelines. It is anticipated that the project will screen out from a detailed VMT analysis based on the Low VMT area criteria. A VMT screening memo discussing the various screening criteria and methodology will be submitted to the city.

Attachments:

Figure 1 – Site Plan

Figure 2 – Watson Road Re-Alignment

Figure 3 – Project Trip Distribution – Passenger Vehicles

Figure 4 – Project Trip Assignment - Passenger Vehicles

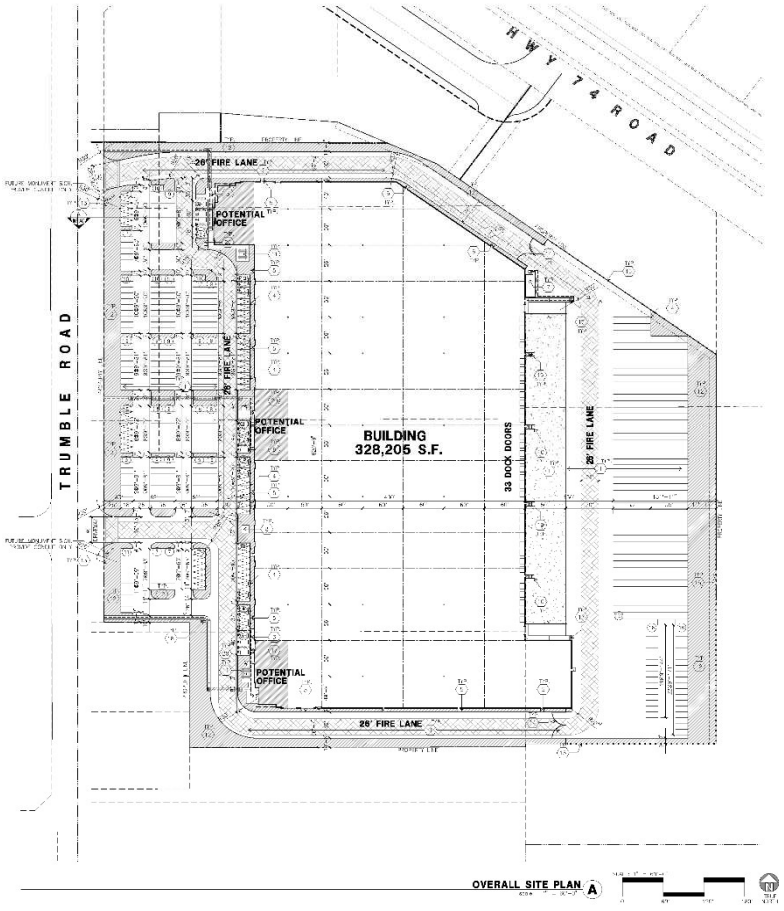
Figure 5 – Project Trip Distribution – Trucks

Figure 6 – Project Trip Assignment – Trucks

Figure 7 – Total Project Trip Assignment

Figure 8 – Study Area Intersections and Roadway Segments

Table A – Project Trip Generation



PROJECT INFORMATION

VICINITY MAP



TABULATION

Area	
In s.f.	749,812 s.f.
In acres	17.180 ac
BUILDING AREA	
Office	15,000 s.f.
Warehouse	313,205 s.f.
TOTAL	328,205 s.f.
COVERAGE	43.8%
AUTO PARKING REQUIRED	
Office: 1/300 s.f.	50 stalls
Whse: 1/1000 s.f. (first 100k s.f.)	100 stalls
Whse: 1/1500 s.f. (100k-500k s.f.)	143 stalls
TOTAL	293 stalls
AUTO PARKING PROVIDED	
Standard (9' x 18')	257 stalls
Accessible (9' x 18')	6 stalls
Van Accessible (12' x 18')	2 stalls
EVCS (9' x 18')	13 stalls
EVCS ADA (9' x 18')	1 stalls
EVCS Van ADA (12' x 18')	1 stalls
EVCS Future Accessibility (10' x 18')	2 stalls
EV Capable (9' x 18')	51 stalls
Total	333 stalls
TRAILER PARKING PROVIDED	
Trailer (10' x 55')	92 stalls
ZONING ORDINANCE FOR CITY	
Zoning Designation - Economic Development Corridor - Northern Gateway (EDC-NG)	
MAXIMUM BUILDING HEIGHT ALLOWED	
Height - 100'	
MAXIMUM FLOOR AREA RATIO	
FAR - 1.0	
ACTUAL FLOOR AREA RATIO	
FAR - 0.44	
LANDSCAPE REQUIREMENT	
Percentage - 10%	
LANDSCAPE PROVIDED	
Percentage - 11.4%	
SETBACKS	
From: - 25'	
Street side - 15'	
Rear - 10'	
STATEMENT OF OPERATION	
Speculative Development - Occupancy / Operations TBD (Potential Uses: General w arehouse, distribution centers and storage; Manufactur ng, Light or Medium-Intensity.)	

SITE PLAN KEYNOTES

SITE PLAN GENERAL NOTES

SITE LEGEND

OFFICIAL USE ONLY

Figure 1

Trumble Road and Watson Road Warehouse
Site Plan

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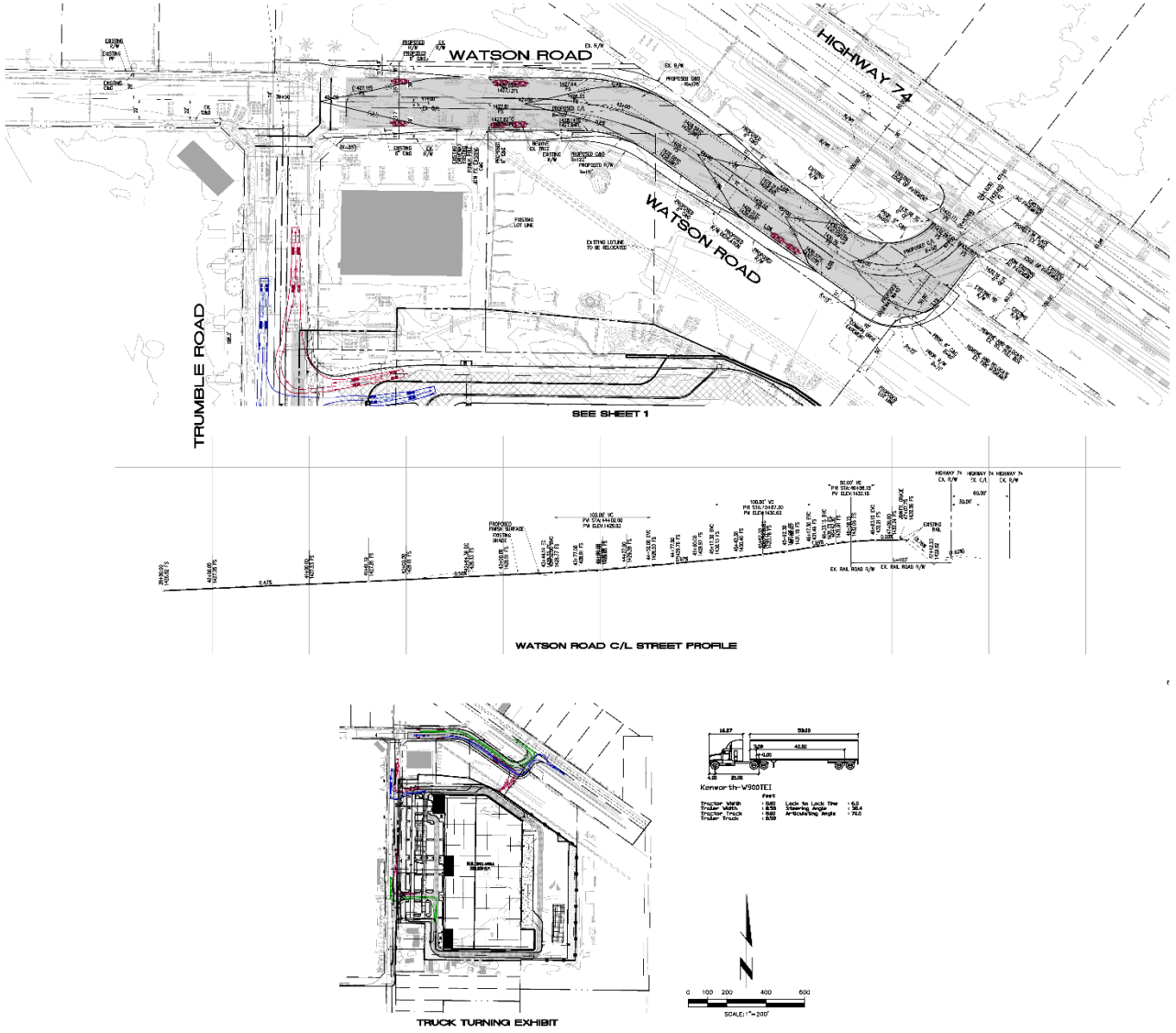


Figure 2

Trumble Road and Watson Road Warehouse
Watson Road Re-Alignment

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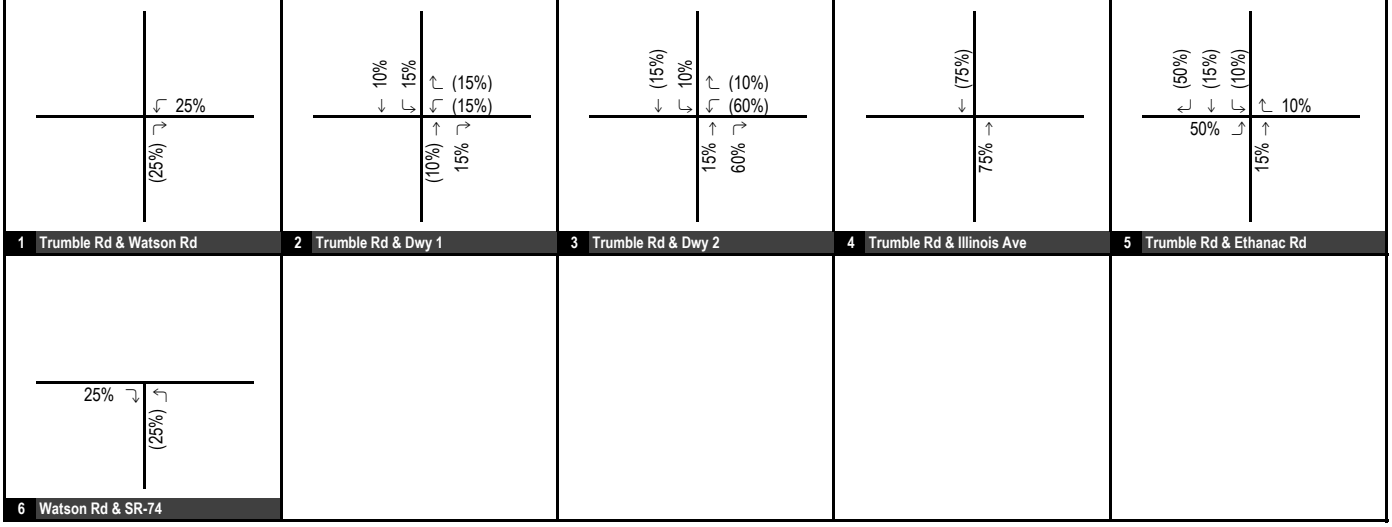


FIGURE 3

XX%(YY%) Inbound%(Outbound%) Distribution

Trumble Road and Watson Road Warehouse
Project Trip Distribution - Passenger Vehicles

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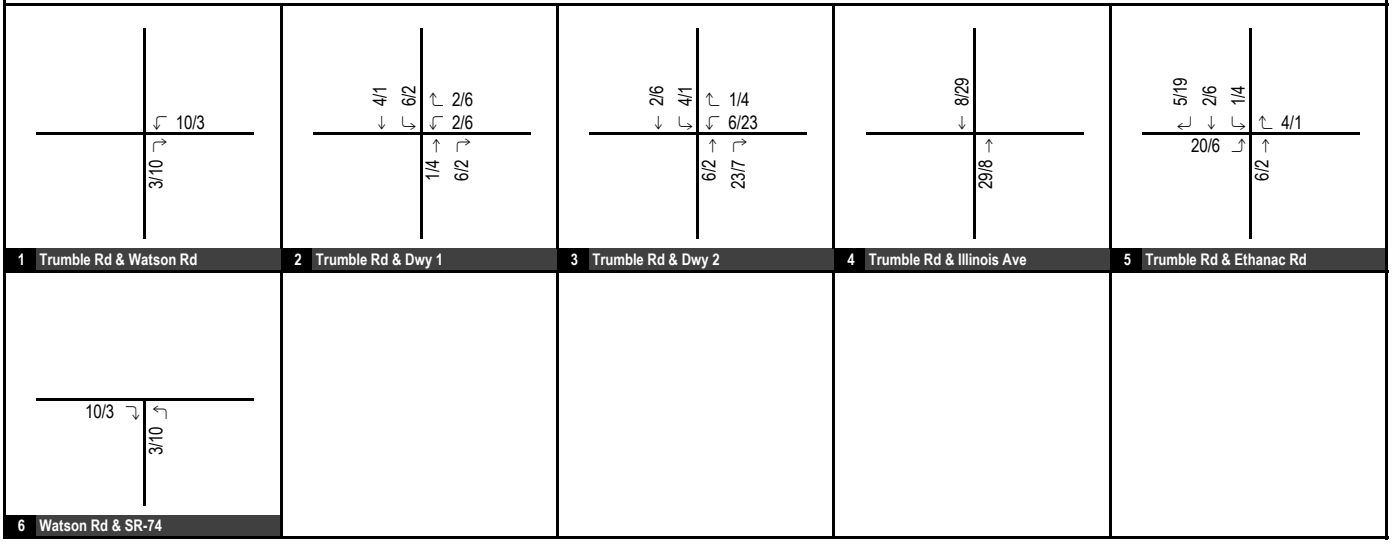


FIGURE 4

XX/YY AM/PM Peak Hour Project Trips

Trumble Road and Watson Road Warehouse
Project Trip Assignment - Passenger Vehicles

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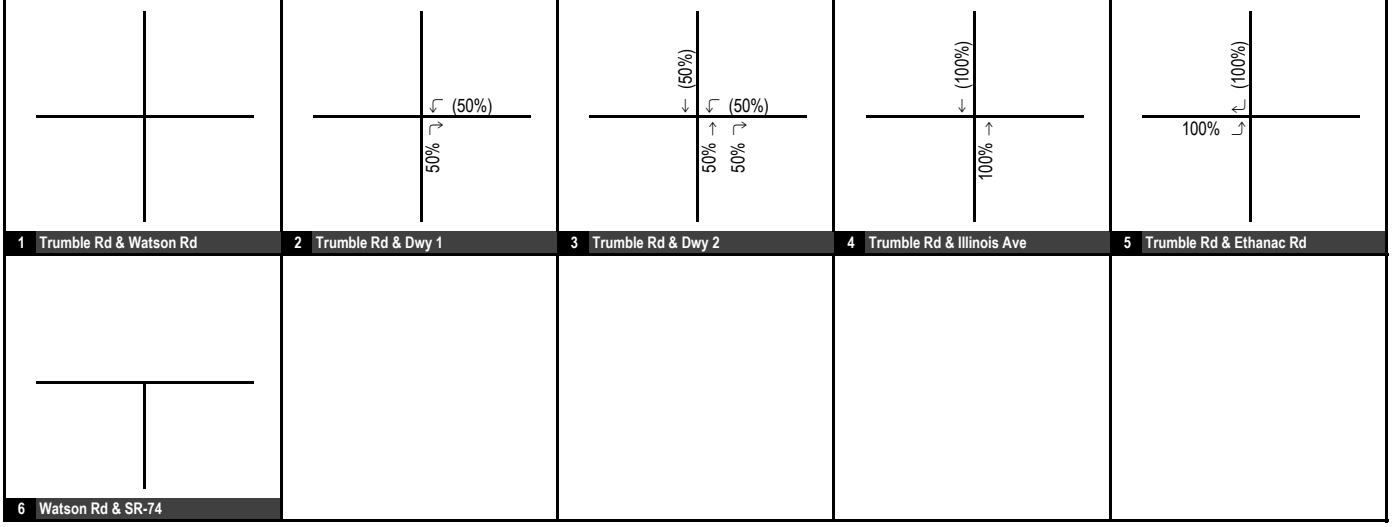


FIGURE 5

XX%(YY%) Inbound%(Outbound%) Distribution

Trumble Road and Watson Road Warehouse
Project Trip Distribution - Trucks

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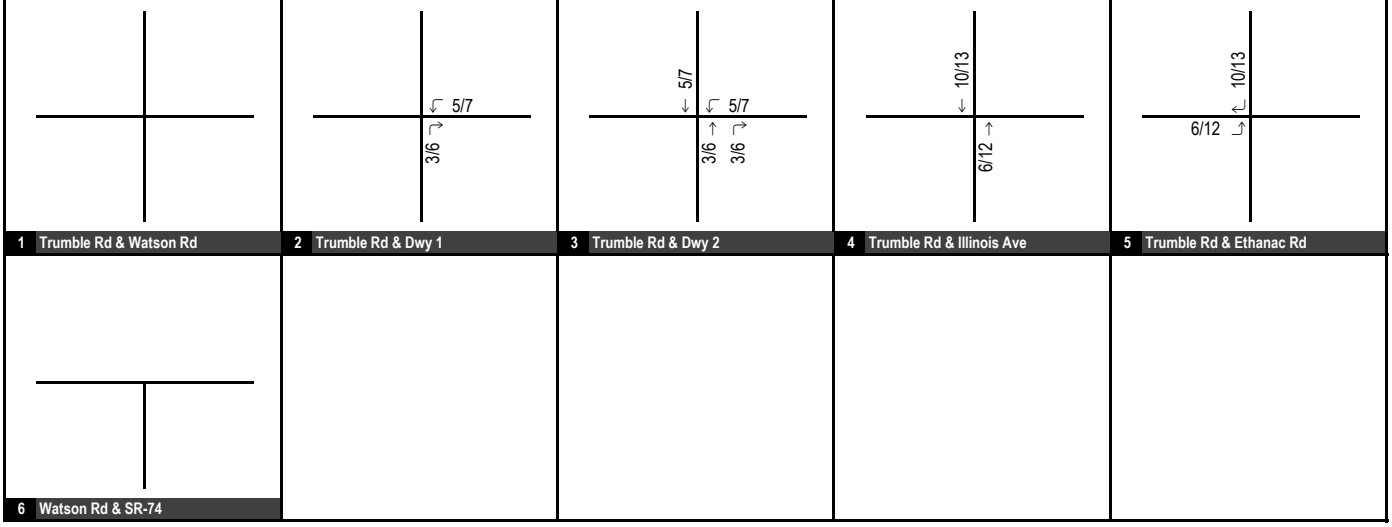


FIGURE 6

XX/YY AM/PM Peak Hour Project Trips

Trumble Road and Watson Road Warehouse
Project Trip Assignment - Trucks

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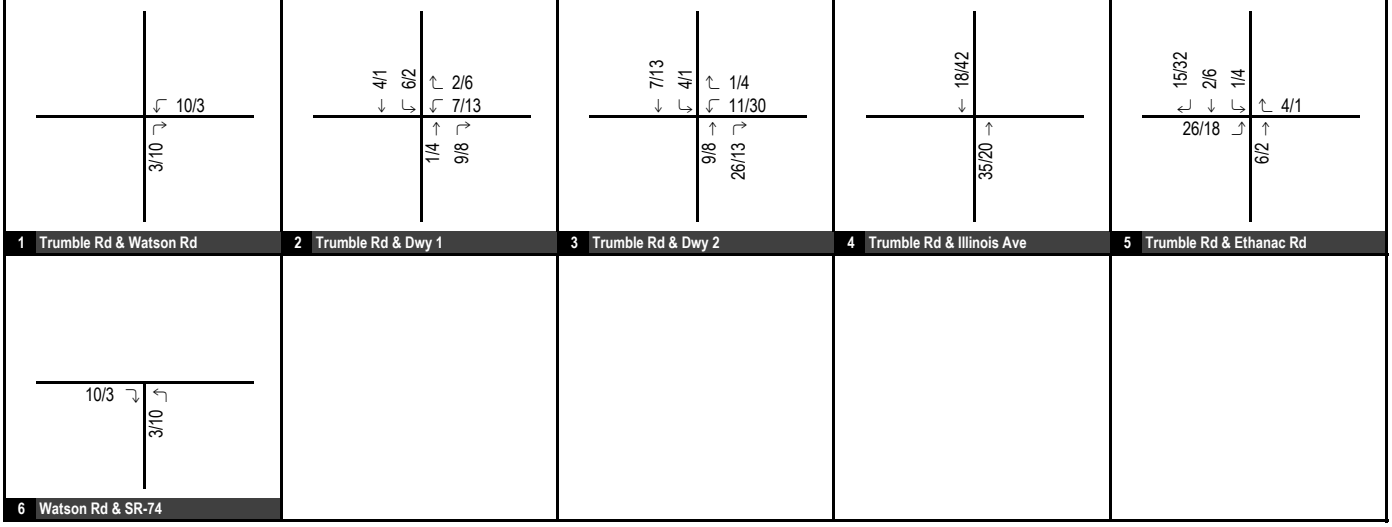
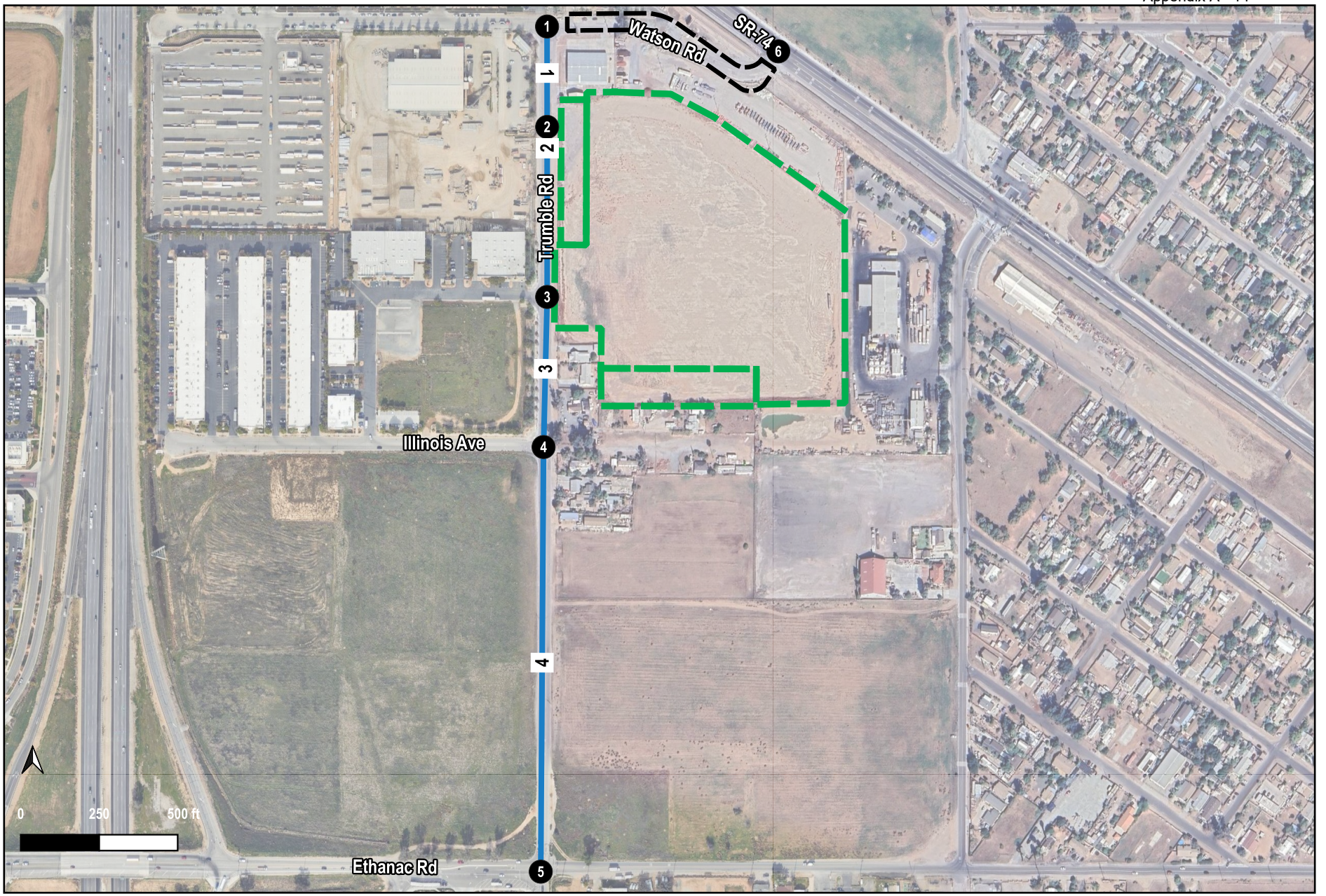


FIGURE 7

XX/YY AM/PM Peak Hour Project Trips

Trumble Road and Watson Road Warehouse
Total Project Trip Assignment

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Legend

Project Boundary | Study Area Intersections | Study Area Roadway Segments

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FIGURE 8

Trumble Road and Watson Road Warehouse
Study Area Intersections and Roadway Segments

G:\Rincon - Trumble & Watson Warehouse\reports\study area intersections.qgz (12-23-2024)

Table A: Project Trip Generation

Land Use	Units	Peak Hour						Daily
		AM Peak Hour			PM Peak Hour			
		In	Out	Total	In	Out	Total	
Total Vehicle Rates								
Trip Generation Rates[1] 328.205	TSF	0.131	0.039	0.170	0.050	0.130	0.180	1.710
PCE Inbound/Outbound Splits		73%	27%	100%	33%	67%	100%	100%
Passenger Car Equivalent Rates Calculations								
Passenger Cars								
Recommended Mix (%)[2]		92.06%	75.45%	88.24%	69.05%	88.89%	83.33%	64.91%
PCE Factor[3]		1.0	1.0	1.0	1.0	1.0	1.0	1.0
PCE Rates		0.121	0.030	0.150	0.035	0.115	0.150	1.110
2-Axle Trucks								
Recommended Mix (%)[2]		1.35%	4.16%	1.99%	5.24%	1.88%	2.82%	5.94%
PCE Factor[3]		1.5	1.5	1.5	1.5	1.5	1.5	1.5
PCE Rates		0.003	0.002	0.005	0.004	0.004	0.008	0.152
3-Axle Trucks								
Recommended Mix (%)[2]		1.80%	5.58%	2.67%	7.03%	2.52%	3.79%	7.97%
PCE Factor[3]		2.0	2.0	2.0	2.0	2.0	2.0	2.0
PCE Rates		0.005	0.004	0.009	0.007	0.007	0.014	0.273
4-Axle Trucks								
Recommended Mix (%)[2]		4.79%	14.82%	7.10%	18.68%	6.71%	10.06%	21.18%
PCE Factor[3]		3.0	3.0	3.0	3.0	3.0	3.0	3.0
PCE Rates		0.019	0.017	0.036	0.028	0.026	0.054	1.086
Warehouse Net PCE Rate		**0.147**	**0.054**	**0.200**	**0.074**	**0.151**	**0.226**	**2.621**
Project Trip Generation (Trips, By Vehicle Type)								
Warehouse 328.205	TSF							
Passenger Cars		**39**	**10**	**49**	**11**	**38**	**49**	**364**
2-Axle Trucks		0	1	1	1	1	2	33
3-Axle Trucks		0	1	1	1	1	2	45
4+ Axle Trucks		2	2	4	3	3	6	119
All Trucks		**2**	**4**	**6**	**5**	**5**	**10**	**197**
Total Vehicles		**41**	**14**	**55**	**16**	**43**	**59**	**561**
Project Trip Generation (Passenger Car Equivalent Trips, By Vehicle Type)								
Passenger Cars		**39**	**10**	**49**	**11**	**38**	**49**	**364**
Truck PCE								
2-Axle Trucks		0	2	2	1	2	3	50
3-Axle Trucks		0	2	2	2	2	4	90
4+ Axle Trucks		6	6	12	9	9	18	357
Total Truck PCE		**6**	**10**	**16**	**12**	**13**	**25**	**497**
Total PCE		**45**	**20**	**65**	**23**	**51**	**74**	**861**

[1] Rates based on Land Use 150 "Warehousing" from Institute of Transportation Engineers (ITE) Trip Generation (11th Edition).

[2] Passenger Vehicle/Truck splits are based on percentages provided in ITE Trip Generation (11th Edition). Truck Splits by axle-type based on Fontana Truck Trip Generation Study, August 2003

[3] Recommended PCE Factor per County of Riverside *Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment (December 2020)*

APPENDIX B:
List of Cumulative Projects

Appendix B - List of Cumulative Projects			
No.	**Project Title**	**Project Description**	**Absorption Rate**
Residential Projects			
1	Cimarron Ridge (Van Daele)	240.3 acres - 756 residential lots - 5,000 - 10,000 sq ft lot sizes and 10.9 ac Park	25%
2	TTM 38128	96 single family lots, 7,200 sq. ft. minimum, on 28 acres	100%
3	Valley Blvd. Tract Map	21.95 acres - 68 residential lots, 7,200 sq ft min.	100%
4	Vista Ridge	2.73 acres - 30 apartment units	100%
5	Coronado Condos	A 73 unit dettached condominium community on 6.5 net acres	100%
6	TR/PP Di Capri	A 61 unit condo map	100%
7	McLaughlin Village	14.34 acres - 126 condominium units. Detached units	50%
8	Legado	332 acres - 1,022 residential lots on 216.9 acres - 20.1 acres of commerical land uses - 12.9 acres community park/community center - 1.9 acres of private recreation center - 7.9 acres of parks - 6.3 of conserved open space - 26.4 acres of detention qual*	25%
9	Underwood (KB Homes)	236 acres - 543 residential lots - 5,000 sq ft min. lot size	25%
10	Countryside TTM 38132	169 unit tract, lot sizes ranging from 4,250 to 11,801 sqft.	50%
11	Harvest Glenn TTM 38133	145 unit tract, lot sizes ranging from 4,250 to 11,801 sqft.	50%
12	Menifee Valley SP (Brookfield)	590 acres - Mixed Use, 1,718 residential units	25%
13	LDW TTM 38346	9.5 gross acres, 162 condominiums	50%
14	The Village at Junipero	17.87 gross acres, 240 luxury apartments	50%
15	Enclave	161.34 acres - 177 Single Family residential lots - 7,200 sq ft min.	50%

Appendix B - List of Cumulative Projects			
No.	**Project Title**	**Project Description**	**Absorption Rate**
16	Villago Villas	GPA/ZCA/PP Add 2 Buildings, 24 residential units	100%
17	Kensington Apartments	20 acres - 26 Buildings - 221 Units	50%
18	Menifee Coastline TTM38525	A 45 single family unit tract at the north west corner of Coastline and Menifee Road.	100%
19	Green Valley	623 Single FamilyUnits and 842 Multi Family Units	25%
Commercial Projects			
20	Goetz & Ethanac Commercial	3.81 acres, 4 buildings - C-Store-7,250 sq ft, Car wash 2,790 sq ft, Retail 7,040 sq ft and Fuel Canopy	100%
21	Ethanac Square	Large truck diesel fuel station 4 pumps , 3,800 sq ft gas station/C-store, 2,080 sq ft express car was	100%
22	On-Deck	108 Hotel Rooms, sit down resturant, fast food resturant with drive through and a gas station/convenience store/car wash	100%
23	Menifee West Coast Self-Storage Facility	Menifee West Coast Self-Storage proposes seven single-story buildings totaling 71,637 square feet of building area on 4.06 acres	100%
24	Motte Country Plaza	3.8 acres - Redevelopment of the Motte Country Plaza - Relocation of the train car restaurant; new 4,700 sq. ft. 6-dual pump gas station; new 3,838 sf Concenience store with drive-thru restaurant; new 1,050 sf car wash	100%
25	HWY 74 and Menifee Road Commercial and Industrial Center (Howard)	104-acres, 6 Commercial buildings (approx 81K SF), 10 Industrial buildings (approx 1.5M SF)	100%
26	Harvest Glen Marketplace	5.04 acres - 18,501 sq. ft. commercial buildings (gas station with canopy, convenience store, two (2) drive thru restaurants and a car wash with vacuums)	100%
27	Omega Paving	Asphalt contractor storage yard and repair facility	100%
28	Kaiser Permanente Medical Office	Kaiser Permanente is proposing a 50,800 sf net (54,500 sf gross) medical office building at the northeast corner of Encanto Drive and Rouse Rd. The site is currently vacant. The proposed mob will be 3 floors and approximately 54 ft tall including the mech	100%
29	The View Church	Church Expansion. Adding 6,949 Sq.Ft. to existing sanctuary building. Adding 5,689 Sq.Ft. to existing fellowship hall.	100%
30	Burger King	2,158 Sq.Ft. Drive-Thru Quick Serve Restaurant Including 17 parking Stalls on 0.57 Acres, S variance was requested to allow for the 12'-4" landscape allowance within the ROW.	100%

Appendix B - List of Cumulative Projects

No.	Project Title	Project Description	Absorption Rate
31	McCall-Encanto Gas Station	2.10 acres - 11,340 sf retail development of gas station, car wash, fast food, convenience store	100%
32	McCall Square (Rancon)	18.1 acres - 7 self-storage buildings (totaling 150,541 sq ft) - 6 commercial buildings (totaling 84,200 sq ft)	100%
33	New Wireless Communication Facility	A new proposed 60 foot mono Eucalyptus wireless cell site	100%
34	Motte Town Center (MTC)	484,300 sq.ft. shopping center at SE corner of Ethanac and Trumble.	100%
35	Ethanac Travel Center	22,430 sq.ft. Convenience Store Gas Station at NW corner of Ethanac and Trumble.	100%
36	Beyond Market	6,900 Sq.ft gas station and carwash at NE corner of Ethanac and Trumble.	100%
37	Farmer Boys	3,300 sq.ft fast food restaurant on SE corner of Ethanac and Encanto.	100%
38	Home Depot Euipment Rent	This is part of the existing Home Depot. No additional trips from this cumulative project will affect our project.	100%
		Industrial Projects	
39	COMPASS - Project Site 2 Wheat Warehouse	Warehouse distribution center - 87,770 sq. ft.	100%
40	CADO Menifee Industrial Warehouse	40.03 gross acres, 700,037 sq ft warehouse building	100%
41	COMPASS - Project Site 1 Corsica Business Park	The proposed development of 2 warehouse buildings on 13.66 acres totaling 154,831 square feet	100%
42	Ares Warehouse on Murrieta	Proposes to construct one (1) concrete tilt-up building totaling 517,720 sq. ft. which includes 20,320 sq. ft. of office, and 497,400 square feet of warehouse	100%
43	Northern Gateway Commerce Center	One industrial warehouse building totaling 1,286,607 square feet on 63.3 acres	100%
44	COMPASS - Project Site 3 Ethanac and Evans Warehouse	Proposes the development of a 138,546 square foot warehouse. The proposed warehouse consists of 131,896 square feet of warehouse space and 6,000 square feet of office space	100%
45	Ethanac & Barnett Warehouse	13.89 acres, 2 buildings, 125,000 sq ft/bldg	100%

Appendix B - List of Cumulative Projects

No.	Project Title	Project Description	Absorption Rate
46	Northern Gateway Logistics Center	Proposes two warehouses; 109,757 sq. ft. and 302,072 sq. ft.	100%
47	United Carports Warehouse	The proposed development of an approximatley 58,643 sq. f.t warehouse	100%
48	Mapes and Sherman Warehouse	13.35 gross acres, 277,578 square foot warehouse	100%
49	Ethanac Business Park	Proposal to construct a 264,710 square foot industrial warehouse on 11.47 acres. Project includes a GPA, SPA & CZ to change one of the parcels from Heavy Industrial to Specific Plan.	100%
50	Menifee Commerce Center	Two warehouse buildings - (1) 1,254,160 SF & (2) 385,970 SF, both sites comprise approximately 72 acres	100%
51	Motte Business Center	One warehouse building totaling 1,138,638 sq. ft. which includes 10,000 sq. ft. of office, 928,638 sq. ft. of warehouse and 200,000 sq. ft. of mezzanine warehouse on an approximately 44 acre project site	100%
52	Nova Power Bank Project	Proposes the re-development of the Inland Empire Energy Center (IEEC) generation plant, which has been decommissioned. The Project includes a 680 MW battery energy storage system	100%
53	Double Butte BESS	Proposes the development of a 500 MW utility scale battery energy storage system	100%
54	McLaughlin San Jacinto Warehouses	The proposed development of five industrial warehouse building totaling 491,467 square feet.	100%
55	IDI Site 3 - Bld 2 of 3 (Total 2,797,522 SF)	1000,000 sq.ft High Cube Warehouse at NE corner of Redlands & Ellis.	100%
56	IDI Site 2 - Bld 2 of 3 (Total 3,192,567)	1,396,020 sq.ft High Cube Warehouse at SW corner of Mapes and Goetz.	100%
57	IDI Site 2 - Bld 1 of 3 (Totla 3,192,567)	1,385,090 sq.ft High Cube Warehouse at SW corner of Mapes and Goetz.	100%
58	IDI Site 3 Bld 3 of 3 (Total 2,797,522 SF)	1,000,000 sq.ft High Cube Warehouse at NE corner of Redland and Ellis	100%
59	IDI - Site 1	784,000 sq.ft High Cube Warehouse at Sw corner of Mountain & Goetz.	100%
60	IDI Site 2 - Bld 3 of 3 (Total 3,192,567)	535,207 sq. ft High Cube Warehouse at SW corner of Mapes and Goetz.	100%
61	Marijuana Manufacturing	61,050 sq.ft manufacturing facility at N. side of Malbert St & W. of Goetz Rd.	100%

Appendix B - List of Cumulative Projects			
No.	**Project Title**	**Project Description**	**Absorption Rate**
62	Malbert Cultivation	33,000 sq.ft manufacturing facility at N. side of Malbert St & W. of Goetz Rd.	100%
63	CSLM Construction - Modular Storage	6,115 sq. ft light industrial facility at N. of Mapes & W of Goetz.	100%
64	NewCastle Indus	670,000 sq. ft High Cube Warehouse at S. Side of Ellis and 750' E. of Redlands.	100%
65	Richland Ind (Green Valley SP)	498,000 sq.ft High Cube Warehouse at High-Cube Warehouse at SW of Watson & Case.	100%
66	Richland Self-Storage (Green Valley SP)	116,000 sq.ft of mini storage at Green Valley Parkway 600 north of Ethanac Road.	100%
67	Blue Marquise Indus	350,000 sq.ft of High Cuve Warehouse & 14,000 sq.ft of Business Park. SW corner Trumble and Mapes	100%
68	Hillwood San Jacinto	New Perris Commerce Center Specific Plan.	100%
69	Perris Airport Logistics	742,000 sq.ft High Cube Warehouse at S. side of Ellis btw Goetz and Case.	100%
70	Airport / Mapes Commerce Ind	648630 sq. ft High Cube Warehouse at NE Goetz and Mapes.	100%
71	Ethanac Logistics Center (Hillwood jr)	412,000 sq. ft of High Cube Warehouse at NE Ethanac and Trumble.	100%
72	Waypoint Commerce (Bld 1)	204269 sq.ft of Warehouse at S. Side of Mountain Ave & 1,300 W of Goetz.	100%
73	Waypoint Commerce (Bld 2)	155,583 sq.ft of Warehouse at S. Side of Mountain Ave & 1,300 W of Goetz.	100%
74	CH Truck Terminal	400 Spots at SW corner of Case and Ellis.	100%
Mixed Use Projects			
75	Beyond Menifee	Proposes a mixed use development on 17.3 acres including retail, office, & 240 dwelling units.	100%
76	Menifee Village TTM	18.17 acres, 91 residential lots, 2,720 sq ft - 4,819 sq ft	100%

Appendix B - List of Cumulative Projects			
No.	**Project Title**	**Project Description**	**Absorption Rate**
77	Case Road Mixed-Use	107,601 sq.ft development. Goetz Road at Case Road and Ellis Road.	100%

APPENDIX C:
Cumulative Projects Trip Generation

Appendix C: Cumulative Projects Trip Generation

Cumul Project No.	Project Title	Land Use	Units	Peak Hours						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
Residential Projects										
1	Cimarron Ridge (Van Daele)	Single Family Detached Housing	189 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				34	98	132	112	66	178	1,782
2	TTM 38128	Single Family Detached Housing	96 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				17	50	67	57	33	90	905
3	Valley Blvd. Tract Map	Single Family Detached Housing	68 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				12	36	48	40	24	64	641
4	Vista Ridge	Multi Family Low Rise	30 DU							
		Trip Generation Rates[2]		0.10	0.30	0.40	0.32	0.19	0.51	6.74
				3	9	12	10	5	15	202
5	Coronado Condos	Single Family Detached Housing	73 DU							
	Detached Condominium	Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				13	38	51	43	26	69	688
6	TR/PP Di Capri	Single Family Detached Housing	61 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				11	32	43	36	21	57	575
7	McLaughlin Village	Single Family Detached Housing	126 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				23	65	88	75	43	118	1,188
8	Legado	SFR, Shopping Center, Sports Park. Recreational Community Center		Trip Generation directly from Legado Specific Plan TIA						
				94	175	269	215	161	375	3,839
9	Underwood (KB Homes)	Single Family Detached Housing	136 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				25	70	95	80	48	128	1,280
10	Countryside TTM 38132	Multi Family Low Rise	85 DU							
		Trip Generation Rates[2]		0.10	0.30	0.40	0.32	0.19	0.51	6.74
				8	26	34	27	16	43	570
11	Harvest Glenn TTM 38133	Multi Family Low Rise	73 DU							
		Trip Generation Rates[2]		0.10	0.30	0.40	0.32	0.19	0.51	6.74
				7	22	29	23	14	37	489
12	Menifee Valley SP (Brookfield)	Single Family Detached Housing	332 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				60	172	232	197	115	312	3,131
		Multi Family Low Rise	98 DU							
		Trip Generation Rates[2]		0.10	0.30	0.40	0.32	0.19	0.51	6.74
				9	30	39	31	19	50	657
13	LDW TTM 38346	Multi Family Low Rise	81 DU							
		Trip Generation Rates[2]		0.10	0.30	0.40	0.32	0.19	0.51	6.74
				8	24	32	26	15	41	546
14	The Village at Junipero	Multi Family Low Rise	120 DU							
		Trip Generation Rates[2]		0.10	0.30	0.40	0.32	0.19	0.51	6.74
				12	36	48	39	22	61	809
15	Enclave	Single Family Detached Housing	89 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				16	46	62	52	31	83	835
16	Villago Villas	Multi Family Low Rise	24 DU							
		Trip Generation Rates[2]		0.10	0.30	0.40	0.32	0.19	0.51	6.74
				2	8	10	8	4	12	162
17	Kensington Apartments	Multi Family Low Rise	111 DU							
		Trip Generation Rates[2]		0.10	0.30	0.40	0.32	0.19	0.51	6.74
				11	33	44	36	20	56	745

Cumul Project No.	Project Title	Land Use	Units	Peak Hours						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
18	Menifee Coastline TTM38525	Single Family Detached Housing	45 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				8	24	32	27	15	42	424
19	Green Valley	Single Family Detached Housing	156 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				28	81	109	92	55	147	1,471
		Multi Family Low Rise	211 DU							
		Trip Generation Rates[2]		0.10	0.30	0.40	0.32	0.19	0.51	6.74
				20	64	84	68	40	108	1,422
Commercial Projects										
20	Goetz & Ethanac Commercial	Convenience Store/Gas Station	7.250 TSF							
		Trip Generation Rates[3]		28.26	28.26	56.52	27.26	27.26	54.52	700.43
		Trip Generation		205	205	410	198	197	395	5,078
		Pass By	-76% AM	-156	-156	-312	-149	-148	-296	-3,834
		Net New	-75% PM	49	49	98	49	49	99	1,244
		Fast-Food Restaurant without Drive-Through Window	7.040 TSF							
		Trip Generation Rates[4]		25.04	18.14	43.18	16.61	16.61	33.21	450.49
		Trip Generation		176	128	304	117	117	234	3,171
		Automated Car Wash	2.890 TSF							
		Trip Generation Rates[5]		7.10	7.10	14.20	7.10	7.10	14.20	142.00
		Trip Generation		21	20	41	21	20	41	410
		Gasoline/Service Station	16 Pumps							
		Trip Generation Rates[6]		5.14	5.14	10.28	6.96	6.96	13.91	172.01
		Trip Generation		82	82	164	111	112	223	2,752
		Pass By	-63% AM	-52	-52	-103	-63	-64	-127	-1,651
		Net New	-57% PM	30	30	61	48	48	96	1,101
		Total Net New Trips		276	227	504	235	234	470	5,926
21	Ethanac Square	Truck Stop	4 Pumps							
		Trip Generation Rates[7]		6.85	7.12	13.97	8.17	7.25	15.42	224.00
		Trip Generation		27	29	56	33	29	62	896
		Convenience Store/Gas Station	3.800 TSF							
		Trip Generation Rates[3]		28.26	28.26	56.52	27.26	27.26	54.52	700.43
		Trip Generation		107	108	215	104	103	207	2,662
		Pass By	-76% AM	-81	-82	-163	-78	-77	-155	-2,010
		Net New	-75% PM	26	26	52	26	26	52	652
		Automated Car Wash	2.080 TSF							
		Trip Generation Rates[5]		7.10	7.10	14.20	7.10	7.10	14.20	142.00
		Trip Generation		15	15	30	15	15	30	295
		Total Net New Trips		68	70	138	74	70	144	1,843
22	On-Deck	All Suites Hotel	108 Rooms							
		Trip Generation Rates[8]		0.18	0.16	0.34	0.18	0.18	0.36	4.4
				19	18	37	19	20	39	475
		High-Turnover(Sit-Down) Restaurant	5.500 TSF							
		Trip Generation Rates[9]		5.26	4.307	9.570	5.52	3.530	9.050	107.2
				29	24	53	30	20	50	590
		Pass By	-43%	-12	-10	-23	-13	-9	-22	-254
		Net New		17	14	30	17	11	28	336
22	On-Deck	Fast-Food Restaurant with Drive-Through Window	3.000 TSF							
		Trip Generation Rates[10]		22.75	21.86	44.61	17.18	15.85	33.03	467.48
		Trip Generation		68	66	134	52	47	99	1,402
		Pass By	-50%	-34	-33	-67	-26	-24	-50	-701
		Net New		34	33	67	26	23	49	701
		Gasoline/Service Station	6.000 VFP							
		Trip Generation Rates[6]		5.14	5.14	10.28	6.96	6.96	13.91	172.01
		Trip Generation		31	31	62	42	41	83	1,032
		Pass By	-63% AM	-20	-20	-39	-24	-23	-47	-619
		Net New	-57% PM	11	11	23	18	18	36	413
		Total Net New Trips		81	76	157	80	72	152	1,925

Cumul Project No.	Project Title	Land Use	Units	Peak Hours						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
23	Menifee West Coast Self-Storage Facility	Mini Warehouse	71.637 TSF							
		Trip Generation Rates[11]		0.05	0.04	0.09	0.07	0.08	0.15	1.45
		Trip Generation		4	2	6	5	6	11	104
24	Motte Country Plaza	Gasoline/Service Station	12.000 VFP							
		Trip Generation Rates[6]		5.14	5.14	10.28	6.96	6.96	13.91	172.01
		Trip Generation		62	61	123	83	84	167	2,064
		Pass By	-63% AM	-39	-38	-77	-47	-48	-95	-1,238
		Net New	-57% PM	23	23	46	36	36	72	826
		Convenience Store/Gas Station	3.838 TSF							
		Trip Generation Rates[3]		28.26	28.26	56.52	27.26	27.26	54.52	700.43
		Trip Generation		108	109	217	105	104	209	2,688
		Pass By	-76% AM	-82	-83	-165	-79	-78	-157	-2,029
		Net New	-75% PM	26	26	52	26	26	52	659
		Automated Car Wash	1.050 TSF							
		Trip Generation Rates[5]		7.10	7.10	14.20	7.10	7.10	14.20	142.00
		Trip Generation		7	8	15	7	8	15	149
		Total Net New Trips		56	57	113	69	70	139	1,634
25	HWY 74 and Menifee Road Commercial and Industrial Center (Howard)	General Light Industrial	1500.000 TSF							
		Trip Generation Rates[12]		0.65	0.09	0.74	0.09	0.56	0.65	4.87
		Trip Generation		977	133	1,110	137	838	975	7,305
26	Harvest Glen Marketplace	Gasoline/Service Station	8 VHP							
		Trip Generation Rates[6]		5.14	5.14	10.28	6.96	6.96	13.91	172.01
		Trip Generation		41	41	82	56	55	111	1,376
		Pass By	-63% AM	-26	-26	-52	-32	-31	-63	-826
		Net New	-57% PM	15	15	30	24	24	48	550
		Fast-Food Restaurant without Drive-Through Window	1.102 TSF							
		Trip Generation Rates[4]		25.04	18.14	43.18	16.61	16.61	33.21	450.49
		Trip Generation		28	20	48	18	19	37	496
		Automated Car Wash	3.000 TSF							
		Trip Generation Rates[5]		7.10	7.10	14.20	7.10	7.10	14.20	142.00
		Trip Generation		21	22	43	21	22	43	426
		Fast-Food Restaurant with Drive-Through Window	3.268 TSF							
		Trip Generation Rates[10]		22.75	21.86	44.61	17.18	15.85	33.03	467.48
		Trip Generation		74	72	146	56	52	108	1,528
		Pass By	-50%	-37	-36	-73	-28	-26	-54	-764
		Net New		37	36	73	28	26	54	764
		Total Net New Trips		101	93	194	91	91	182	2,236
27	Omega Paving	Trip Generation		NominalTrips						
28	Kaiser Permanente Medical Office	Medical-Dental Office Building	50.800 TSF							
		Trip Generation Rates[13]		2.45	0.65	3.10	1.18	2.75	3.93	36.00
		Trip Generation		124	33	157	60	140	200	1,829
29	The View Church	Church	12.638 TSF							
		Trip Generation Rates[14]		0.20	0.12	0.32	0.22	0.27	0.49	7.60
		Trip Generation		3	1	4	3	3	6	96
30	Burger King	Fast-Food Restaurant with Drive-Through Window	2.158 TSF							
		Trip Generation Rates[10]		22.75	21.86	44.61	17.18	15.85	33.03	467.48
		Trip Generation		49	47	96	37	34	71	1,009
		Pass By	-50%	-25	-24	-48	-19	-17	-36	-505
		Net New		24	23	48	18	17	35	504
31	McCall-Encanto Gas Station	Convenience Store/Gas Station	3.200 TSF							
		Trip Generation Rates[3]		28.26	28.26	56.52	27.26	27.26	54.52	700.43
		Trip Generation		90	91	181	87	87	174	2,241
		Pass By	-76% AM	-68	-69	-138	-65	-65	-131	-1,692
		Net New	-75% PM	22	22	43	22	22	43	549
		Gasoline/Service Station	12 VFP							
		Trip Generation Rates[6]		5.14	5.14	10.28	6.96	6.96	13.91	172.01
		Trip Generation		62	61	123	83	84	167	2,064
		Pass By	-63% AM	-39	-38	-77	-47	-48	-95	-1,238
		Net New	-57% PM	23	23	46	36	36	72	826

Cumul Project No.	Project Title	Land Use	Units	Peak Hours						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
		Automated Car Wash	1.140 TSF							
		Trip Generation Rates[5]		7.10	7.10	14.20	7.10	7.10	14.20	142.00
		Trip Generation		8	8	16	8	8	16	162
		Fast-Food Restaurant with Drive-Through Window	3.900 TSF							
		Trip Generation Rates[10]		22.75	21.86	44.61	17.18	15.85	33.03	467.48
		Trip Generation		89	85	174	67	62	129	1,823
		Pass By	-50%	-45	-43	-87	-34	-31	-65	-912
		Net New		44	42	87	33	31	64	911
		Total Net New Trips		97	95	192	99	97	195	2,448
32	McCall Square (Rancon)	Mini Warehouse	150.541 TSF							
		Trip Generation Rates[11]		0.05	0.04	0.09	0.07	0.08	0.15	1.45
		Trip Generation		8	6	14	11	12	23	218
		Shopping Plaza (40-150k)	84.200 TSF							
		Trip Generation Rates[15]		2.19	1.34	3.53	4.33	4.70	9.03	94.49
		Trip Generation		184	113	297	365	395	760	7,956
		Pass By	-40%	-74	-45	-119	-146	-158	-304	-3,182
		Net New		110	68	178	219	237	456	4,774
		Total Net New Trips		118	74	192	230	249	479	4,992
33	New Wireless Communication Facility	Trip Generation		NominalTrips						
		Shopping Plaza (>150k)	484.300 TSF							
34	Motte Town Center (MTC)	Trip Generation Rates[16]		0.52	0.32	0.84	1.63	1.77	3.40	37.01
		Trip Generation		252	155	407	790	857	1,647	17,924
		Pass By	-19%	-48	-29	-77	-150	-163	-313	-3,406
		Net New		204	126	330	640	694	1,334	14,518
		Convenience Store/Gas Station	22.430 TSF							
35	Ethanac Travel Center	Trip Generation Rates[6]		28.26	28.26	56.52	27.26	27.26	54.52	700.43
		Trip Generation		634	634	1,268	611	612	1,223	15,711
		Pass By	-76% AM	-482	-482	-964	-458	-459	-917	-11,862
		Net New	-75% PM	152	152	304	153	153	306	3,849
		Convenience Store/Gas Station	6.900 TSF							
36	Beyond Market	Trip Generation Rates[6]		28.26	28.26	56.52	27.26	27.26	54.52	700.43
		Trip Generation		195	195	390	188	188	376	4,833
		Pass By	-76% AM	-148	-148	-296	-141	-141	-282	-3,649
		Net New	-75% PM	47	47	94	47	47	94	1,184
		Fast-Food Restaurant with Drive-Through Window	33.000 TSF							
37	Farmer Boys	Trip Generation Rates[10]		22.75	21.86	44.61	17.18	15.85	33.03	467.48
		Trip Generation		751	721	1,472	567	523	1,090	15,427
		Pass By	-50%	-376	-361	-736	-284	-262	-545	-7,714
		Net New		375	360	736	283	261	545	7,713
38	Home Depot Euipment Rent	This is part of the existing Home Depot. No additional trips from this cumulative project will affect our project.								
		Industrial Projects								
		Warehousing	87.770 TSF							
39	COMPASS - Project Site 2 Wheat Warehouse	Trip Generation Rates[17]		0.15	0.05	0.200	0.07	0.15	0.226	2.621
				13	5	18	7	13	20	230
		High-Cube Transload and Short-Term	700.037 TSF							
40	CADO Menifee Industrial Warehouse	Storage Warehouse		0.077	0.034	0.111	0.035	0.080	0.115	1.739
		Trip Generation Rates[18]		54	24	78	25	56	81	1,218
		Warehousing	154.831 TSF							
41	COMPASS - Project Site 1 Corsica Business Park	Trip Generation Rates[17]		0.147	0.054	0.200	0.074	0.151	0.226	2.621
				23	8	31	11	24	35	406
		High-Cube Transload and Short-Term	497.400 TSF							
42	Ares Warehouse on Murrieta	Storage Warehouse		0.077	0.034	0.111	0.035	0.080	0.115	1.739
		Trip Generation Rates[18]		38	17	55	18	39	57	865
		General Office Building	20.320 TSF							
		Trip Generation Rates[19]		1.34	0.18	1.52	0.24	1.20	1.44	10.840
				27	4	31	5	24	29	220

Cumul Project No.	Project Title	Land Use	Units	Peak Hours						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
43	Northern Gateway Commerce Center	High-Cube Transload and Short-Term Storage Warehouse	1,286.607 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				99	44	143	45	103	148	2,238
44	COMPASS - Project Site 3 Ethanac and Evans Warehouse	Warehousing	138.546 TSF							
		Trip Generation Rates[17]		0.147	0.054	0.200	0.074	0.151	0.226	2.621
				20	8	28	10	21	31	363
		General Office Building	6.000 TSF							
		Trip Generation Rates[19]		1.34	0.18	1.52	0.24	1.20	1.44	10.840
				8	1	9	1	8	9	65
45	Ethanac & Barnett Warehouse	Warehousing	103.069 TSF							
		Trip Generation Rates[17]		0.147	0.054	0.200	0.074	0.151	0.226	2.621
				15	6	21	8	15	23	270
		Manufacturing	12.496 TSF							
		Trip Generation Rates[20]		0.52	0.16	0.680	0.23	0.51	0.740	4.750
				6	2	8	3	6	9	59
		General Office Building	10.000 TSF							
		Trip Generation Rates[19]		1.34	0.18	1.52	0.24	1.20	1.44	10.840
				13	2	15	2	12	14	108
46	Northern Gateway Logistics Center	Warehousing	411.829 TSF							
		Trip Generation Rates[17]		0.147	0.054	0.200	0.074	0.151	0.226	2.621
				60	23	83	31	62	93	1,080
47	United Carports Warehouse	Warehousing	58.643 TSF							
		Trip Generation Rates[17]		0.147	0.054	0.200	0.074	0.151	0.226	2.621
				9	3	12	4	9	13	154
48	Mapes and Sherman Warehouse	Warehousing	277.578 TSF							
		Trip Generation Rates[17]		0.147	0.054	0.200	0.074	0.151	0.226	2.621
				41	15	56	21	42	63	728
49	Ethanac Business Park	High-Cube Transload and Short-Term Storage Warehouse	264.710 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				20	9	29	9	22	31	460
50	Menifee Commerce Center	High-Cube Transload and Short-Term Storage Warehouse	1,640.130 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				126	56	182	58	131	189	2,853
51	Motte Business Center	High-Cube Transload and Short-Term Storage Warehouse	928.638 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				71	32	103	33	74	107	1,615
		General Office Building	10.000 TSF							
		Trip Generation Rates[19]		1.34	0.18	1.52	0.24	1.20	1.44	10.840
				13	2	15	2	12	14	108
		Warehousing	200.000 TSF							
		Trip Generation Rates[17]		0.147	0.054	0.200	0.074	0.151	0.226	2.621
				29	11	40	15	30	45	524
52	Nova Power Bank Project	Trip Generation		NominalTrips						
53	Double Butte BESS	Trip Generation		NominalTrips						
54	McLaughlin San Jacinto Warehouses	High-Cube Transload and Short-Term Storage Warehouse	491.467 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				38	16	54	17	40	57	855
55	IDI Site 3 - Bld 2 of 3 (Total 2,797,522 SF)	High-Cube Transload and Short-Term Storage Warehouse	1,000.000 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				77	34	111	35	80	115	1,739
56	IDI Site 2 - Bld 2 of 3 (Total 3,192,567)	High-Cube Transload and Short-Term Storage Warehouse	1,396.020 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				107	48	155	49	112	161	2,428
57	IDI Site 2 - Bld 1 of 3 (Totla 3,192,567)	High-Cube Transload and Short-Term Storage Warehouse	1,385.090 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				106	48	154	49	111	160	2,409

Cumul Project No.	Project Title	Land Use	Units	Peak Hours						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
58	IDI Site 3 Bld 3 of 3 (Total 2,797,522 SF)	High-Cube Transload and Short-Term Storage Warehouse	1,000.000 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				77	34	111	35	80	115	1,739
59	IDI - Site 1	High-Cube Transload and Short-Term Storage Warehouse	784.000 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				60	27	87	28	62	90	1,364
60	IDI Site 2 - Bld 3 of 3 (Total 3,192,5	High-Cube Transload and Short-Term Storage Warehouse	535.207 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				41	18	59	19	43	62	931
61	Marijuana Manufacturing	Manufacturing	61.050 TSF							
		Trip Generation Rates[20]		0.52	0.16	0.680	0.23	0.51	0.740	4.750
				32	10	42	14	31	45	290
62	Malbert Cultivation	Manufacturing	33.000 TSF							
		Trip Generation Rates[20]		0.52	0.16	0.680	0.23	0.51	0.740	4.750
				17	5	22	8	16	24	157
63	CSLM Construction - Modular Stor	General Light Industrial	6.115 TSF							
		Trip Generation Rates[12]		0.65	0.09	0.74	0.09	0.56	0.65	4.87
		Trip Generation		4	1	5	1	3	4	30
64	NewCastle Indus	High-Cube Transload and Short-Term Storage Warehouse	670.000 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				51	23	74	24	53	77	1,165
65	Richland Ind (Green Valley SP)	High-Cube Transload and Short-Term Storage Warehouse	498.000 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				38	17	55	18	39	57	866
66	Richland Self-Storage (Green Valley SP)	Mini Warehouse	116.000 TSF							
		Trip Generation Rates[11]		0.05	0.04	0.09	0.07	0.08	0.15	1.45
		Trip Generation		6	4	10	8	9	17	168
67	Blue Marquise Indus	High-Cube Transload and Short-Term Storage Warehouse	350.000 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				27	12	39	12	28	40	609
		Business Park	14.000 TSF							
		Trip Generation Rates[21]		1.15	0.20	1.35	0.32	0.90	1.22	12.44
				16	3	19	4	13	17	174
68	Hillwood San Jacinto	Trips fom New Perris Commerce Center Specific Plan		1,135	476	1,611	1,148	1,309	2,454	22,467
69	Perris Airport Logistics	High-Cube Transload and Short-Term Storage Warehouse	742.000 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				57	25	82	26	60	86	1,290
70	Airport / Mapes Commerce Ind	High-Cube Transload and Short-Term Storage Warehouse	648.630 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				50	22	72	23	52	75	1,128
71	Ethanac Logistics Center (Hillw	High-Cube Transload and Short-Term Storage Warehouse	412.000 TSF							
		Trip Generation Rates[18]		0.077	0.034	0.111	0.035	0.080	0.115	1.739
				32	14	46	15	33	48	717
72	Waypoint Commerce (Bld 1)	Warehousing	204.269 TSF							
		Trip Generation Rates[17]		0.147	0.054	0.200	0.074	0.151	0.226	2.621
				30	11	41	15	31	46	535
73	Waypoint Commerce (Bld 2)	Warehousing	155.583 TSF							
		Trip Generation Rates[17]		0.147	0.054	0.200	0.074	0.151	0.226	2.621
				23	8	31	12	23	35	408
74	CH Truck Terminal	Drop Lot	22.86 Ac							
		Trip Generation Rates[22]		3.01	3.15	6.19	2.48	3.01	5.49	81.04
				69	72	141	57	69	126	1,852
Mixed Use Projects										
75	Beyond Menifee	Single Family Detached Housing	240 DU							
		Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				44	124	168	142	84	226	2,263
		Shopping Plaza (40-150k)	71.100 TSF							
		Trip Generation Rates[15]		2.19	1.34	3.53	4.33	4.70	9.03	94.49

Cumul Project No.	Project Title	Land Use	Units	Peak Hours						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
		Trip Generation		156	95	251	308	334	642	6,718
		Pass By	-40%	-62	-38	-100	-123	-134	-257	-2,687
		Net New		94	57	151	185	200	385	4,031
		Convenience Store/Gas Station	7.460 TSF							
		Trip Generation Rates[21]		20.30	20.30	40.59	24.24	24.24	48.48	624.20
		Trip Generation		151	152	303	181	181	362	4,657
		Pass By	-76% AM	-115	-116	-230	-136	-136	-272	-3,516
		Net New	-75% PM	36	36	73	45	45	90	1,141
		Automated Car Wash	1.790 TSF							
		Trip Generation Rates[5]		7.10	7.10	14.20	7.10	7.10	14.20	142.00
		Trip Generation		13	12	25	13	12	25	254
		Convenience Store/Gas Station	5.890 TSF							
		Trip Generation Rates[21]		20.30	20.30	40.59	24.24	24.24	48.48	624.20
		Trip Generation		120	119	239	143	143	286	3,677
		Pass By	-76% AM	-91	-90	-182	-107	-107	-215	-2,776
		Net New	-75% PM	29	29	57	36	36	71	901
		Total Net New Trips		216	258	474	421	377	797	8,590
		Single Family Detached Housing	91 DU							
76	Menifee Village TTM	Trip Generation Rates[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
				17	47	64	54	32	86	858
77	Case Road Mixed-Use	Trips From Case Road Mixed Use TIA		773	391	1,164	926	1,049	1,975	17,508
Total Net Trip Generation				**5,754**	**4,063**	**9,820**	**5,621**	**6,941**	**12,561**	**140,653**

Notes: DU=Dwelling Units, TSF=Thousand Square Feet

[1] Trip generation based on rates for Land Use 210 - "Single-Family Detached Housing" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[2] Trip generation based on rates for Land Use 220 - "Multifamily Housing (Low-Rise)" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[3] Trip generation based on rates for Land Use 945 - "Convenience Store/Gas Station - VFP (9-15)" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[4] Trip generation based on rates for Land Use 933 - "Fast-Food Restaurant without Drive-Through Window" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[5] Trip generation based on rates for Land Use 948 - "Automated Car Wash" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition). Wkdy avg. rate for trip gen for 1000 Sq.ft. is available for PM only. PM rate used for AM. Daily rate is 10 times the PM rate.

[6] Trip generation based on rates for Land Use 944 - "Gasoline Service Station" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[7] Trip generation based on rates for Land Use 950 - "Truck Stop" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[8] Trip generation based on rates for Land Use 311 - "All Suites Hotel" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[9] Trip generation based on rates for Land Use 932 - "High-Turnover(Sit-Down) Restaurant" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[10] Trip generation based on rates for Land Use 934 - "Fast-Food Restaurant with Drive-Through Window" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[11] Trip generation based on rates for Land Use 151 - "Mini Warehouse" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[12] Trip generation based on rates for Land Use 110 - "General Light Industrial" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[13] Trip generation based on rates for Land Use 720 - "Medical Dental Office Building" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[14] Trip generation based on rates for Land Use 560 - "Church" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[15] Trip generation based on rates for Land Use 821 - " Shopping Plaza (40-150k)" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[16] Trip generation based on rates for Land Use 820 - "Shopping Plaza (>150k)" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[17] Trip generation based on rates for Land Use 150 - "Warehousing" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition). Refer to Appendix for PCE Conversion.

[18] Trip generation based on PCE rates for Land Use 154 - "High-Cube Transload and Short-Term Warehouse" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition). Refer to Appendix for PCE

[19] Trip generation based on rates for Land Use 710 - "General Office Building" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[20] Trip generation based on rates for Land Use 140 - "Manufacturing" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[21] Trip generation based on rates for Land Use 770 - "Business Park" from Institute of Transportation Engineers' (ITE) Trip Generation (11th Edition).

[22] Rates base on Suvey Data.

Pass-By rates based on 2021 Pass-By Tables for ITE Trip Generaion.

Table A: Phases 1 and 2 Project Trip Generation Summary

Land Use	Units	Peak Hour						Daily
		AM Peak Hour			PM Peak Hour			
		In	Out	Total	In	Out	Total	
PHASE 1								
Bldg. 1 High-Cube Warehouse[1]	611 TSF							
Passenger Cars		32	5	37	14	41	55	721
Truck PCE								
2-Axle Trucks		1	2	3	0	2	2	33
3-Axle Trucks		4	2	6	0	2	2	56
4+ Axle Trucks		12	12	24	6	6	12	252
Total Truck PCE		**17**	**16**	**33**	**6**	**10**	**16**	**341**
Total PCE		**49**	**21**	**70**	**20**	**51**	**71**	**1,062**
Bldg. 4 Fulfillment Center Warehouse (Based on 7-Surveyed Sites)[2]	1,100.900 TSF							
Passenger Cars		**308**	**65**	**373**	**440**	**411**	**851**	**4,751**
Truck PCE								
2-Axle Trucks		2	2	3	0	2	2	219
3-Axle Trucks		6	6	12	2	6	8	254
4+ Axle Trucks		39	27	69	24	39	63	1,308
Total Truck PCE		**47**	**35**	**84**	**26**	**47**	**73**	**1,781**
Total PCE		**355**	**100**	**457**	**466**	**458**	**924**	**6,532**
Bldg. 4 Cold Storage Warehouse[3]	120.100 TSF							
Passenger Cars		**9**	**1**	**10**	**4**	**7**	**11**	**165**
Truck PCE								
2-Axle Trucks		0	2	2	0	2	2	47
3-Axle Trucks		0	0	0	0	0	0	20
4+ Axle Trucks		3	3	6	3	3	6	147
Total Truck PCE		**3**	**5**	**8**	**3**	**5**	**8**	**214**
Total PCE		**12**	**6**	**18**	**7**	**12**	**19**	**379**
Bldg. 5 Business Park[4]	62.150 TSF							
Total Trip Generation		**71**	**13**	**84**	**20**	**56**	**76**	**773**
Bldg. 6 Business Park[5]	66.170 TSF							
Total Trip Generation		**76**	**13**	**89**	**21**	**60**	**81**	**823**
Bldg. 7 Business Park[6]	48.470 TSF							
Total Trip Generation		**56**	**10**	**66**	**15**	**44**	**59**	**603**
Bldg. 8 Business Park[7]	58.700 TSF							
Total Trip Generation		**67**	**12**	**79**	**19**	**53**	**72**	**730**
Retail[8]	6.780 TSF							
Total Trip Generation		10	6	16	22	23	45	369
Pass-By Trips		(2)	(2)	(4)	(9)	(9)	(18)	(103)
Net Trip Generation		**8**	**4**	**12**	**13**	**14**	**27**	**266**
Dog Park[9]	1.000 Park							
Total Trip Generation		**8**	**5**	**13**	**12**	**22**	**34**	**265**
PHASE 1 Trip Generation (Passenger Car Equivalent Trips, By Vehicle Type)								
Passenger Cars		**635**	**128**	**763**	**558**	**708**	**1,266**	**9,097**
Truck PCE								
2-Axle Trucks		**3**	**6**	**8**	**0**	**6**	**6**	**299**
3-Axle Trucks		**10**	**8**	**18**	**2**	**8**	**10**	**330**
4-Axle Trucks		**54**	**42**	**99**	**33**	**48**	**81**	**1,707**
Total Truck PCE		**67**	**56**	**125**	**35**	**62**	**97**	**2,336**
Phase 1 Total PCE		**702**	**184**	**888**	**593**	**770**	**1,363**	**11,433**
Phase 2 Driveway Trips (Without Pass By)		**704**	**186**	**892**	**602**	**779**	**1,381**	**11,536**

Table A: Phases 1 and 2 Project Trip Generation Summary

Land Use		Units	Peak Hour						Daily
			AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
PHASE 2									
Bldg. 2 High-Cube Warehouse[10]	700.315	TSF							
Passenger Cars			**36**	**6**	**42**	**16**	**47**	**63**	**826**
Truck PCE									
2-Axle Trucks			1	2	3	0	2	2	39
3-Axle Trucks			4	2	6	0	2	2	64
4+ Axle Trucks			15	12	27	6	6	12	288
Total Truck PCE			**20**	**16**	**36**	**6**	**10**	**16**	**391**
Total PCE			**56**	**22**	**78**	**22**	**57**	**79**	**1,217**
Bldg. 2 Cold Storage Warehouse[11]	76.035	TSF							
Passenger Cars			**6**	**0**	**6**	**3**	**4**	**7**	**104**
Truck PCE									
2-Axle Trucks			2	0	2	2	0	2	30
3-Axle Trucks			0	0	0	0	0	0	12
4+ Axle Trucks			0	3	3	0	3	3	93
Total Truck PCE			**2**	**3**	**5**	**2**	**3**	**5**	**135**
Total PCE			**8**	**3**	**11**	**5**	**7**	**12**	**239**
Bldg. 3 Fulfillment Center Warehouse (Based on 7-Surveyed Sites)[12]	743.033	TSF							
Passenger Cars			**208**	**44**	**252**	**297**	**277**	**574**	**3,207**
Truck PCE									
2-Axle Trucks			2	2	2	0	2	2	149
3-Axle Trucks			4	4	8	2	4	6	170
4+ Axle Trucks			27	18	45	18	27	42	882
Total Truck PCE			**33**	**24**	**55**	**20**	**33**	**50**	**1,201**
Total PCE			**241**	**68**	**307**	**317**	**310**	**624**	**4,408**
Bldg. 3 Cold Storage Warehouse[13]	80.337	TSF							
Passenger Cars			**6**	**0**	**6**	**2**	**5**	**7**	**110**
Truck PCE									
2-Axle Trucks			2	0	2	2	0	2	32
3-Axle Trucks			0	0	0	0	0	0	14
4+ Axle Trucks			0	3	3	0	3	3	99
Total Truck PCE			**2**	**3**	**5**	**2**	**3**	**5**	**145**
Total PCE			**8**	**3**	**11**	**4**	**8**	**12**	**255**
Convenience Store/Gas Station[14]	22.000	VFP							
Trip Generation			348	347	695	296	296	592	7,607
Pass-By Trips			(264)	(264)	(528)	(222)	(222)	(444)	(5,705)
Net Trip Generation			84	83	167	74	74	148	1,902
Car Wash[15]	1.800	TSF							
Trip Generation			0	0	0	13	13	26	499
Total Trip Generation			**84**	**83**	**167**	**87**	**87**	**174**	**2,401**
Multifamily Residential[16]	373	DU							
Total Trip Generation			**36**	**113**	**149**	**120**	**70**	**190**	**2,514**
PHASE 2 Trip Generation (Passenger Car Equivalent Trips, By Vehicle Type)									
Passenger Cars			**376**	**246**	**622**	**525**	**490**	**1,015**	**9,162**
Truck PCE									
2-Axle Trucks			**7**	**4**	**9**	**4**	**4**	**8**	**250**
3-Axle Trucks			**8**	**6**	**14**	**2**	**6**	**8**	**260**
4-Axle Trucks			**42**	**36**	**78**	**24**	**39**	**60**	**1,362**
Total Truck PCE			**57**	**46**	**101**	**30**	**49**	**76**	**1,872**
Phase 2 Total PCE			**433**	**292**	**723**	**555**	**539**	**1,091**	**11,034**
Phase 2 Driveway Trips (Without Pass By)			**697**	**556**	**1,251**	**777**	**761**	**1,535**	**16,739**

Table A: Phases 1 and 2 Project Trip Generation Summary

Land Use	Units	Peak Hour						Daily
		AM Peak Hour			PM Peak Hour			
		In	Out	Total	In	Out	Total	
Project Completion Phases 1 and 2 Trip Generation (Passenger Car Equivalent Trips, By Vehicle Type)								
Passenger Cars		**1,011**	**374**	**1,385**	**1,083**	**1,198**	**2,281**	**18,259**
Truck PCE								
2-Axle Trucks		10	10	17	4	10	14	549
3-Axle Trucks		18	14	32	4	14	18	590
4+ Axle Trucks		96	78	177	57	87	141	3,069
Total Truck PCE		**124**	**102**	**226**	**65**	**111**	**173**	**4,208**
Total PCE		**1,135**	**476**	**1,611**	**1,148**	**1,309**	**2,454**	**22,467**
Phase 1 and 2 Driveway Trips (Without Pass By)		**1,401**	**742**	**2,143**	**1,379**	**1,540**	**2,916**	**28,275**

[1] Detailed trip generation and trip rates for Building 1 - "High-Cube Transload and Short Term Storage Warehouse" are included in Attachment B - Table B-1.

[2] Detailed trip generation and trip rates for Building 4 - "Fullfillment Center Warehouse (Based on 7-surveyed Sites)" are included in Attachment B - Table B-2 and B-3.

[3] Detailed trip generation and trip rates for Building 4 - "High-Cube Cold Storage Warehouse" are included in Attachment B - Table B-4.

[4] Detailed trip generation and trip rates for Building 5 - "Business Park" are included in Attachment B - Table B-5.

[5] Detailed trip generation and trip rates for Building 6 - "Business Park" are included in Attachment B - Table B-6.

[6] Detailed trip generation and trip rates for Building 7 - "Business Park" are included in Attachment B - Table B-7.

[7] Detailed trip generation and trip rates for Building 8 - "Business Park" are included in Attachment B - Table B-8.

[8] Detailed trip generation and trip rates for "Retail" are included in Attachment B - Table B-9.

[9] Detailed trip generation and trip rates for "Dog Park" are included in Attachment B - Table B-10.

[10] Detailed trip generation and trip rates for Building 2 - "High-Cube Transload and Short Term Storage Warehouse" are included in Attachment B - Table B-11.

[11] Detailed trip generation and trip rates for Building 2 - "High-Cube Cold Storage Warehouse are included in Attachment B - Table B-2.

[12] Detailed trip generation and trip rates for Building 3 - "Fullfillment Center Warehouse (Based on 7-surveyed Sites)" are included in Attachment B - Table B-13 and Table B-3.

[13] Detailed trip generation and trip rates for Building 3 - "High-Cube Cold Storage Warehouse" are included in Attachment B - Table B-14.

[14] Detailed trip generation and trip rates for "Convenience Store/Gas Station - GFA (5.5-10k)" are included in Attachment B - Table B-15.

[15] Detailed trip generation and trip rates for "Automated Car Wash" are included in Attachment B - Table B-15.

[16] Detailed trip generation and trip rates for "Multifamily Housing (Low-Rise) - Not Close to Rail Transit" are included in Attachment B - Table B-16.

URBAN | CROSSROADS

CASE ROAD MIXED-USE (DA 23-05060, VPM23-05059, CUP23-05047, DPR23-00013, DPR 23-00014, CUP23-05208, CUP23-05209 & CUP23-05210)

TRAFFIC ANALYSIS

PREPARED BY: Charlene So, PE | cso@urbanxroads.com
Jared Brawner | jbrawner@urbanxroads.com
Aric Evatt | aevatt@urbanxroads.com



Reference Number	Agency	Date
15360-15 TA Report	City of Perris	May 1, 2024

TABLE 4-3: PROJECT TRIP GENERATION SUMMARY (PCE)

			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Units[1]	In	Out	Total	In	Out	Total	Daily
Self-Storage Facility	211.900	TSF	11	8	19	15	17	32	308
Recreational Vehicle (RV) Storage	215	Spaces	1	1	2	2	2	4	40
High-Cube Fulfillment Center (Sort)	498.000	TSF							
Passenger Cars:			346	77	423	228	360	588	3,114
2-axle Trucks:			1	1	2	1	1	2	24
3-axle Trucks:			2	2	4	2	2	4	40
4+-axle Trucks:			9	10	19	9	10	19	178
Total Truck Trips (PCE):			12	13	25	12	13	25	242
Fulfillment Center Total Trips[2]			358	90	448	240	373	613	3,356
Hotel	128	Rooms	33	26	59	39	37	76	1,024
Internal Capture Trip Reduction (Hotel)			-1	-6	-7	-20	-18	-38	-512
High Turnover (Sit-Down) Restaurant	27.000	TSF	142	116	258	149	95	244	2,894
Pass-by Reduction (PM/Daily = 43%)			0	0	0	-21	-21	-42	-754
Fast-Food Restaurant with Drive-Thru	5.600	TSF	127	122	249	96	89	185	2,618
Internal Capture Trip Reduction (Restaurant)			-17	-16	-33	-83	-88	-171	-2,198
Pass-by Reduction (AM = 50%; PM/Daily = 55%)			-53	-53	-106	-26	-26	-52	-860
Passenger Cars			589	275	864	379	447	826	5,674
Trucks (PCE)			12	13	25	12	13	25	242
Project Total Trips (PCE)[2]			**601**	**288**	**889**	**391**	**460**	**851**	**5,916**
Existing Commercial[3]	319.000	TSF	191	118	309	616	667	1,283	13,232
Internal Capture Trip Reduction (Retail)			-19	-15	-34	-81	-78	-159	-1,640
Total Trips (Including Existing Commercial)			**773**	**391**	**1,164**	**926**	**1,049**	**1,975**	**17,508**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

[3] The 319,000 square feet of general commercial use that currently exists at Case Road and Ethanac Road.

4.2 PROJECT TRIP GENERATION COMPARISON

4.2.1 1990 SP EIR APPROVED USES

The Green Valley Specific Plan Environmental Impact Report (certified March 5, 1990, referred to as 1990 SP EIR) assumed the development of 471,500 square feet of general commercial use and 564,000 square feet of business park use. The trip-generation evaluated for the proposed Project evaluated in the 1990 SP EIR is summarized in Table 4-4 for the currently approved uses within Pas 40-44. The approved uses generate a total of 34,577 two-way trips per day with 1,494 AM peak hour trips and 2,986 PM peak hour trips as shown in Table 4-4. Attachment A in the scoping agreement (Appendix 1.1) includes excerpts from the original 1990 SP EIR identifying the trip generation for the applicable Pas.

APPENDIX D:
Traffic Counts (Intersection and Roadway Segment)

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

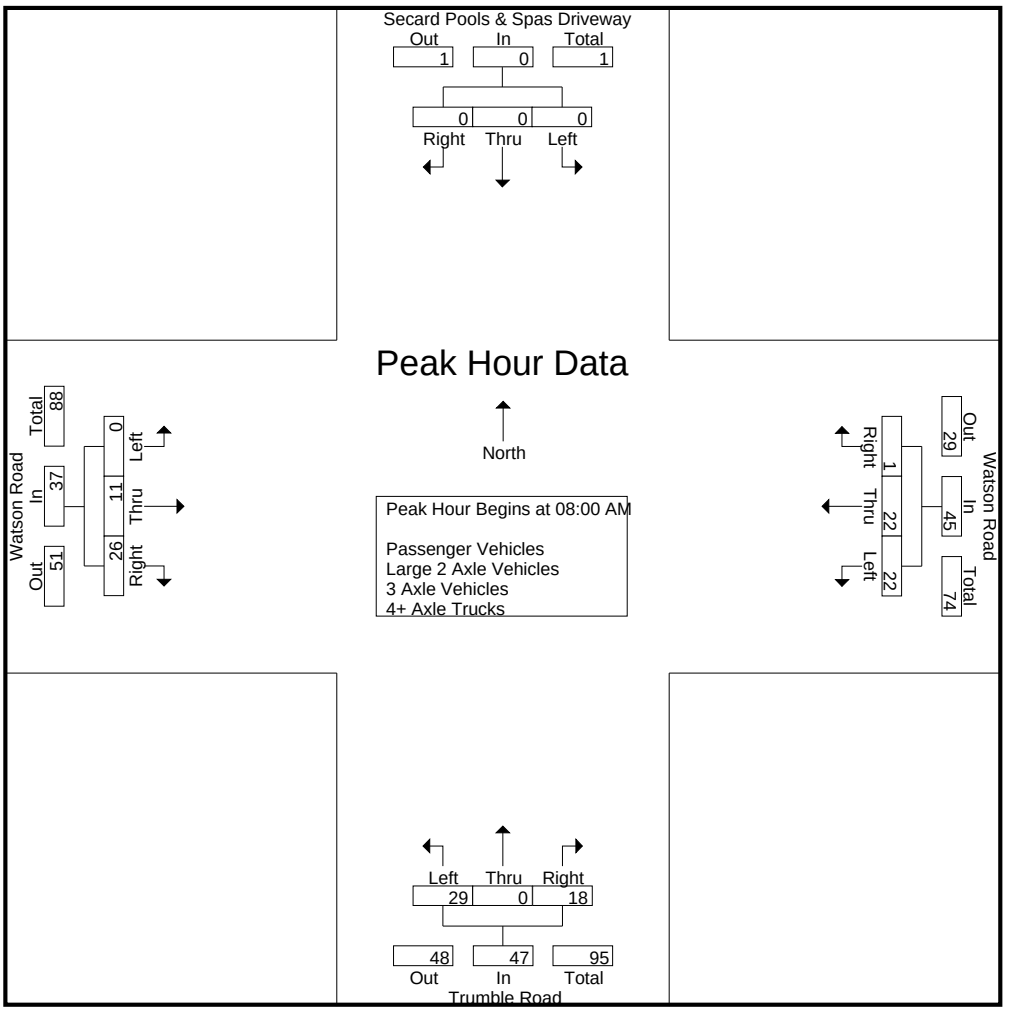
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	10	8	0	18	3	0	4	7	0	1	7	8	33
07:15 AM	0	0	0	0	4	7	0	11	6	0	3	9	0	4	4	8	28
07:30 AM	0	0	0	0	6	5	0	11	6	0	5	11	0	3	7	10	32
07:45 AM	0	0	0	0	8	5	0	13	4	0	4	8	0	4	7	11	32
Total	0	0	0	0	28	25	0	53	19	0	16	35	0	12	25	37	125
08:00 AM	0	0	0	0	10	7	0	17	4	0	3	7	0	4	3	7	31
08:15 AM	0	0	0	0	6	6	0	12	8	0	4	12	0	5	4	9	33
08:30 AM	0	0	0	0	5	7	0	12	9	0	3	12	0	1	7	8	32
08:45 AM	0	0	0	0	1	2	1	4	8	0	8	16	0	1	12	13	33
Total	0	0	0	0	22	22	1	45	29	0	18	47	0	11	26	37	129
Grand Total	0	0	0	0	50	47	1	98	48	0	34	82	0	23	51	74	254
Apprch %	0	0	0		51	48	1		58.5	0	41.5		0	31.1	68.9		
Total %	0	0	0	0	19.7	18.5	0.4	38.6	18.9	0	13.4	32.3	0	9.1	20.1	29.1	
Passenger Vehicles	0	0	0	0	45	26	1	72	18	0	29	47	0	11	16	27	146
% Passenger Vehicles	0	0	0	0	90	55.3	100	73.5	37.5	0	85.3	57.3	0	47.8	31.4	36.5	57.5
Large 2 Axle Vehicles	0	0	0	0	2	5	0	7	2	0	3	5	0	2	3	5	17
% Large 2 Axle Vehicles	0	0	0	0	4	10.6	0	7.1	4.2	0	8.8	6.1	0	8.7	5.9	6.8	6.7
3 Axle Vehicles	0	0	0	0	1	2	0	3	24	0	0	24	0	0	1	1	28
% 3 Axle Vehicles	0	0	0	0	2	4.3	0	3.1	50	0	0	29.3	0	0	2	1.4	11
4+ Axle Trucks	0	0	0	0	2	14	0	16	4	0	2	6	0	10	31	41	63
% 4+ Axle Trucks	0	0	0	0	4	29.8	0	16.3	8.3	0	5.9	7.3	0	43.5	60.8	55.4	24.8

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	**10**	**7**	0	**17**	4	0	3	7	0	4	3	7	31
08:15 AM	0	0	0	0	6	6	0	12	8	0	4	12	0	**5**	4	9	**33**
08:30 AM	0	0	0	0	5	7	0	12	**9**	0	3	12	0	1	7	8	32
08:45 AM	0	0	0	0	1	2	**1**	4	8	0	**8**	**16**	0	1	**12**	**13**	33
Total Volume	0	0	0	0	22	22	1	45	29	0	18	47	0	11	26	37	129
% App. Total	0	0	0		48.9	48.9	2.2		61.7	0	38.3		0	29.7	70.3		
PHF	.000	.000	.000	.000	.550	.786	.250	.662	.806	.000	.563	.734	.000	.550	.542	.712	.977

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				08:00 AM				07:00 AM			
+0 mins.	0	0	0	0	8	5	0	13	4	0	3	7	0	1	**7**	8
+15 mins.	0	0	0	0	**10**	**7**	0	**17**	8	0	4	12	0	**4**	4	8
+30 mins.	0	0	0	0	6	6	0	12	**9**	0	3	12	0	3	7	10
+45 mins.	0	0	0	0	5	7	0	12	8	0	**8**	**16**	0	4	7	**11**
Total Volume	0	0	0	0	29	25	0	54	29	0	18	47	0	12	25	37
% App. Total	0	0	0		53.7	46.3	0		61.7	0	38.3		0	32.4	67.6	
PHF	.000	.000	.000	.000	.725	.893	.000	.794	.806	.000	.563	.734	.000	.750	.893	.841

Counts Unlimited, Inc.
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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

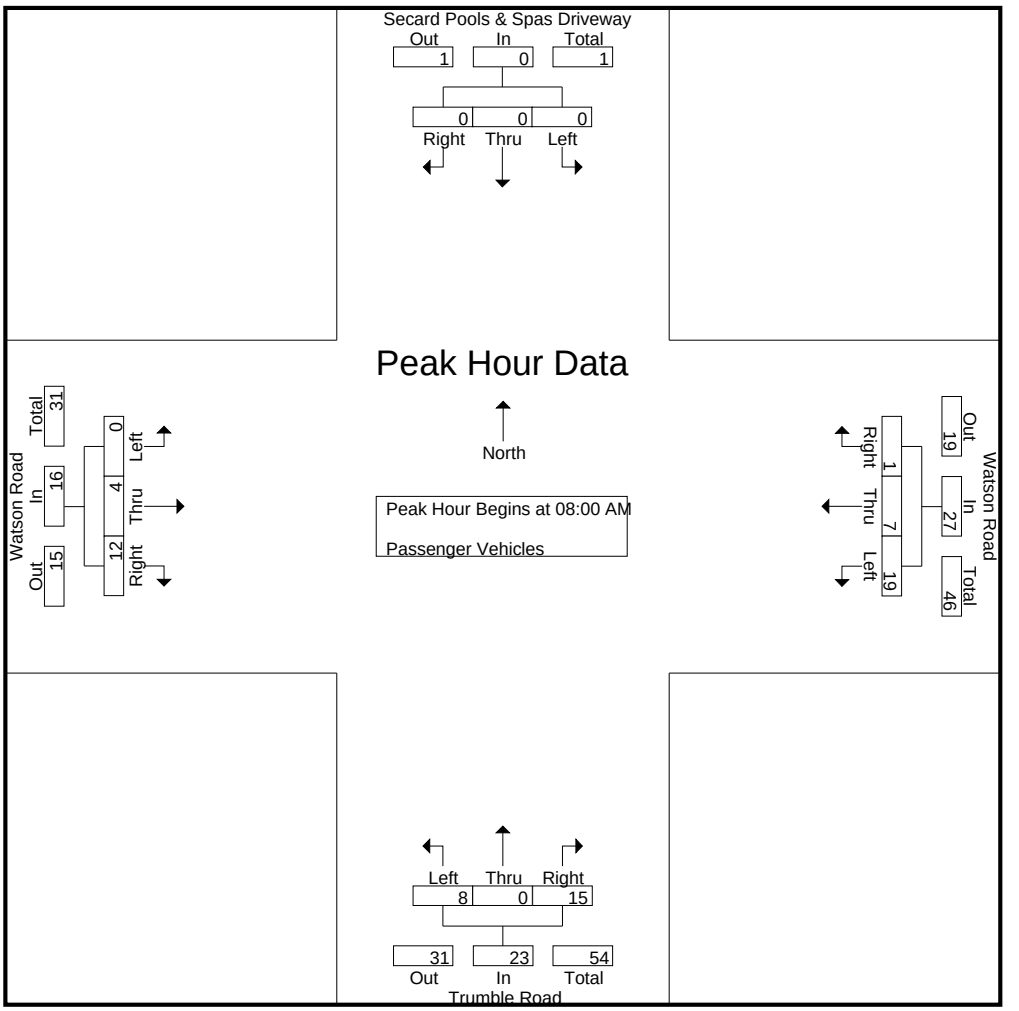
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	9	7	0	16	2	0	4	6	0	1	1	2	24
07:15 AM	0	0	0	0	4	5	0	9	4	0	3	7	0	1	1	2	18
07:30 AM	0	0	0	0	5	4	0	9	2	0	5	7	0	2	2	4	20
07:45 AM	0	0	0	0	8	3	0	11	2	0	2	4	0	3	0	3	18
Total	0	0	0	0	26	19	0	45	10	0	14	24	0	7	4	11	80
08:00 AM	0	0	0	0	9	1	0	10	0	0	3	3	0	2	1	3	16
08:15 AM	0	0	0	0	5	4	0	9	2	0	4	6	0	0	2	2	17
08:30 AM	0	0	0	0	4	1	0	5	3	0	3	6	0	1	3	4	15
08:45 AM	0	0	0	0	1	1	1	3	3	0	5	8	0	1	6	7	18
Total	0	0	0	0	19	7	1	27	8	0	15	23	0	4	12	16	66
Grand Total	0	0	0	0	45	26	1	72	18	0	29	47	0	11	16	27	146
Apprch %	0	0	0		62.5	36.1	1.4		38.3	0	61.7		0	40.7	59.3		
Total %	0	0	0	0	30.8	17.8	0.7	49.3	12.3	0	19.9	32.2	0	7.5	11	18.5	

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	**9**	1	0	**10**	0	0	3	3	0	**2**	1	3	16
08:15 AM	0	0	0	0	5	**4**	0	9	2	0	4	6	0	0	2	2	17
08:30 AM	0	0	0	0	4	1	0	5	**3**	0	3	6	0	1	3	4	15
08:45 AM	0	0	0	0	1	1	**1**	3	3	0	**5**	**8**	0	1	**6**	**7**	**18**
Total Volume	0	0	0	0	19	7	1	27	8	0	15	23	0	4	12	16	66
% App. Total	0	0	0		70.4	25.9	3.7		34.8	0	65.2		0	25	75		
PHF	.000	.000	.000	.000	.528	.438	.250	.675	.667	.000	.750	.719	.000	.500	.500	.571	.917

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City of Menifee
N/S: Trumble Road
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Weather: Clear

File Name : 01_MEN_Tru_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	**9**	1	0	**10**	0	0	3	3	0	**2**	1	3
+15 mins.	0	0	0	0	5	**4**	0	9	2	0	4	6	0	0	2	2
+30 mins.	0	0	0	0	4	1	0	5	**3**	0	3	6	0	1	3	4
+45 mins.	0	0	0	0	1	1	**1**	3	3	0	**5**	**8**	0	1	**6**	**7**
Total Volume	0	0	0	0	19	7	1	27	8	0	15	23	0	4	12	16
% App. Total	0	0	0		70.4	25.9	3.7		34.8	0	65.2		0	25	75	
PHF	.000	.000	.000	.000	.528	.438	.250	.675	.667	.000	.750	.719	.000	.500	.500	.571

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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

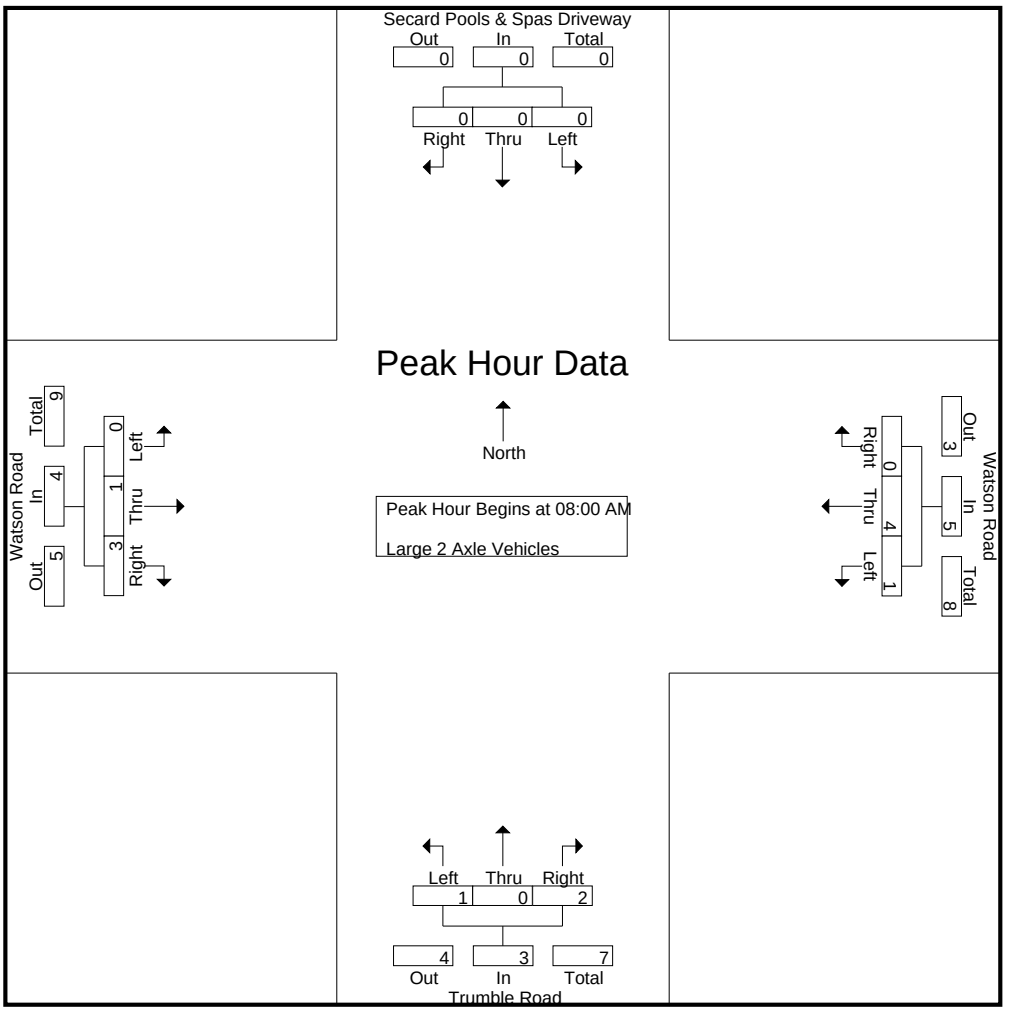
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	1	0	1	2	0	1	0	1	3
Total	0	0	0	0	1	1	0	2	1	0	1	2	0	1	0	1	5
08:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	1	2	4
08:15 AM	0	0	0	0	1	1	0	2	1	0	0	1	0	0	1	1	4
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	1	1	3
Total	0	0	0	0	1	4	0	5	1	0	2	3	0	1	3	4	12
Grand Total	0	0	0	0	2	5	0	7	2	0	3	5	0	2	3	5	17
Apprch %	0	0	0		28.6	71.4	0		40	0	60		0	40	60		
Total %	0	0	0	0	11.8	29.4	0	41.2	11.8	0	17.6	29.4	0	11.8	17.6	29.4	

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	**1**	**1**	**2**	**4**
08:15 AM	0	0	0	0	**1**	1	0	2	**1**	0	0	1	0	0	1	1	4
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	**2**	**2**	0	0	1	1	3
Total Volume	0	0	0	0	1	4	0	5	1	0	2	3	0	1	3	4	12
% App. Total	0	0	0		20	80	0		33.3	0	66.7		0	25	75		
PHF	.000	.000	.000	.000	.250	.500	.000	.625	.250	.000	.250	.375	.000	.250	.750	.500	.750

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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	**1**	**1**	**2**
+15 mins.	0	0	0	0	**1**	1	0	2	**1**	0	0	1	0	0	1	1
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	**2**	**2**	0	0	1	1
Total Volume	0	0	0	0	1	4	0	5	1	0	2	3	0	1	3	4
% App. Total	0	0	0		20	80	0		33.3	0	66.7		0	25	75	
PHF	.000	.000	.000	.000	.250	.500	.000	.625	.250	.000	.250	.375	.000	.250	.750	.500

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PO Box 1178
Corona, CA 92878
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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

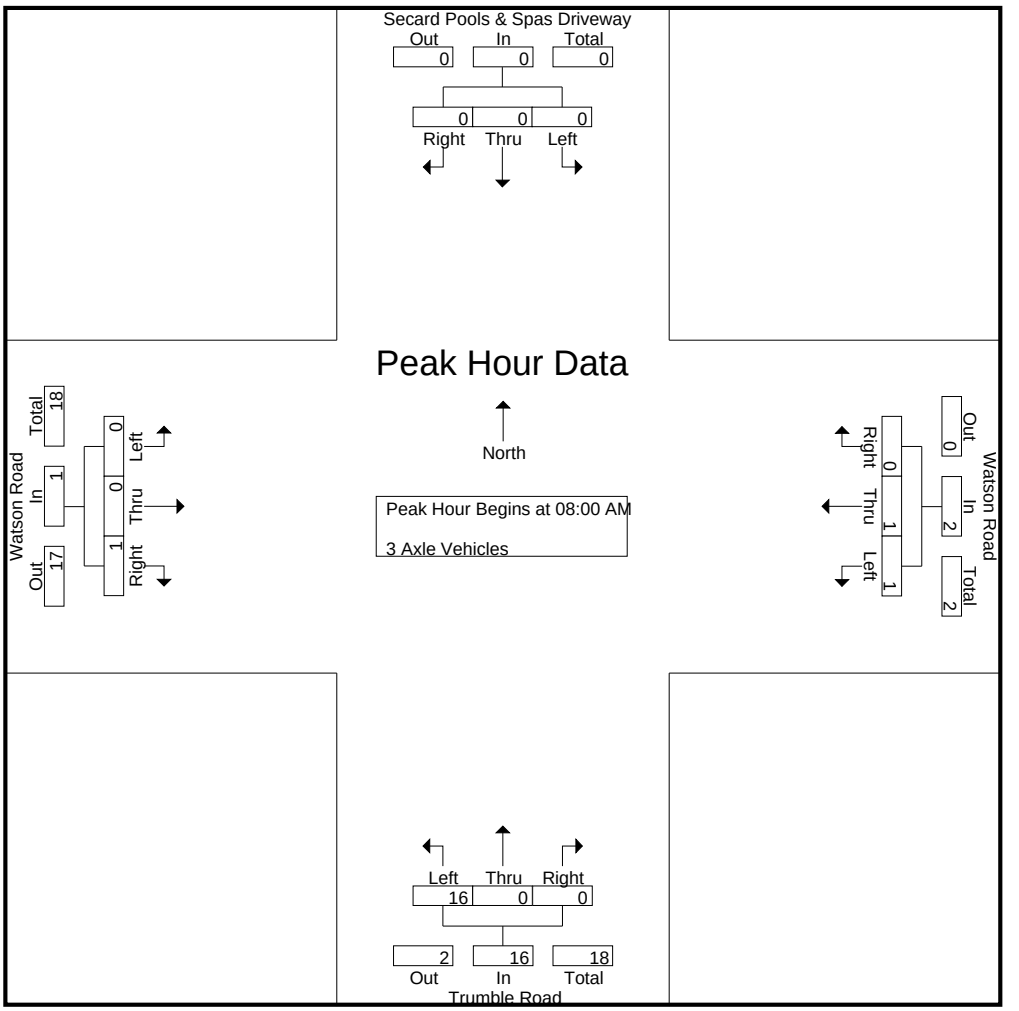
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
07:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
Total	0	0	0	0	0	1	0	1	8	0	0	8	0	0	0	0	9
08:00 AM	0	0	0	0	1	1	0	2	2	0	0	2	0	0	0	0	4
08:15 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	5
08:30 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	5
08:45 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	1	1	5
Total	0	0	0	0	1	1	0	2	16	0	0	16	0	0	1	1	19
Grand Total	0	0	0	0	1	2	0	3	24	0	0	24	0	0	1	1	28
Apprch %	0	0	0		33.3	66.7	0		100	0	0		0	0	100		
Total %	0	0	0	0	3.6	7.1	0	10.7	85.7	0	0	85.7	0	0	3.6	3.6	

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	**1**	**1**	0	**2**	2	0	0	2	0	0	0	0	4
08:15 AM	0	0	0	0	0	0	0	0	**5**	0	0	**5**	0	0	0	0	**5**
08:30 AM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	5
08:45 AM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	**1**	**1**	5
Total Volume	0	0	0	0	1	1	0	2	16	0	0	16	0	0	1	1	19
% App. Total	0	0	0		50	50	0		100	0	0		0	0	100		
PHF	.000	.000	.000	.000	.250	.250	.000	.250	.800	.000	.000	.800	.000	.000	.250	.250	.950

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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	**1**	**1**	0	**2**	2	0	0	2	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	**5**	0	0	**5**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	4	0	0	4	0	0	**1**	**1**
Total Volume	0	0	0	0	1	1	0	2	16	0	0	16	0	0	1	1
% App. Total	0	0	0		50	50	0		100	0	0		0	0	100	
PHF	.000	.000	.000	.000	.250	.250	.000	.250	.800	.000	.000	.800	.000	.000	.250	.250

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City of Menifee
N/S: Trumble Road
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File Name : 01_MEN_Tru_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

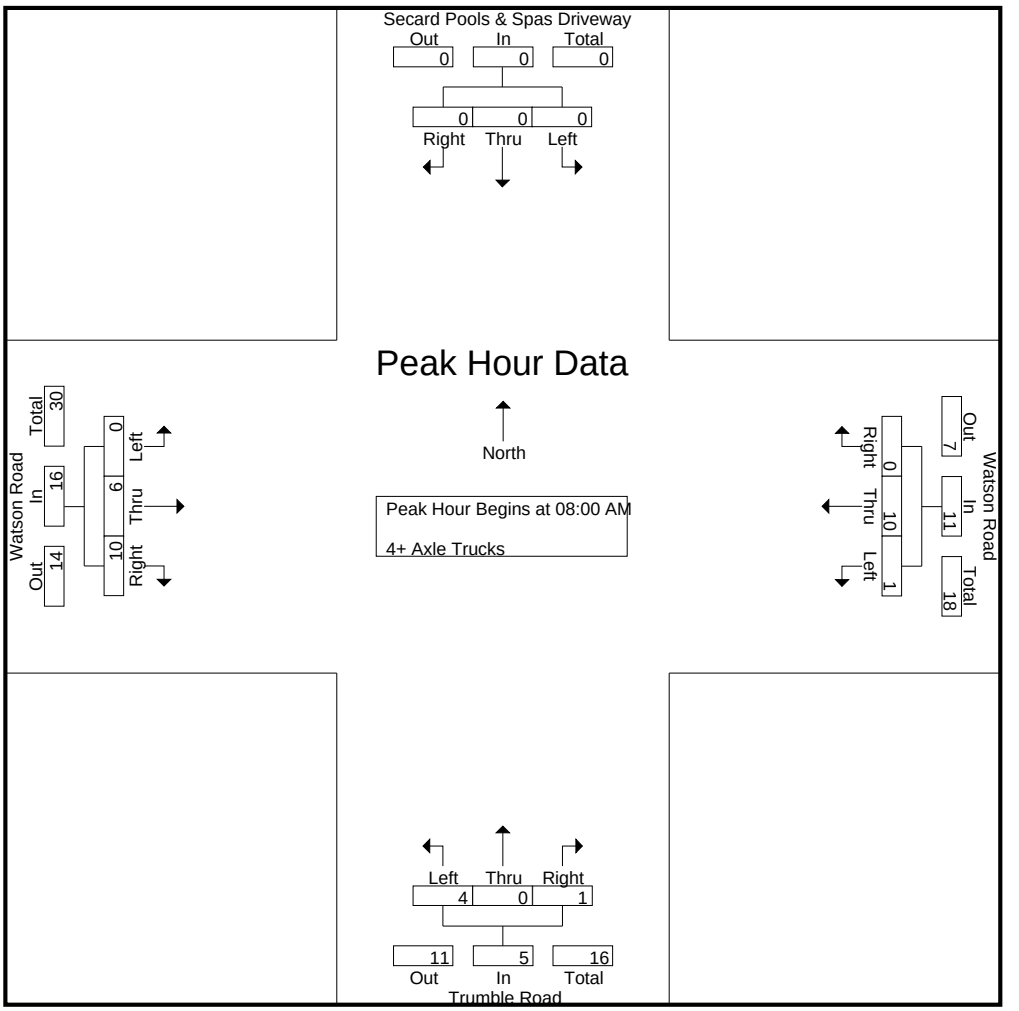
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	6	6	8
07:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	3	3	6	8
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	6	6
07:45 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	7	7	9
Total	0	0	0	0	1	4	0	5	0	0	1	1	0	4	21	25	31
08:00 AM	0	0	0	0	0	3	0	3	2	0	0	2	0	1	1	2	7
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	5	1	6	7
08:30 AM	0	0	0	0	1	5	0	6	1	0	0	1	0	0	4	4	11
08:45 AM	0	0	0	0	0	1	0	1	1	0	1	2	0	0	4	4	7
Total	0	0	0	0	1	10	0	11	4	0	1	5	0	6	10	16	32
Grand Total	0	0	0	0	2	14	0	16	4	0	2	6	0	10	31	41	63
Apprch %	0	0	0		12.5	87.5	0		66.7	0	33.3		0	24.4	75.6		
Total %	0	0	0	0	3.2	22.2	0	25.4	6.3	0	3.2	9.5	0	15.9	49.2	65.1	

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	3	0	3	**2**	0	0	**2**	0	1	1	2	7
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	**5**	1	**6**	7
08:30 AM	0	0	0	0	**1**	**5**	0	**6**	1	0	0	1	0	0	**4**	4	**11**
08:45 AM	0	0	0	0	0	1	0	1	1	0	**1**	2	0	0	4	4	7
Total Volume	0	0	0	0	1	10	0	11	4	0	1	5	0	6	10	16	32
% App. Total	0	0	0		9.1	90.9	0		80	0	20		0	37.5	62.5		
PHF	.000	.000	.000	.000	.250	.500	.000	.458	.500	.000	.250	.625	.000	.300	.625	.667	.727

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City of Menifee
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E/W: Watson Road
Weather: Clear

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Site Code : 99925132
Start Date : 2/11/2025
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	3	0	3	**2**	0	0	**2**	0	1	1	2
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**5**	1	**6**
+30 mins.	0	0	0	0	**1**	**5**	0	**6**	1	0	0	1	0	0	**4**	4
+45 mins.	0	0	0	0	0	1	0	1	1	0	**1**	2	0	0	4	4
Total Volume	0	0	0	0	1	10	0	11	4	0	1	5	0	6	10	16
% App. Total	0	0	0		9.1	90.9	0		80	0	20		0	37.5	62.5	
PHF	.000	.000	.000	.000	.250	.500	.000	.458	.500	.000	.250	.625	.000	.300	.625	.667

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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat PM
Site Code : 99925132
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

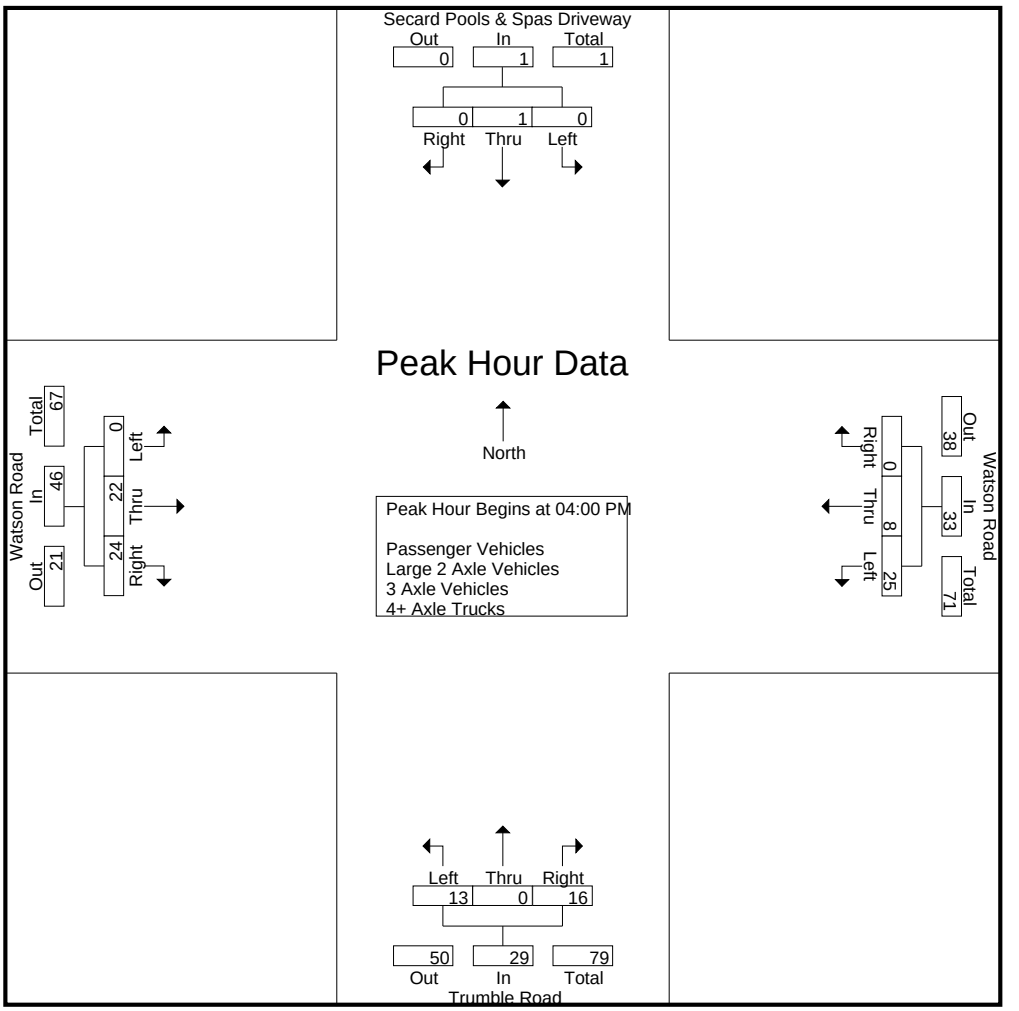
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	8	2	0	10	2	0	7	9	0	10	12	22	41
04:15 PM	0	1	0	1	7	1	0	8	5	0	3	8	0	0	4	4	21
04:30 PM	0	0	0	0	6	4	0	10	2	0	6	8	0	5	4	9	27
04:45 PM	0	0	0	0	4	1	0	5	4	0	0	4	0	7	4	11	20
Total	0	1	0	1	25	8	0	33	13	0	16	29	0	22	24	46	109
05:00 PM	0	0	0	0	5	4	0	9	4	1	4	9	0	8	12	20	38
05:15 PM	0	0	0	0	5	1	0	6	3	0	3	6	0	5	6	11	23
05:30 PM	0	0	0	0	3	0	0	3	3	0	4	7	0	1	5	6	16
05:45 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	3	2	5	7
Total	0	0	0	0	14	5	0	19	10	1	12	23	0	17	25	42	84
Grand Total	0	1	0	1	39	13	0	52	23	1	28	52	0	39	49	88	193
Apprch %	0	100	0		75	25	0		44.2	1.9	53.8		0	44.3	55.7		
Total %	0	0.5	0	0.5	20.2	6.7	0	26.9	11.9	0.5	14.5	26.9	0	20.2	25.4	45.6	
Passenger Vehicles	0	1	0	1	38	2	0	40	5	1	28	34	0	28	45	73	148
% Passenger Vehicles	0	100	0	100	97.4	15.4	0	76.9	21.7	100	100	65.4	0	71.8	91.8	83	76.7
Large 2 Axle Vehicles	0	0	0	0	1	1	0	2	0	0	0	0	0	1	0	1	3
% Large 2 Axle Vehicles	0	0	0	0	2.6	7.7	0	3.8	0	0	0	0	0	2.6	0	1.1	1.6
3 Axle Vehicles	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	14
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	60.9	0	0	26.9	0	0	0	0	7.3
4+ Axle Trucks	0	0	0	0	0	10	0	10	4	0	0	4	0	10	4	14	28
% 4+ Axle Trucks	0	0	0	0	0	76.9	0	19.2	17.4	0	0	7.7	0	25.6	8.2	15.9	14.5

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	**8**	2	0	**10**	2	0	**7**	**9**	0	**10**	**12**	**22**	**41**
04:15 PM	0	**1**	0	**1**	7	1	0	8	**5**	0	3	8	0	0	4	4	21
04:30 PM	0	0	0	0	6	**4**	0	10	2	0	6	8	0	5	4	9	27
04:45 PM	0	0	0	0	4	1	0	5	4	0	0	4	0	7	4	11	20
Total Volume	0	1	0	1	25	8	0	33	13	0	16	29	0	22	24	46	109
% App. Total	0	100	0		75.8	24.2	0		44.8	0	55.2		0	47.8	52.2		
PHF	.000	.250	.000	.250	.781	.500	.000	.825	.650	.000	.571	.806	.000	.550	.500	.523	.665

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City of Menifee
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Weather: Clear

File Name : 01_MEN_Tru_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:30 PM			
+0 mins.	0	0	0	0	**8**	2	0	**10**	2	0	**7**	**9**	0	5	4	9
+15 mins.	0	**1**	0	**1**	7	1	0	8	**5**	0	3	8	0	7	4	11
+30 mins.	0	0	0	0	6	**4**	0	10	2	0	6	8	0	**8**	**12**	**20**
+45 mins.	0	0	0	0	4	1	0	5	4	0	0	4	0	5	6	11
Total Volume	0	1	0	1	25	8	0	33	13	0	16	29	0	25	26	51
% App. Total	0	100	0		75.8	24.2	0		44.8	0	55.2		0	49	51	
PHF	.000	.250	.000	.250	.781	.500	.000	.825	.650	.000	.571	.806	.000	.781	.542	.638

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City of Menifee
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Weather: Clear

File Name : 01_MEN_Tru_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

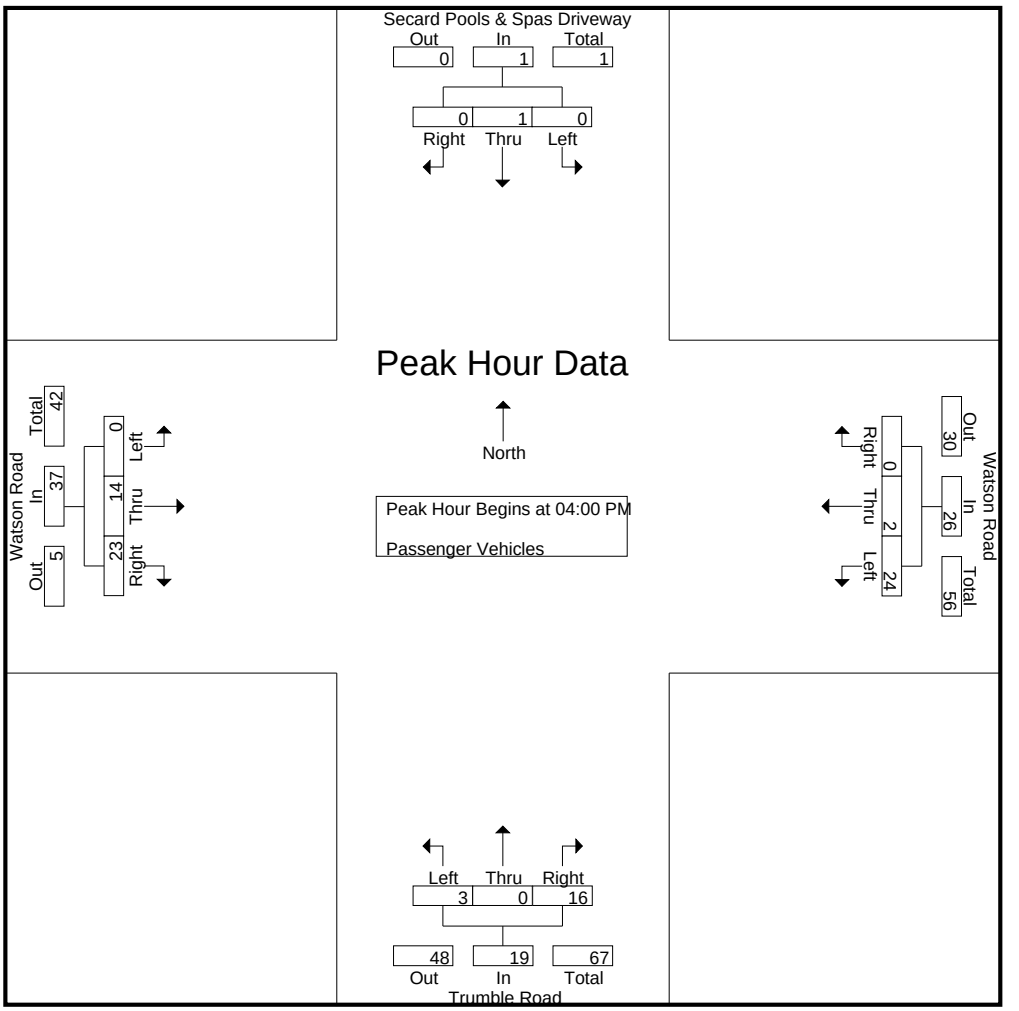
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	8	2	0	10	1	0	7	8	0	8	11	19	37
04:15 PM	0	1	0	1	7	0	0	7	1	0	3	4	0	0	4	4	16
04:30 PM	0	0	0	0	5	0	0	5	1	0	6	7	0	2	4	6	18
04:45 PM	0	0	0	0	4	0	0	4	0	0	0	0	0	4	4	8	12
Total	0	1	0	1	24	2	0	26	3	0	16	19	0	14	23	37	83
05:00 PM	0	0	0	0	5	0	0	5	0	1	4	5	0	7	10	17	27
05:15 PM	0	0	0	0	5	0	0	5	1	0	3	4	0	4	5	9	18
05:30 PM	0	0	0	0	3	0	0	3	1	0	4	5	0	0	5	5	13
05:45 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	3	2	5	7
Total	0	0	0	0	14	0	0	14	2	1	12	15	0	14	22	36	65
Grand Total	0	1	0	1	38	2	0	40	5	1	28	34	0	28	45	73	148
Apprch %	0	100	0		95	5	0		14.7	2.9	82.4		0	38.4	61.6		
Total %	0	0.7	0	0.7	25.7	1.4	0	27	3.4	0.7	18.9	23	0	18.9	30.4	49.3	

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	**8**	**2**	0	**10**	**1**	0	**7**	**8**	0	**8**	**11**	**19**	**37**
04:15 PM	0	**1**	0	**1**	7	0	0	7	1	0	3	4	0	0	4	4	16
04:30 PM	0	0	0	0	5	0	0	5	1	0	6	7	0	2	4	6	18
04:45 PM	0	0	0	0	4	0	0	4	0	0	0	0	0	4	4	8	12
Total Volume	0	1	0	1	24	2	0	26	3	0	16	19	0	14	23	37	83
% App. Total	0	100	0		92.3	7.7	0		15.8	0	84.2		0	37.8	62.2		
PHF	.000	.250	.000	.250	.750	.250	.000	.650	.750	.000	.571	.594	.000	.438	.523	.487	.561

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Site Code : 99925132
Start Date : 2/11/2025
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	**8**	**2**	0	**10**	**1**	0	**7**	**8**	0	**8**	**11**	**19**
+15 mins.	0	**1**	0	**1**	7	0	0	7	1	0	3	4	0	0	4	4
+30 mins.	0	0	0	0	5	0	0	5	1	0	6	7	0	2	4	6
+45 mins.	0	0	0	0	4	0	0	4	0	0	0	0	0	4	4	8
Total Volume	0	1	0	1	24	2	0	26	3	0	16	19	0	14	23	37
% App. Total	0	100	0		92.3	7.7	0		15.8	0	84.2		0	37.8	62.2	
PHF	.000	.250	.000	.250	.750	.250	.000	.650	.750	.000	.571	.594	.000	.438	.523	.487

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City of Menifee
N/S: Trumble Road
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File Name : 01_MEN_Tru_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
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Groups Printed- Large 2 Axle Vehicles

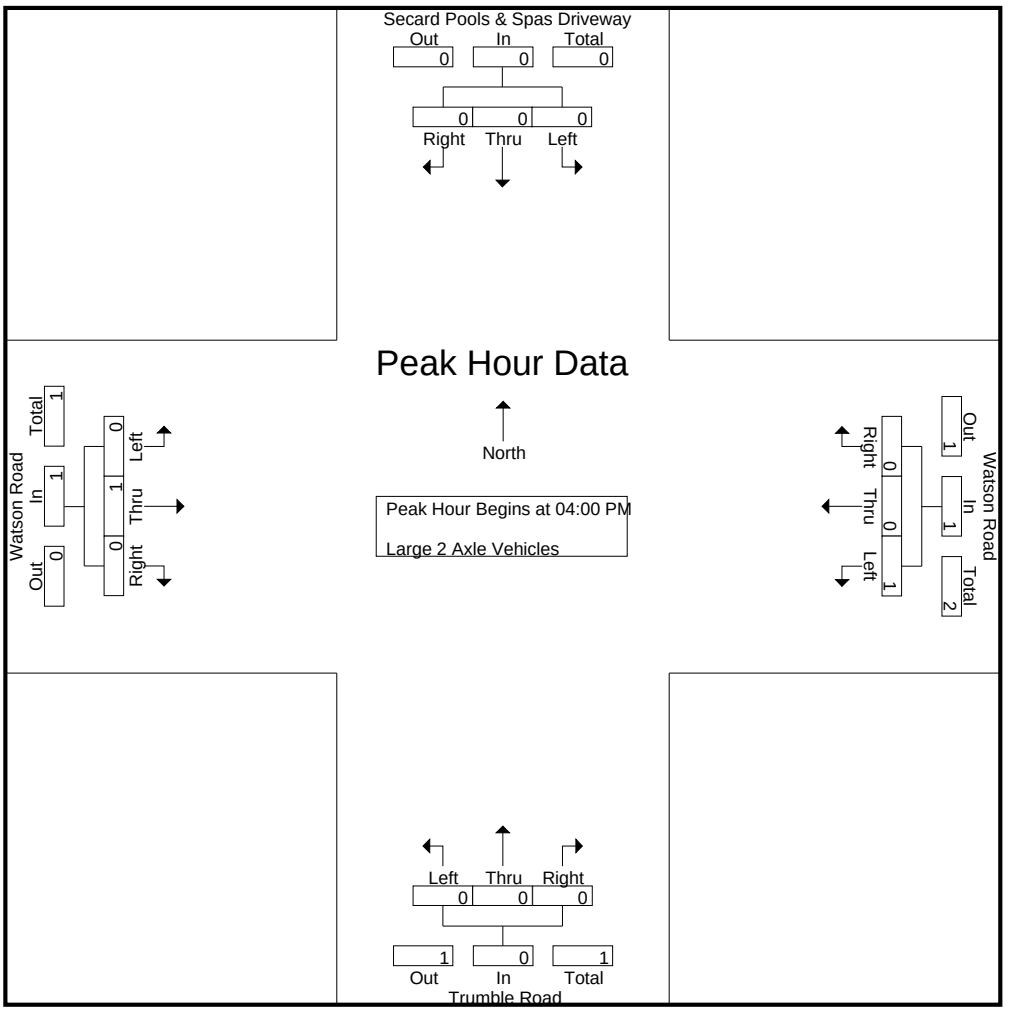
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	1	1	0	2	0	0	0	0	0	1	0	1	3
Apprch %	0	0	0		50	50	0		0	0	0		0	100	0		
Total %	0	0	0	0	33.3	33.3	0	66.7	0	0	0	0	0	33.3	0	33.3	

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	**1**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	1
Total Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
% App. Total	0	0	0		100	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250	.500

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Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
Total Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1
% App. Total	0	0	0		100	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250

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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

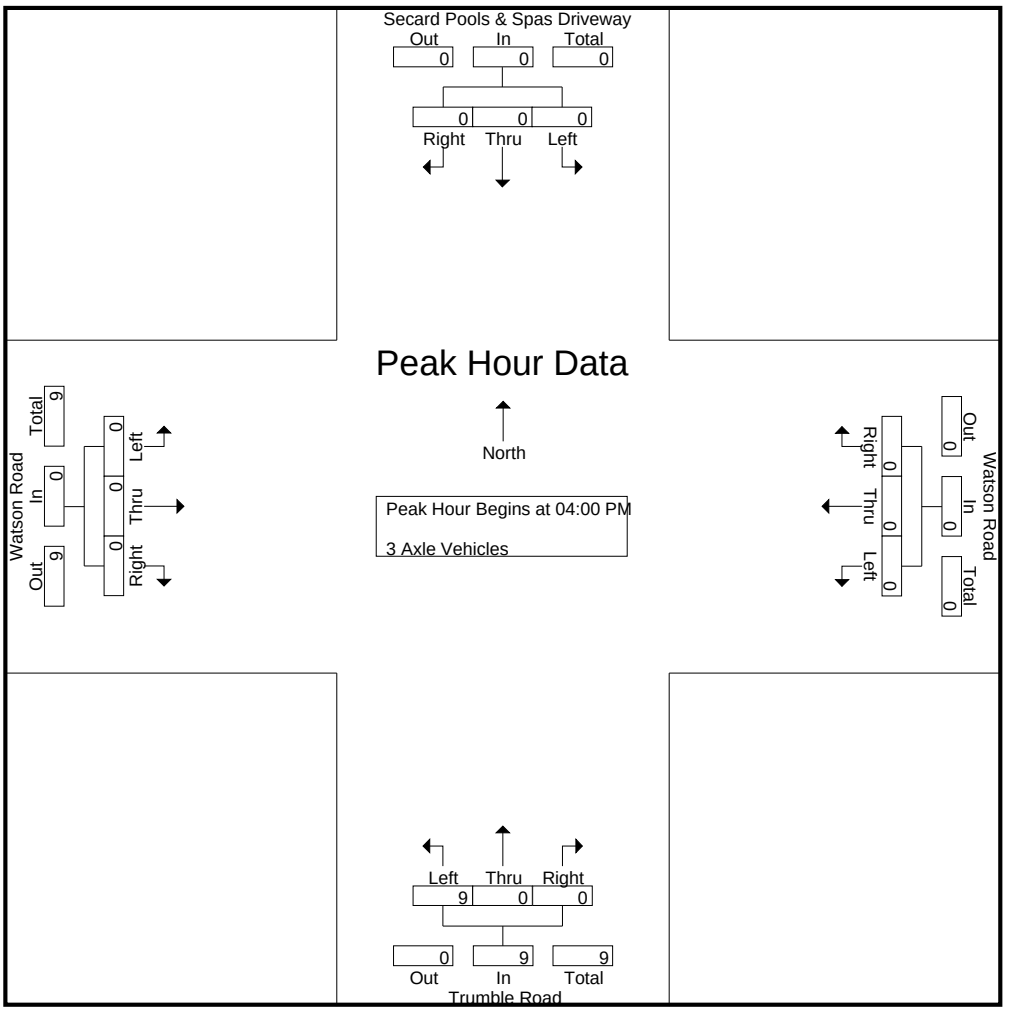
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	9
05:00 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:45 PM	0	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	5	0	0	5	0	0	0	0	5
Grand Total	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	14
Apprch %	0	0	0		0	0	0		100	0	0		0	0	0		
Total %	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	**4**	0	0	**4**	0	0	0	0	**4**
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	9
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.563	.000	.000	.563	.000	.000	.000	.000	.563

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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	**4**	0	0	**4**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.563	.000	.000	.563	.000	.000	.000	.000

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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

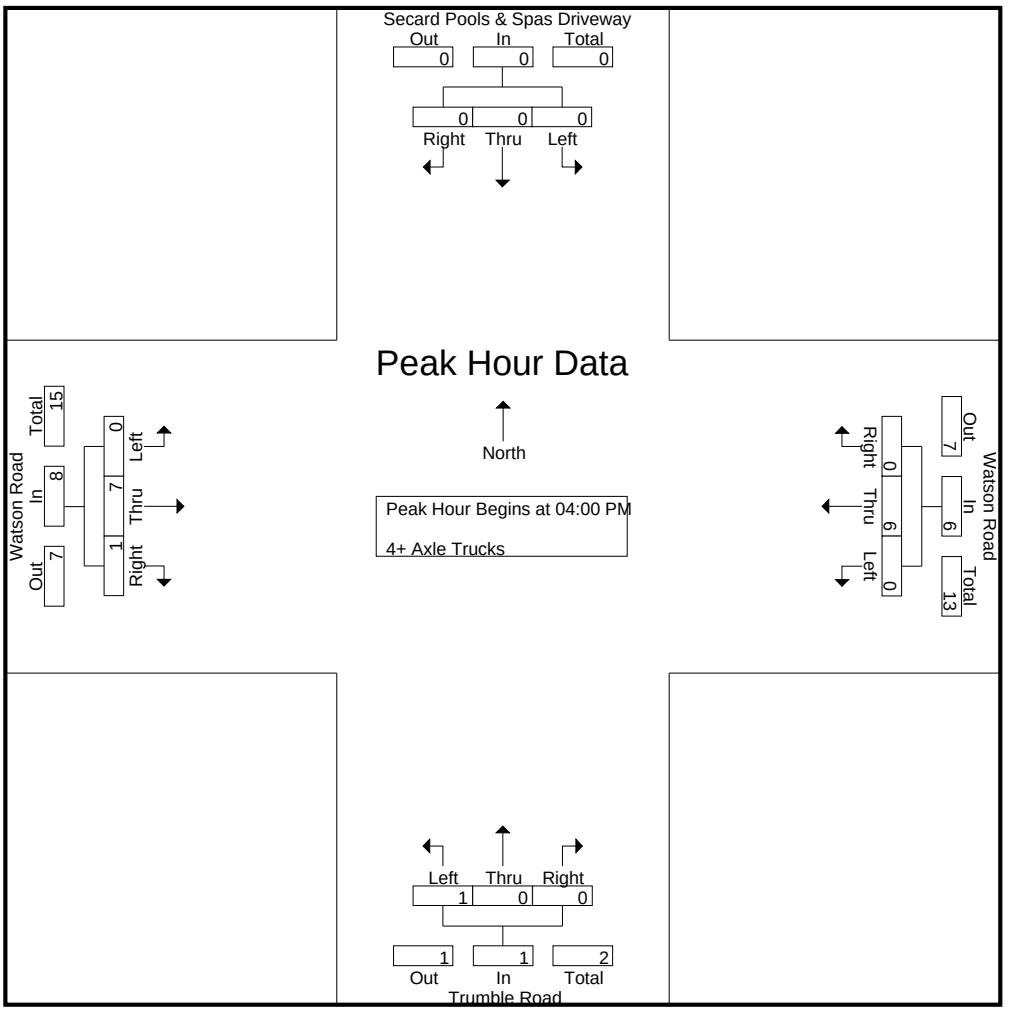
	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	3
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
04:45 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	2	0	2	4
Total	0	0	0	0	0	6	0	6	1	0	0	1	0	7	1	8	15
05:00 PM	0	0	0	0	0	3	0	3	2	0	0	2	0	1	2	3	8
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	2	3
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	4	0	4	3	0	0	3	0	3	3	6	13
Grand Total	0	0	0	0	0	10	0	10	4	0	0	4	0	10	4	14	28
Apprch %	0	0	0		0	100	0		100	0	0		0	71.4	28.6		
Total %	0	0	0	0	0	35.7	0	35.7	14.3	0	0	14.3	0	35.7	14.3	50	

	Secard Pools & Spas Driveway Southbound				Watson Road Westbound				Trumble Road Northbound				Watson Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	**1**	**3**	3
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	**4**	0	**4**	0	0	0	0	0	**3**	0	3	**7**
04:45 PM	0	0	0	0	0	1	0	1	**1**	0	0	**1**	0	2	0	2	4
Total Volume	0	0	0	0	0	6	0	6	1	0	0	1	0	7	1	8	15
% App. Total	0	0	0		0	100	0		100	0	0		0	87.5	12.5		
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.250	.000	.000	.250	.000	.583	.250	.667	.536

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City of Menifee
N/S: Trumble Road
E/W: Watson Road
Weather: Clear

File Name : 01_MEN_Tru_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	**1**	**3**
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	**4**	0	**4**	0	0	0	0	0	**3**	0	3
+45 mins.	0	0	0	0	0	1	0	1	**1**	0	0	**1**	0	2	0	2
Total Volume	0	0	0	0	0	6	0	6	1	0	0	1	0	7	1	8
% App. Total	0	0	0		0	100	0		100	0	0		0	87.5	12.5	
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.250	.000	.000	.250	.000	.583	.250	.667

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

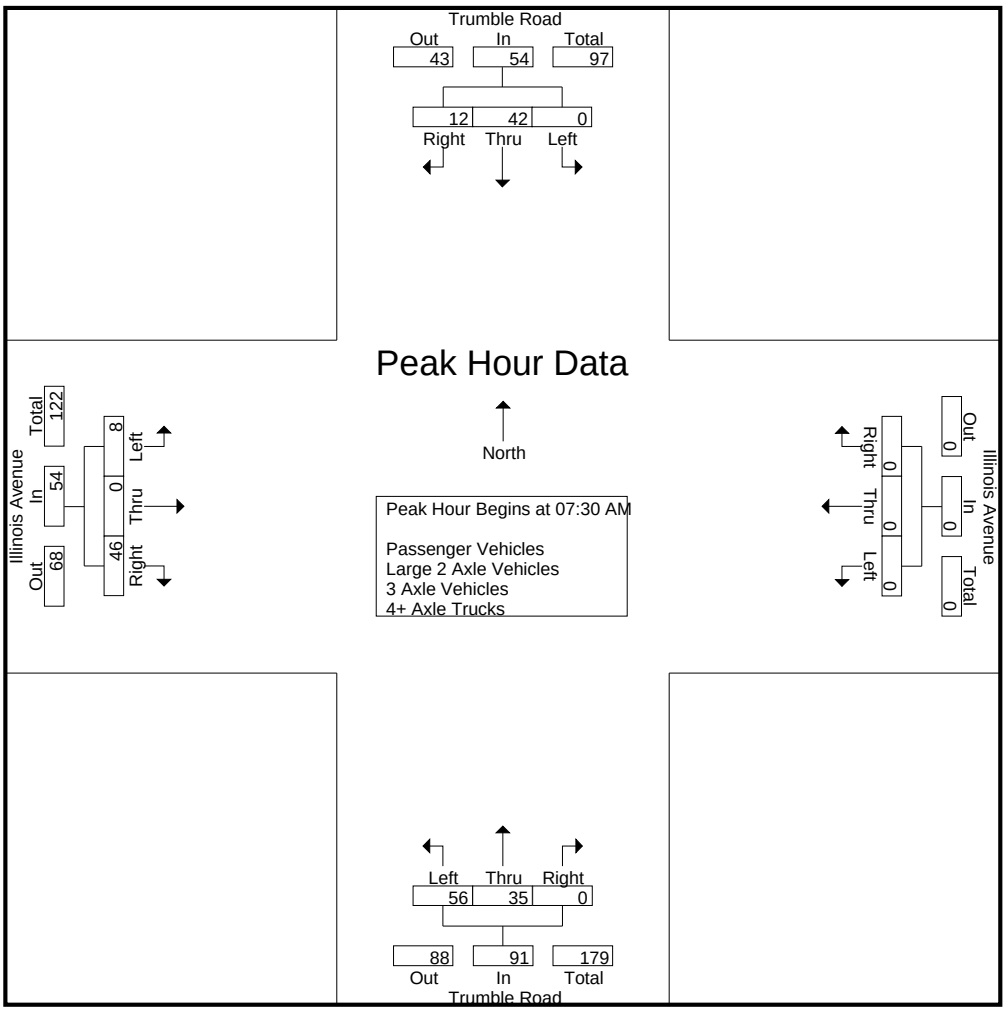
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	11	4	15	0	0	0	0	11	12	0	23	1	0	3	4	42
07:15 AM	0	9	2	11	0	0	0	0	12	5	0	17	3	0	9	12	40
07:30 AM	0	9	5	14	0	0	0	0	17	9	0	26	2	0	11	13	53
07:45 AM	0	12	2	14	0	0	0	0	14	9	0	23	2	0	8	10	47
Total	0	41	13	54	0	0	0	0	54	35	0	89	8	0	31	39	182
08:00 AM	0	13	3	16	0	0	0	0	16	7	0	23	1	0	12	13	52
08:15 AM	0	8	2	10	0	0	0	0	9	10	0	19	3	0	15	18	47
08:30 AM	0	9	2	11	0	0	0	0	8	9	0	17	1	0	6	7	35
08:45 AM	0	11	0	11	0	0	0	0	18	15	1	34	2	1	5	8	53
Total	0	41	7	48	0	0	0	0	51	41	1	93	7	1	38	46	187
Grand Total	0	82	20	102	0	0	0	0	105	76	1	182	15	1	69	85	369
Apprch %	0	80.4	19.6		0	0	0		57.7	41.8	0.5		17.6	1.2	81.2		
Total %	0	22.2	5.4	27.6	0	0	0	0	28.5	20.6	0.3	49.3	4.1	0.3	18.7	23	
Passenger Vehicles	0	46	19	65	0	0	0	0	103	40	1	144	13	1	67	81	290
% Passenger Vehicles	0	56.1	95	63.7	0	0	0	0	98.1	52.6	100	79.1	86.7	100	97.1	95.3	78.6
Large 2 Axle Vehicles	0	2	1	3	0	0	0	0	2	5	0	7	2	0	1	3	13
% Large 2 Axle Vehicles	0	2.4	5	2.9	0	0	0	0	1.9	6.6	0	3.8	13.3	0	1.4	3.5	3.5
3 Axle Vehicles	0	2	0	2	0	0	0	0	0	24	0	24	0	0	0	0	26
% 3 Axle Vehicles	0	2.4	0	2	0	0	0	0	0	31.6	0	13.2	0	0	0	0	7
4+ Axle Trucks	0	32	0	32	0	0	0	0	0	7	0	7	0	0	1	1	40
% 4+ Axle Trucks	0	39	0	31.4	0	0	0	0	0	9.2	0	3.8	0	0	1.4	1.2	10.8

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	9	**5**	14	0	0	0	0	**17**	9	0	**26**	2	0	11	13	**53**
07:45 AM	0	12	2	14	0	0	0	0	14	9	0	23	2	0	8	10	47
08:00 AM	0	**13**	3	**16**	0	0	0	0	16	7	0	23	1	0	12	13	52
08:15 AM	0	8	2	10	0	0	0	0	9	**10**	0	19	**3**	0	**15**	**18**	47
Total Volume	0	42	12	54	0	0	0	0	56	35	0	91	8	0	46	54	199
% App. Total	0	77.8	22.2		0	0	0		61.5	38.5	0		14.8	0	85.2		
PHF	.000	.808	.600	.844	.000	.000	.000	.000	.824	.875	.000	.875	.667	.000	.767	.750	.939

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				08:00 AM				07:30 AM			
+0 mins.	0	9	2	11	0	0	0	0	16	7	0	23	2	0	11	13
+15 mins.	0	9	**5**	14	0	0	0	0	9	10	0	19	2	0	8	10
+30 mins.	0	12	2	14	0	0	0	0	8	9	0	17	1	0	12	13
+45 mins.	0	**13**	3	**16**	0	0	0	0	**18**	**15**	**1**	**34**	**3**	0	**15**	**18**
Total Volume	0	43	12	55	0	0	0	0	51	41	1	93	8	0	46	54
% App. Total	0	78.2	21.8		0	0	0		54.8	44.1	1.1		14.8	0	85.2	
PHF	.000	.827	.600	.859	.000	.000	.000	.000	.708	.683	.250	.684	.667	.000	.767	.750

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

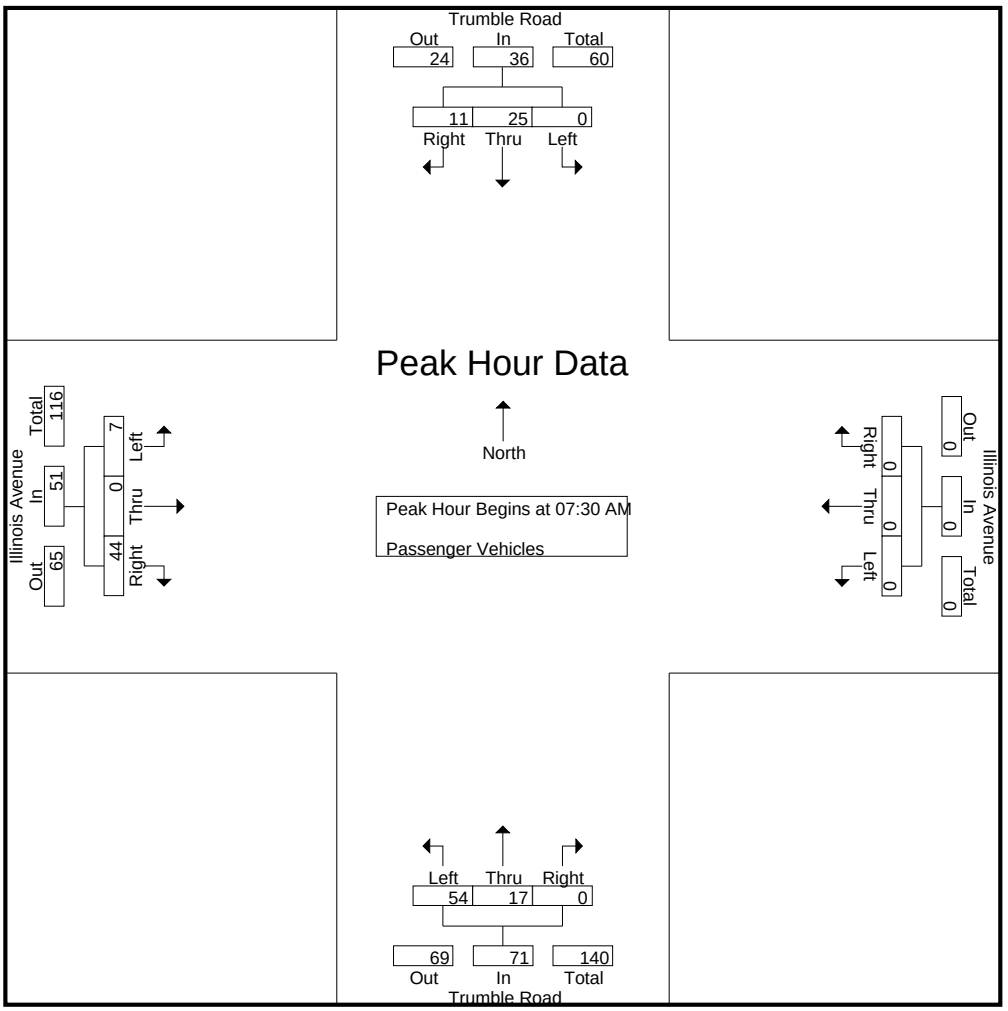
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	5	4	9	0	0	0	0	11	10	0	21	1	0	3	4	34
07:15 AM	0	5	2	7	0	0	0	0	12	2	0	14	3	0	9	12	33
07:30 AM	0	4	4	8	0	0	0	0	16	5	0	21	2	0	11	13	42
07:45 AM	0	6	2	8	0	0	0	0	14	4	0	18	1	0	7	8	34
Total	0	20	12	32	0	0	0	0	53	21	0	74	7	0	30	37	143
08:00 AM	0	9	3	12	0	0	0	0	16	3	0	19	1	0	11	12	43
08:15 AM	0	6	2	8	0	0	0	0	8	5	0	13	3	0	15	18	39
08:30 AM	0	4	2	6	0	0	0	0	8	3	0	11	1	0	6	7	24
08:45 AM	0	7	0	7	0	0	0	0	18	8	1	27	1	1	5	7	41
Total	0	26	7	33	0	0	0	0	50	19	1	70	6	1	37	44	147
Grand Total	0	46	19	65	0	0	0	0	103	40	1	144	13	1	67	81	290
Apprch %	0	70.8	29.2		0	0	0		71.5	27.8	0.7		16	1.2	82.7		
Total %	0	15.9	6.6	22.4	0	0	0	0	35.5	13.8	0.3	49.7	4.5	0.3	23.1	27.9	

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	4	**4**	8	0	0	0	0	**16**	**5**	0	**21**	2	0	11	13	42
07:45 AM	0	6	2	8	0	0	0	0	14	4	0	18	1	0	7	8	34
08:00 AM	0	**9**	3	**12**	0	0	0	0	16	3	0	19	1	0	11	12	**43**
08:15 AM	0	6	2	8	0	0	0	0	8	5	0	13	**3**	0	**15**	**18**	39
Total Volume	0	25	11	36	0	0	0	0	54	17	0	71	7	0	44	51	158
% App. Total	0	69.4	30.6		0	0	0		76.1	23.9	0		13.7	0	86.3		
PHF	.000	.694	.688	.750	.000	.000	.000	.000	.844	.850	.000	.845	.583	.000	.733	.708	.919

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	4	**4**	8	0	0	0	0	**16**	**5**	0	**21**	2	0	11	13
+15 mins.	0	6	2	8	0	0	0	0	14	4	0	18	1	0	7	8
+30 mins.	0	**9**	3	**12**	0	0	0	0	16	3	0	19	1	0	11	12
+45 mins.	0	6	2	8	0	0	0	0	8	5	0	13	**3**	0	**15**	**18**
Total Volume	0	25	11	36	0	0	0	0	54	17	0	71	7	0	44	51
% App. Total	0	69.4	30.6		0	0	0		76.1	23.9	0		13.7	0	86.3	
PHF	.000	.694	.688	.750	.000	.000	.000	.000	.844	.850	.000	.845	.583	.000	.733	.708

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

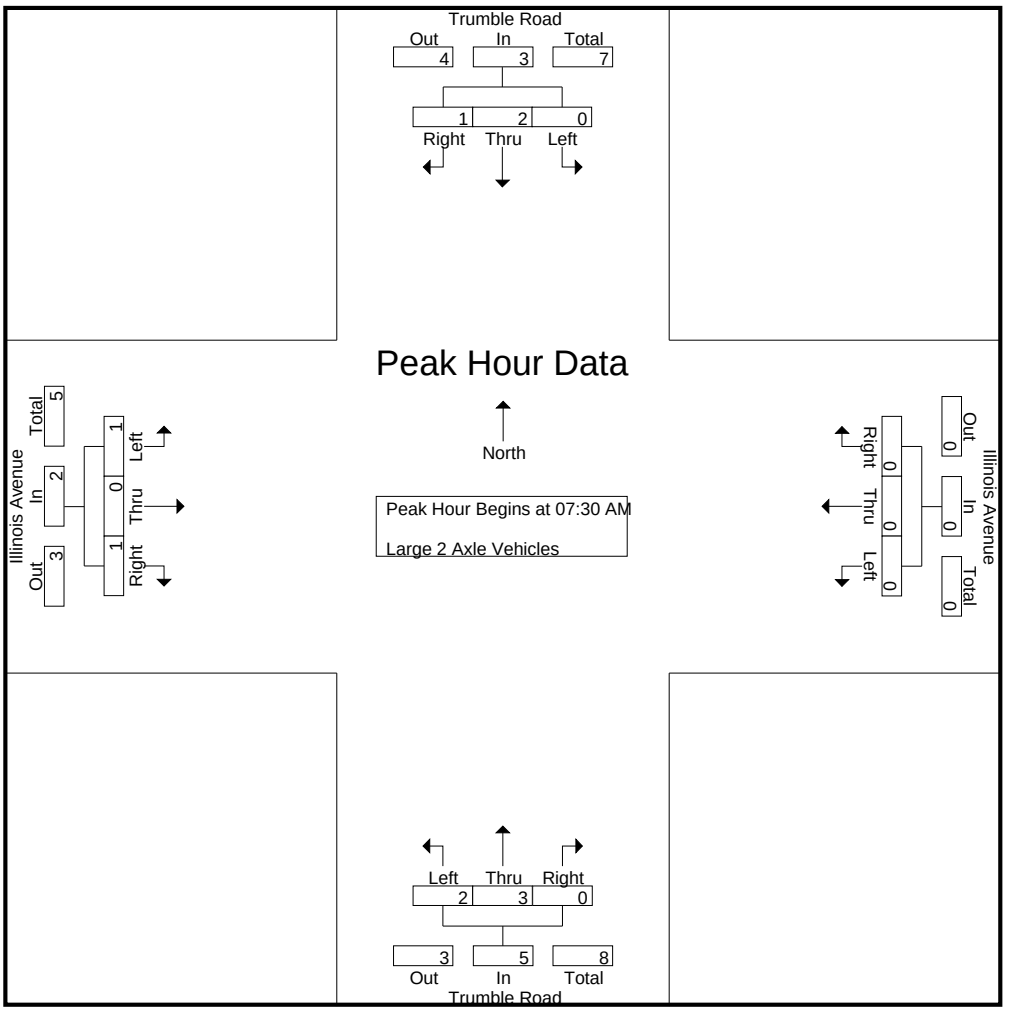
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:30 AM	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	1	3
Total	0	0	1	1	0	0	0	0	1	3	0	4	1	0	0	1	6
08:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
08:15 AM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	2	0	2	0	0	0	0	1	2	0	3	1	0	1	2	7
Grand Total	0	2	1	3	0	0	0	0	2	5	0	7	2	0	1	3	13
Apprch %	0	66.7	33.3		0	0	0		28.6	71.4	0		66.7	0	33.3		
Total %	0	15.4	7.7	23.1	0	0	0	0	15.4	38.5	0	53.8	15.4	0	7.7	23.1	

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	**1**	**1**	0	0	0	0	**1**	0	0	1	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**1**	0	0	**1**	**3**
08:00 AM	0	**1**	0	1	0	0	0	0	0	1	0	1	0	0	**1**	1	3
08:15 AM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
Total Volume	0	2	1	3	0	0	0	0	2	3	0	5	1	0	1	2	10
% App. Total	0	66.7	33.3		0	0	0		40	60	0		50	0	50		
PHF	.000	.500	.250	.750	.000	.000	.000	.000	.500	.375	.000	.625	.250	.000	.250	.500	.833

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill AM
Site Code : 99925132
Start Date : 2/11/2025
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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	**1**	**1**	0	0	0	0	**1**	0	0	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**1**	0	0	**1**
+30 mins.	0	**1**	0	1	0	0	0	0	0	1	0	1	0	0	**1**	1
+45 mins.	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0
Total Volume	0	2	1	3	0	0	0	0	2	3	0	5	1	0	1	2
% App. Total	0	66.7	33.3		0	0	0		40	60	0		50	0	50	
PHF	.000	.500	.250	.750	.000	.000	.000	.000	.500	.375	.000	.625	.250	.000	.250	.500

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City of Menifee
N/S: Trumble Road
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Weather: Clear

File Name : 02_MEN_Tru_Ill AM
Site Code : 99925132
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Groups Printed- 3 Axle Vehicles

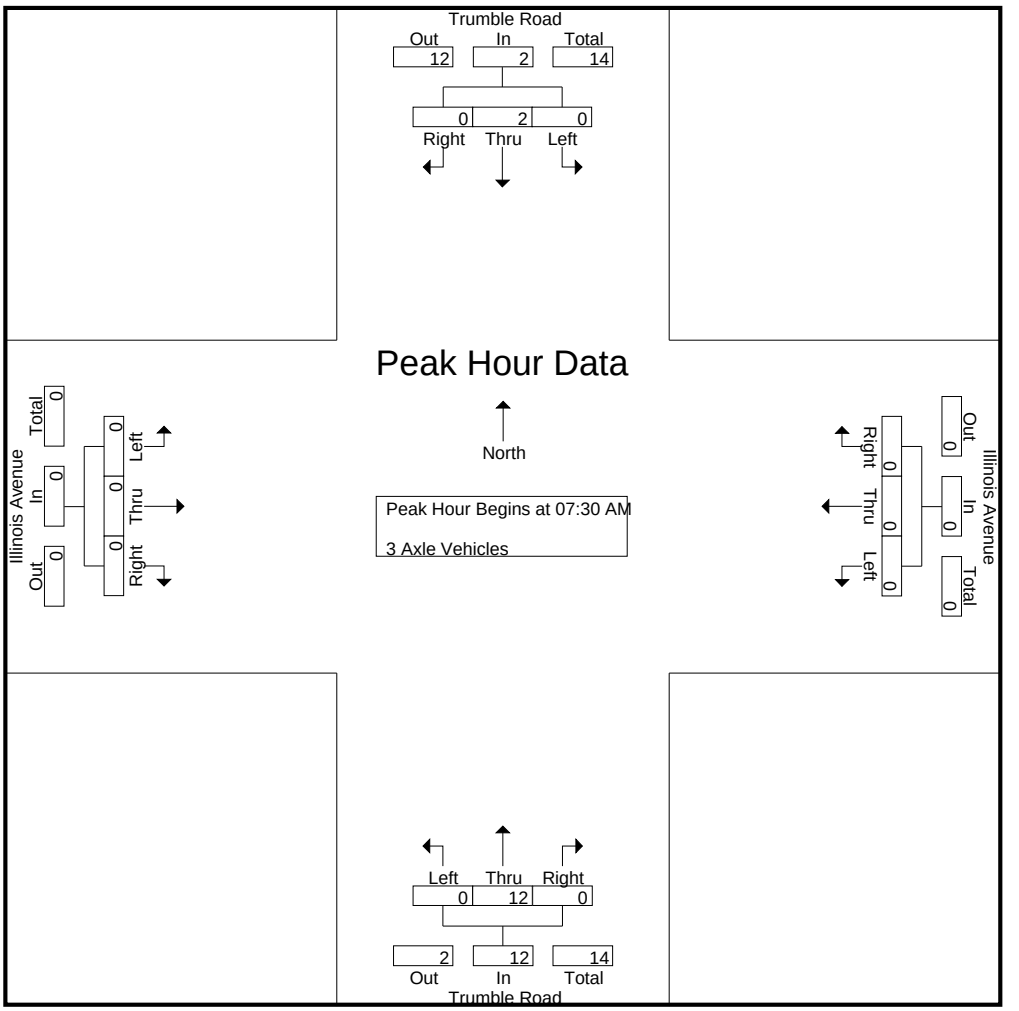
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	8
08:00 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
08:15 AM	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	5
08:30 AM	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	5
08:45 AM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4
Total	0	2	0	2	0	0	0	0	0	16	0	16	0	0	0	0	18
Grand Total	0	2	0	2	0	0	0	0	0	24	0	24	0	0	0	0	26
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	7.7	0	7.7	0	0	0	0	0	92.3	0	92.3	0	0	0	0	

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:00 AM	0	**2**	0	**2**	0	0	0	0	0	2	0	2	0	0	0	0	4
08:15 AM	0	0	0	0	0	0	0	0	0	**5**	0	**5**	0	0	0	0	**5**
Total Volume	0	2	0	2	0	0	0	0	0	12	0	12	0	0	0	0	14
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.600	.000	.600	.000	.000	.000	.000	.700

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City of Menifee
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Weather: Clear

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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	**2**	0	**2**	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	**5**	0	**5**	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	12	0	12	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.600	.000	.600	.000	.000	.000	.000

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City of Menifee
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Weather: Clear

File Name : 02_MEN_Tru_Ill AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

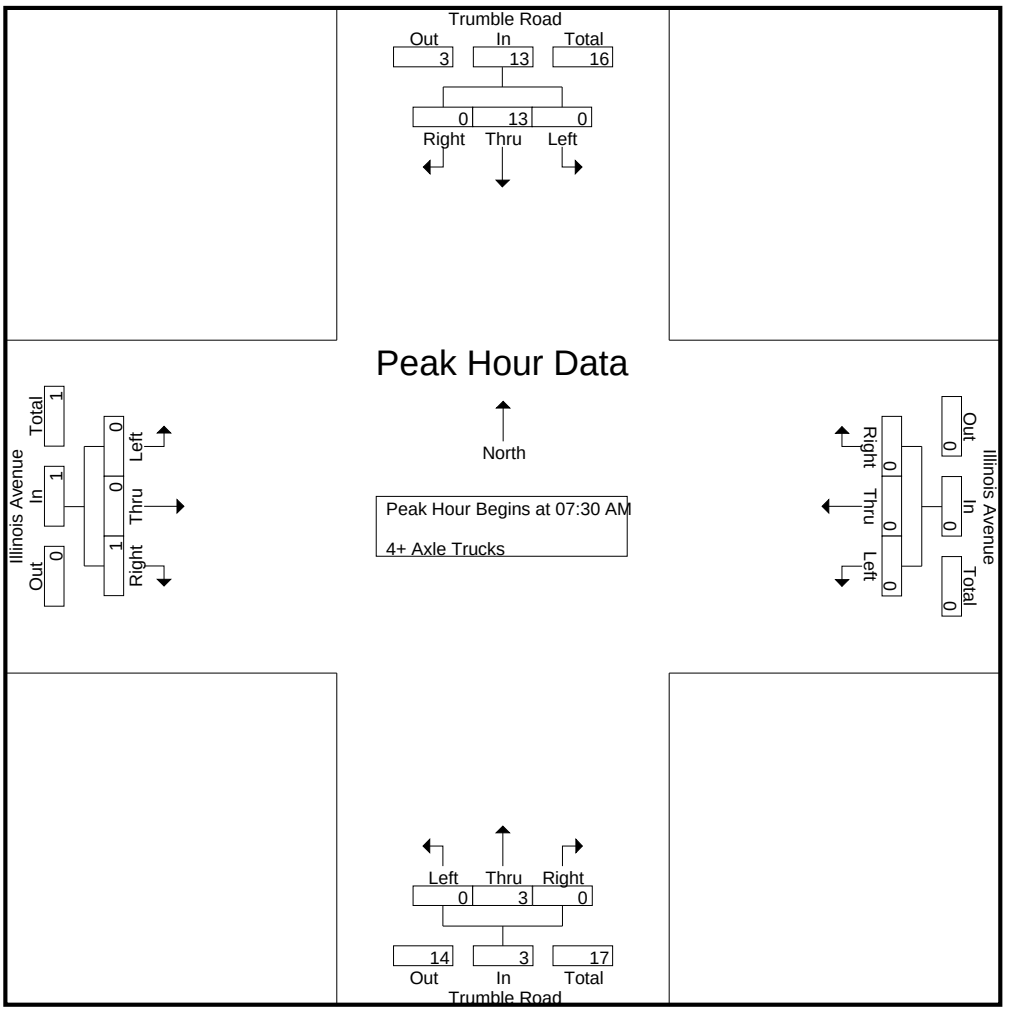
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	6	0	6	0	0	0	0	0	1	0	1	0	0	0	0	7
07:15 AM	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
07:30 AM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
07:45 AM	0	6	0	6	0	0	0	0	0	2	0	2	0	0	1	1	9
Total	0	21	0	21	0	0	0	0	0	3	0	3	0	0	1	1	25
08:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	5	0	5	0	0	0	0	0	1	0	1	0	0	0	0	6
08:45 AM	0	4	0	4	0	0	0	0	0	2	0	2	0	0	0	0	6
Total	0	11	0	11	0	0	0	0	0	4	0	4	0	0	0	0	15
Grand Total	0	32	0	32	0	0	0	0	0	7	0	7	0	0	1	1	40
Apprch %	0	100	0		0	0	0		0	100	0		0	0	100		
Total %	0	80	0	80	0	0	0	0	0	17.5	0	17.5	0	0	2.5	2.5	

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
07:45 AM	0	**6**	0	**6**	0	0	0	0	0	**2**	0	**2**	0	0	**1**	**1**	**9**
08:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	13	0	13	0	0	0	0	0	3	0	3	0	0	1	1	17
% App. Total	0	100	0		0	0	0		0	100	0		0	0	100		
PHF	.000	.542	.000	.542	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.250	.250	.472

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City of Menifee
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Weather: Clear

File Name : 02_MEN_Tru_Ill AM
Site Code : 99925132
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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**6**	0	**6**	0	0	0	0	0	**2**	0	**2**	0	0	**1**	**1**
+30 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	13	0	13	0	0	0	0	0	3	0	3	0	0	1	1
% App. Total	0	100	0		0	0	0		0	100	0		0	0	100	
PHF	.000	.542	.000	.542	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.250	.250

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill PM
Site Code : 99925132
Start Date : 2/11/2025
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

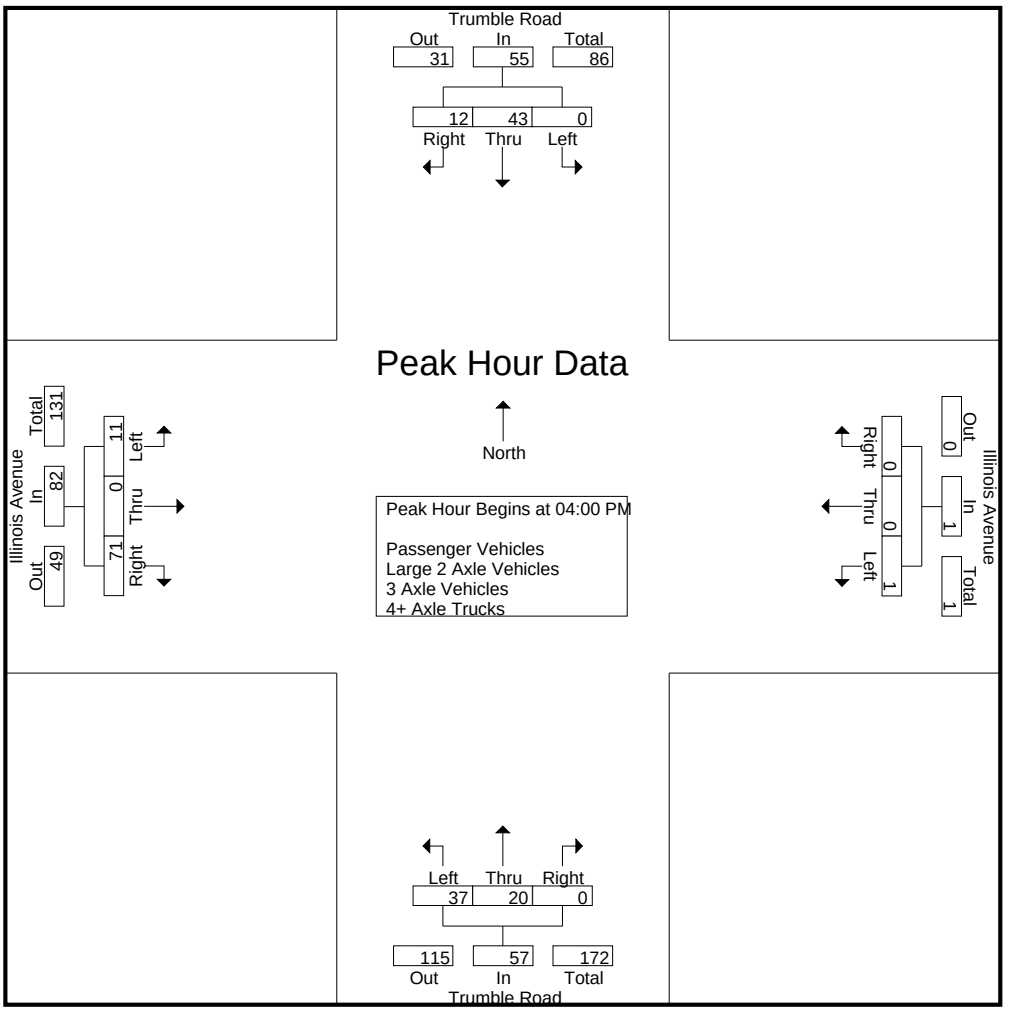
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	18	2	20	0	0	0	0	12	7	0	19	5	0	25	30	69
04:15 PM	0	9	6	15	0	0	0	0	12	6	0	18	2	0	14	16	49
04:30 PM	0	8	3	11	1	0	0	1	8	3	0	11	4	0	20	24	47
04:45 PM	0	8	1	9	0	0	0	0	5	4	0	9	0	0	12	12	30
Total	0	43	12	55	1	0	0	1	37	20	0	57	11	0	71	82	195
05:00 PM	0	24	2	26	0	0	0	0	10	6	0	16	1	0	19	20	62
05:15 PM	0	10	0	10	0	0	0	0	10	6	0	16	0	0	14	14	40
05:30 PM	0	5	1	6	0	0	0	0	10	5	0	15	0	0	14	14	35
05:45 PM	0	4	0	4	0	0	0	0	10	0	0	10	1	0	12	13	27
Total	0	43	3	46	0	0	0	0	40	17	0	57	2	0	59	61	164
Grand Total	0	86	15	101	1	0	0	1	77	37	0	114	13	0	130	143	359
Apprch %	0	85.1	14.9		100	0	0		67.5	32.5	0		9.1	0	90.9		
Total %	0	24	4.2	28.1	0.3	0	0	0.3	21.4	10.3	0	31.8	3.6	0	36.2	39.8	
Passenger Vehicles	0	81	14	95	1	0	0	1	74	18	0	92	13	0	128	141	329
% Passenger Vehicles	0	94.2	93.3	94.1	100	0	0	100	96.1	48.6	0	80.7	100	0	98.5	98.6	91.6
Large 2 Axle Vehicles	0	1	1	2	0	0	0	0	3	0	0	3	0	0	2	2	7
% Large 2 Axle Vehicles	0	1.2	6.7	2	0	0	0	0	3.9	0	0	2.6	0	0	1.5	1.4	1.9
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	14	0	14	0	0	0	0	15
% 3 Axle Vehicles	0	1.2	0	1	0	0	0	0	0	37.8	0	12.3	0	0	0	0	4.2
4+ Axle Trucks	0	3	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8
% 4+ Axle Trucks	0	3.5	0	3	0	0	0	0	0	13.5	0	4.4	0	0	0	0	2.2

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**18**	2	**20**	0	0	0	0	**12**	**7**	0	**19**	**5**	0	**25**	**30**	**69**
04:15 PM	0	9	**6**	15	0	0	0	0	12	6	0	18	2	0	14	16	49
04:30 PM	0	8	3	11	**1**	0	0	**1**	8	3	0	11	4	0	20	24	47
04:45 PM	0	8	1	9	0	0	0	0	5	4	0	9	0	0	12	12	30
Total Volume	0	43	12	55	1	0	0	1	37	20	0	57	11	0	71	82	195
% App. Total	0	78.2	21.8		100	0	0		64.9	35.1	0		13.4	0	86.6		
PHF	.000	.597	.500	.688	.250	.000	.000	.250	.771	.714	.000	.750	.550	.000	.710	.683	.707

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	9	**6**	15	0	0	0	0	**12**	**7**	0	**19**	**5**	0	**25**	**30**
+15 mins.	0	8	3	11	0	0	0	0	12	6	0	18	2	0	14	16
+30 mins.	0	8	1	9	**1**	0	0	**1**	8	3	0	11	4	0	20	24
+45 mins.	0	**24**	2	**26**	0	0	0	0	5	4	0	9	0	0	12	12
Total Volume	0	49	12	61	1	0	0	1	37	20	0	57	11	0	71	82
% App. Total	0	80.3	19.7		100	0	0		64.9	35.1	0		13.4	0	86.6	
PHF	.000	.510	.500	.587	.250	.000	.000	.250	.771	.714	.000	.750	.550	.000	.710	.683

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City of Menifee
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File Name : 02_MEN_Tru_Ill PM
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Groups Printed- Passenger Vehicles

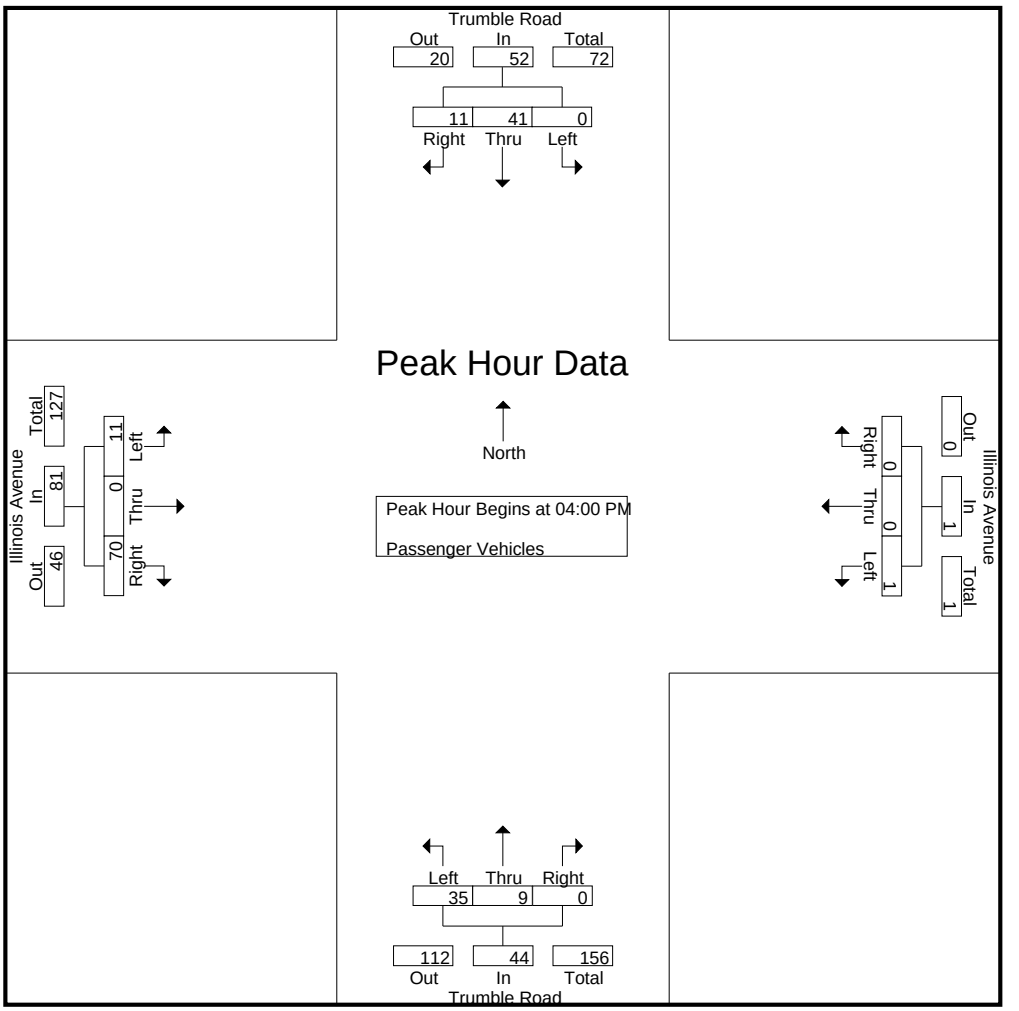
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	18	2	20	0	0	0	0	11	6	0	17	5	0	25	30	67
04:15 PM	0	7	6	13	0	0	0	0	12	1	0	13	2	0	13	15	41
04:30 PM	0	8	2	10	1	0	0	1	8	2	0	10	4	0	20	24	45
04:45 PM	0	8	1	9	0	0	0	0	4	0	0	4	0	0	12	12	25
Total	0	41	11	52	1	0	0	1	35	9	0	44	11	0	70	81	178
05:00 PM	0	22	2	24	0	0	0	0	10	2	0	12	1	0	19	20	56
05:15 PM	0	9	0	9	0	0	0	0	10	4	0	14	0	0	14	14	37
05:30 PM	0	5	1	6	0	0	0	0	9	3	0	12	0	0	13	13	31
05:45 PM	0	4	0	4	0	0	0	0	10	0	0	10	1	0	12	13	27
Total	0	40	3	43	0	0	0	0	39	9	0	48	2	0	58	60	151
Grand Total	0	81	14	95	1	0	0	1	74	18	0	92	13	0	128	141	329
Apprch %	0	85.3	14.7		100	0	0		80.4	19.6	0		9.2	0	90.8		
Total %	0	24.6	4.3	28.9	0.3	0	0	0.3	22.5	5.5	0	28	4	0	38.9	42.9	

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**18**	2	**20**	0	0	0	0	11	**6**	0	**17**	**5**	0	**25**	**30**	**67**
04:15 PM	0	7	**6**	13	0	0	0	0	**12**	1	0	13	2	0	13	15	41
04:30 PM	0	8	2	10	**1**	0	0	**1**	8	2	0	10	4	0	20	24	45
04:45 PM	0	8	1	9	0	0	0	0	4	0	0	4	0	0	12	12	25
Total Volume	0	41	11	52	1	0	0	1	35	9	0	44	11	0	70	81	178
% App. Total	0	78.8	21.2		100	0	0		79.5	20.5	0		13.6	0	86.4		
PHF	.000	.569	.458	.650	.250	.000	.000	.250	.729	.375	.000	.647	.550	.000	.700	.675	.664

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	**18**	2	**20**	0	0	0	0	11	**6**	0	**17**	**5**	0	**25**	**30**
+15 mins.	0	7	**6**	13	0	0	0	0	**12**	1	0	13	2	0	13	15
+30 mins.	0	8	2	10	**1**	0	0	**1**	8	2	0	10	4	0	20	24
+45 mins.	0	8	1	9	0	0	0	0	4	0	0	4	0	0	12	12
Total Volume	0	41	11	52	1	0	0	1	35	9	0	44	11	0	70	81
% App. Total	0	78.8	21.2		100	0	0		79.5	20.5	0		13.6	0	86.4	
PHF	.000	.569	.458	.650	.250	.000	.000	.250	.729	.375	.000	.647	.550	.000	.700	.675

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

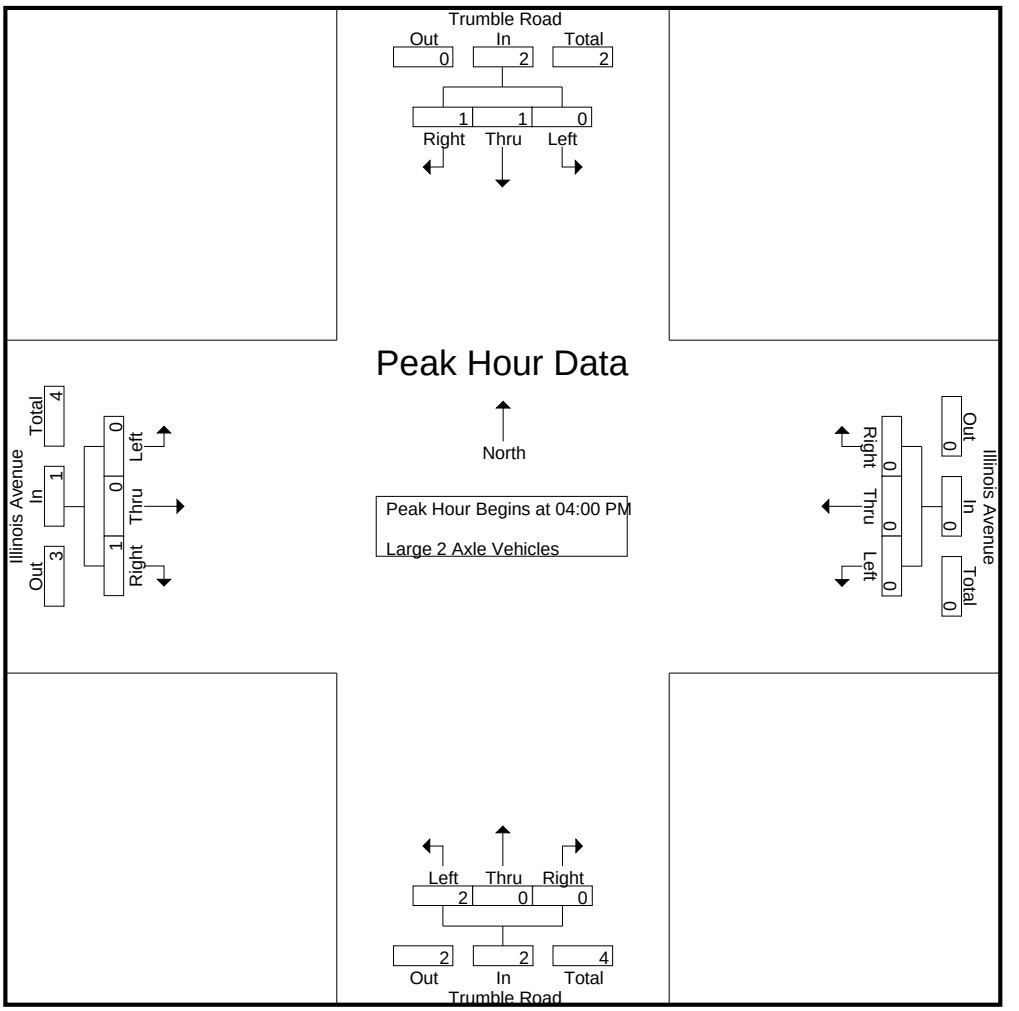
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
04:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	1	1	2	0	0	0	0	2	0	0	2	0	0	1	1	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	2
05:45 PM	0	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	1	0	0	1	0	0	1	1	2
Grand Total	0	1	1	2	0	0	0	0	3	0	0	3	0	0	2	2	7
Apprch %	0	50	50		0	0	0		100	0	0		0	0	100		
Total %	0	14.3	14.3	28.6	0	0	0	0	42.9	0	0	42.9	0	0	28.6	28.6	

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	1
04:15 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**
04:30 PM	0	0	**1**	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	1	1	2	0	0	0	0	2	0	0	2	0	0	1	1	5
% App. Total	0	50	50		0	0	0		100	0	0		0	0	100		
PHF	.000	.250	.250	.500	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.250	.250	.625

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
+15 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	**1**	**1**
+30 mins.	0	0	**1**	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
Total Volume	0	1	1	2	0	0	0	0	2	0	0	2	0	0	1	1
% App. Total	0	50	50		0	0	0		100	0	0		0	0	100	
PHF	.000	.250	.250	.500	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.250	.250

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

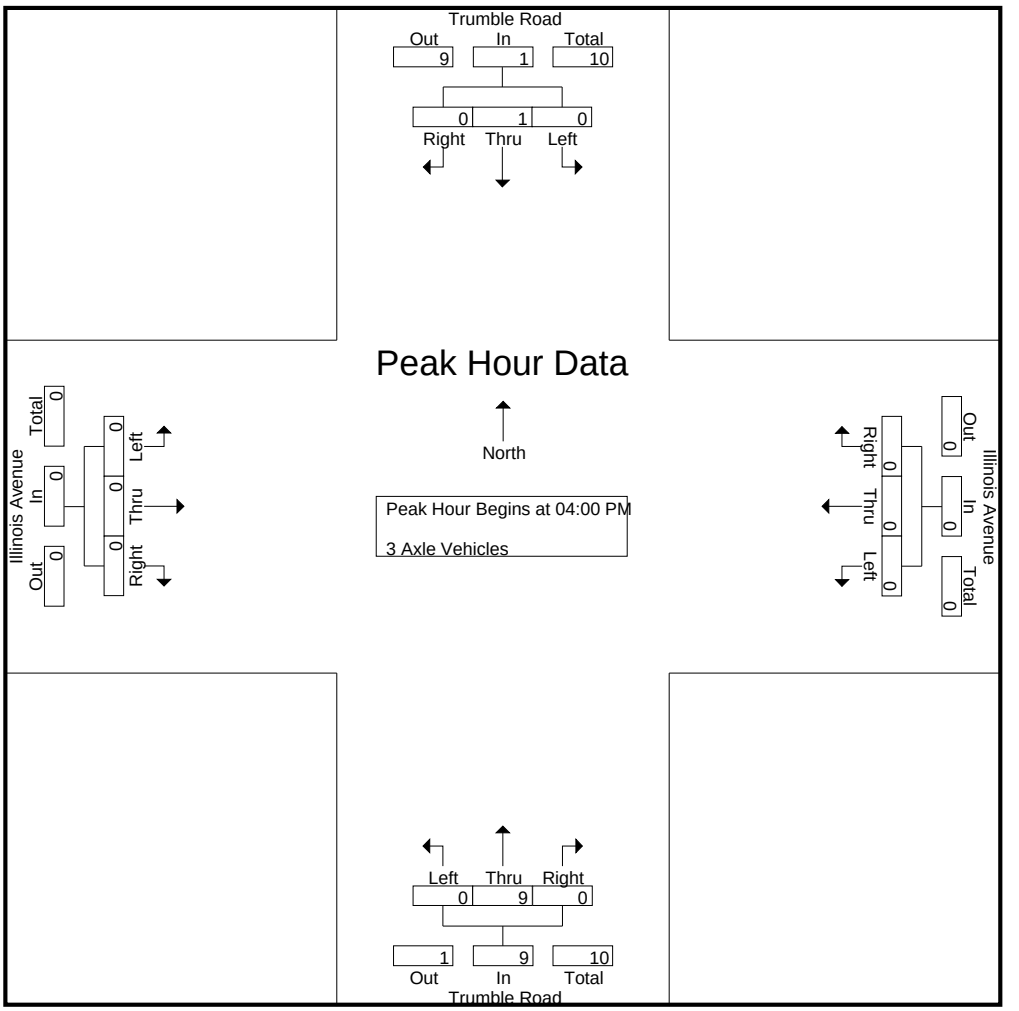
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	4	0	4	0	0	0	0	5
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
Total	0	1	0	1	0	0	0	0	0	9	0	9	0	0	0	0	10
05:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:45 PM	0	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	5	0	5	0	0	0	0	5
Grand Total	0	1	0	1	0	0	0	0	0	14	0	14	0	0	0	0	15
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	6.7	0	6.7	0	0	0	0	0	93.3	0	93.3	0	0	0	0	

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	**1**	0	**1**	0	0	0	0	0	**4**	0	**4**	0	0	0	0	**5**
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
Total Volume	0	1	0	1	0	0	0	0	0	9	0	9	0	0	0	0	10
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.563	.000	.563	.000	.000	.000	.000	.500

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+15 mins.	0	**1**	0	**1**	0	0	0	0	0	**4**	0	**4**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	9	0	9	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.563	.000	.563	.000	.000	.000	.000

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

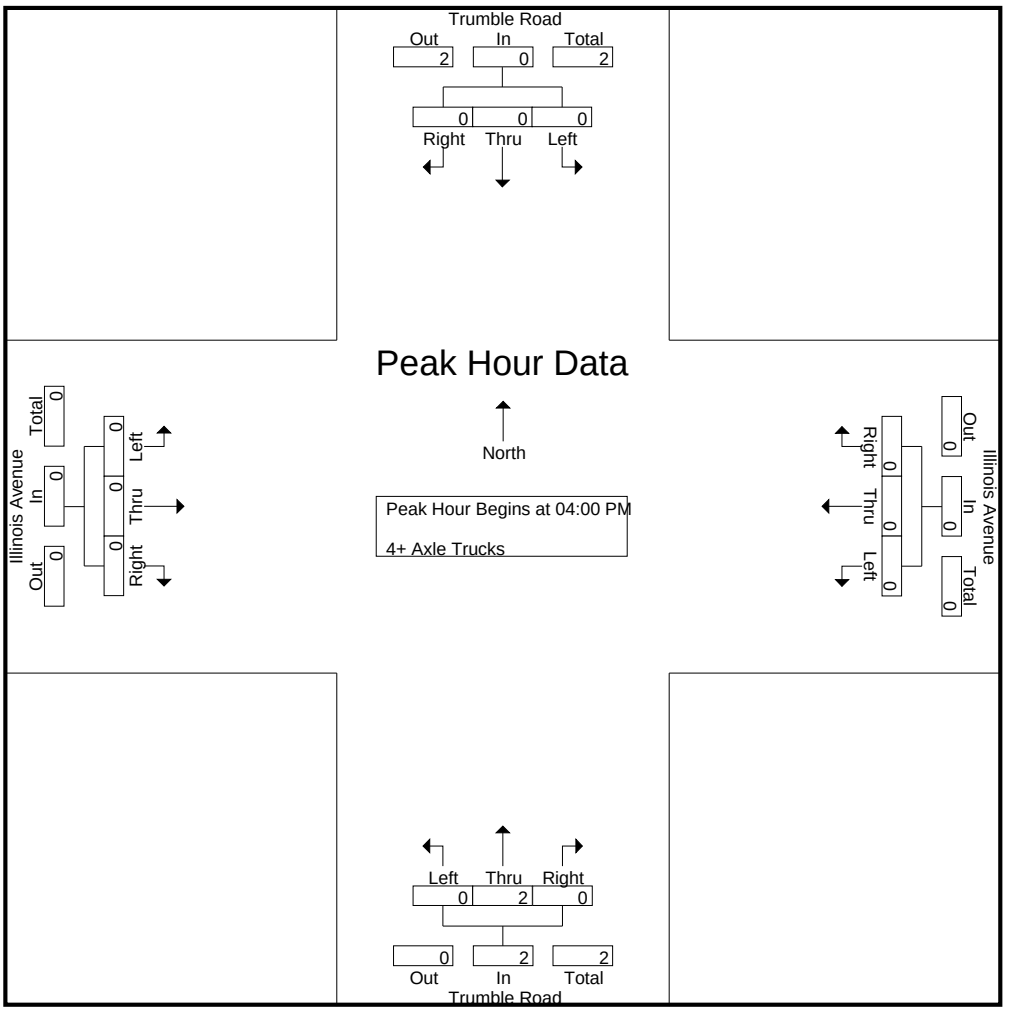
	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:00 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
Grand Total	0	3	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	37.5	0	37.5	0	0	0	0	0	62.5	0	62.5	0	0	0	0	

	Trumble Road Southbound				Illinois Avenue Westbound				Trumble Road Northbound				Illinois Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.500

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City of Menifee
N/S: Trumble Road
E/W: Illinois Avenue
Weather: Clear

File Name : 02_MEN_Tru_Ill PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

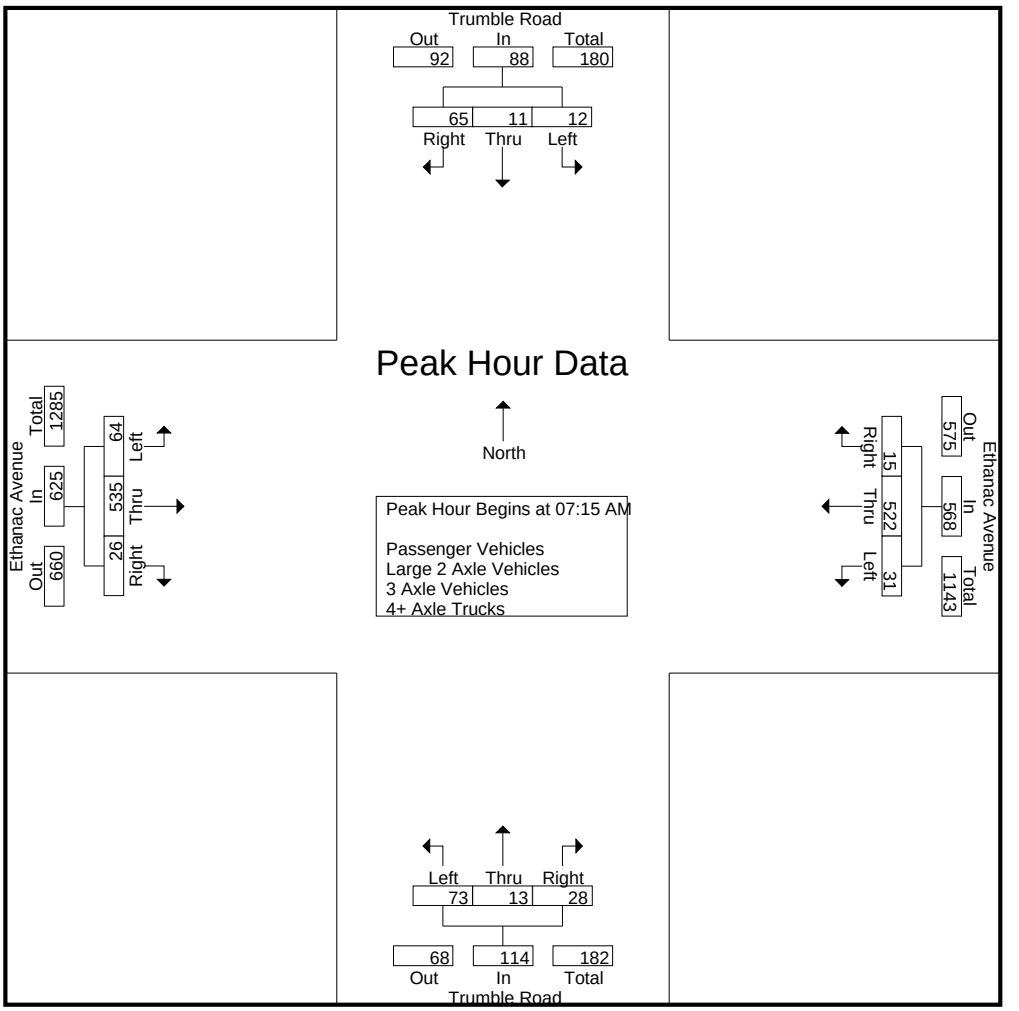
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	0	10	14	4	97	5	106	16	3	2	21	15	99	8	122	263
07:15 AM	4	3	12	19	9	105	1	115	21	1	6	28	17	132	10	159	321
07:30 AM	5	5	12	22	9	149	3	161	20	8	8	36	13	154	9	176	395
07:45 AM	2	2	17	21	10	137	6	153	16	4	5	25	16	135	3	154	353
Total	15	10	51	76	32	488	15	535	73	16	21	110	61	520	30	611	1332
08:00 AM	1	1	24	26	3	131	5	139	16	0	9	25	18	114	4	136	326
08:15 AM	3	4	17	24	4	110	5	119	8	2	4	14	12	76	1	89	246
08:30 AM	3	2	11	16	7	105	1	113	9	2	10	21	16	101	6	123	273
08:45 AM	2	1	15	18	5	71	8	84	10	5	1	16	21	115	6	142	260
Total	9	8	67	84	19	417	19	455	43	9	24	76	67	406	17	490	1105
Grand Total	24	18	118	160	51	905	34	990	116	25	45	186	128	926	47	1101	2437
Apprch %	15	11.2	73.8		5.2	91.4	3.4		62.4	13.4	24.2		11.6	84.1	4.3		
Total %	1	0.7	4.8	6.6	2.1	37.1	1.4	40.6	4.8	1	1.8	7.6	5.3	38	1.9	45.2	
Passenger Vehicles	14	13	90	117	45	878	25	948	106	22	41	169	101	889	43	1033	2267
% Passenger Vehicles	58.3	72.2	76.3	73.1	88.2	97	73.5	95.8	91.4	88	91.1	90.9	78.9	96	91.5	93.8	93
Large 2 Axle Vehicles	2	4	2	8	4	16	2	22	9	1	3	13	5	25	3	33	76
% Large 2 Axle Vehicles	8.3	22.2	1.7	5	7.8	1.8	5.9	2.2	7.8	4	6.7	7	3.9	2.7	6.4	3	3.1
3 Axle Vehicles	0	0	2	2	0	3	6	9	1	2	0	3	16	5	1	22	36
% 3 Axle Vehicles	0	0	1.7	1.2	0	0.3	17.6	0.9	0.9	8	0	1.6	12.5	0.5	2.1	2	1.5
4+ Axle Trucks	8	1	24	33	2	8	1	11	0	0	1	1	6	7	0	13	58
% 4+ Axle Trucks	33.3	5.6	20.3	20.6	3.9	0.9	2.9	1.1	0	0	2.2	0.5	4.7	0.8	0	1.2	2.4

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	4	3	12	19	9	105	1	115	**21**	1	6	28	17	132	**10**	159	321
07:30 AM	**5**	**5**	12	22	9	**149**	3	**161**	20	**8**	8	**36**	13	**154**	9	**176**	**395**
07:45 AM	2	2	17	21	**10**	137	**6**	153	16	4	5	25	16	135	3	154	353
08:00 AM	1	1	**24**	**26**	3	131	5	139	16	0	**9**	25	**18**	114	4	136	326
Total Volume	12	11	65	88	31	522	15	568	73	13	28	114	64	535	26	625	1395
% App. Total	13.6	12.5	73.9		5.5	91.9	2.6		64	11.4	24.6		10.2	85.6	4.2		
PHF	.600	.550	.677	.846	.775	.876	.625	.882	.869	.406	.778	.792	.889	.869	.650	.888	.883

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:15 AM				07:15 AM			
+0 mins.	**5**	**5**	12	22	9	**149**	3	**161**	**21**	1	6	28	17	132	**10**	159
+15 mins.	2	2	17	21	**10**	137	**6**	153	20	**8**	8	**36**	13	**154**	9	**176**
+30 mins.	1	1	**24**	**26**	3	131	5	139	16	4	5	25	16	135	3	154
+45 mins.	3	4	17	24	4	110	5	119	16	0	**9**	25	**18**	114	4	136
Total Volume	11	12	70	93	26	527	19	572	73	13	28	114	64	535	26	625
% App. Total	11.8	12.9	75.3		4.5	92.1	3.3		64	11.4	24.6		10.2	85.6	4.2	
PHF	.550	.600	.729	.894	.650	.884	.792	.888	.869	.406	.778	.792	.889	.869	.650	.888

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

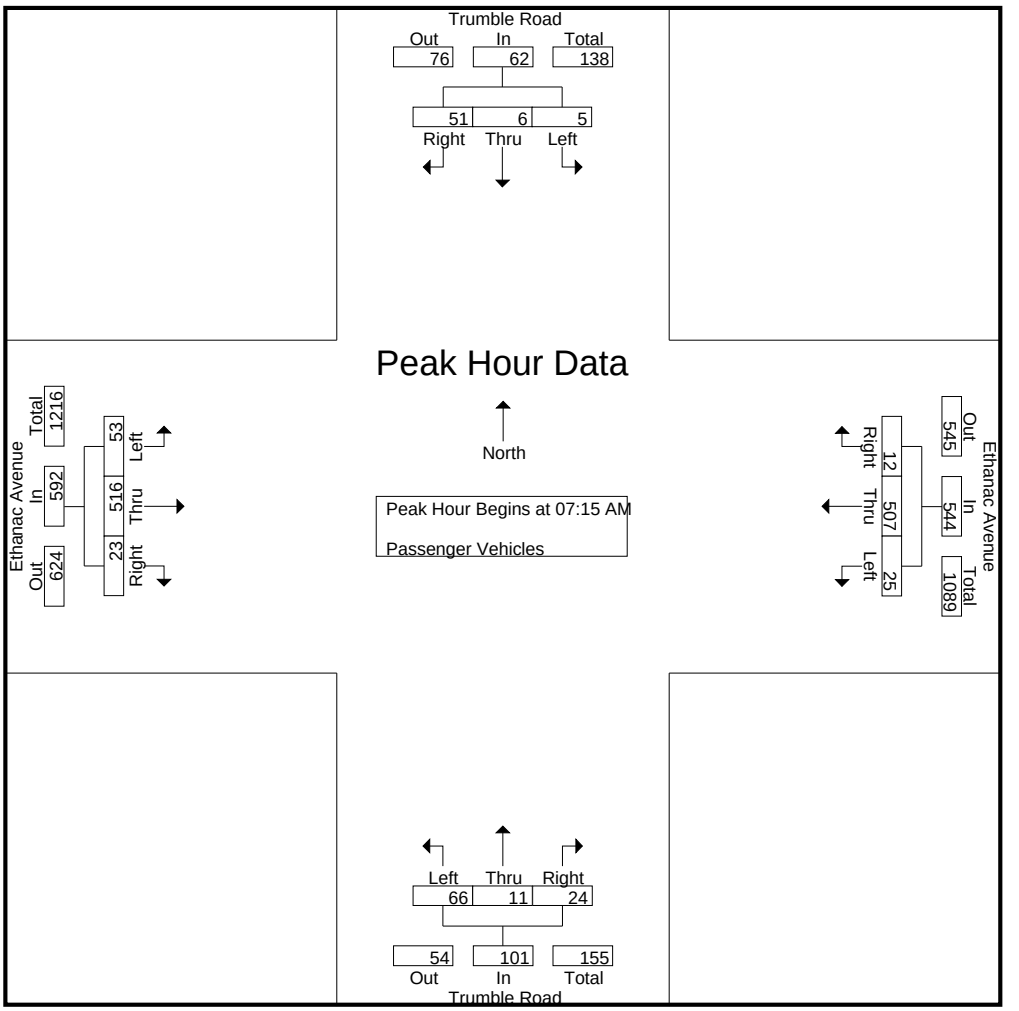
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	7	8	4	95	4	103	14	3	2	19	13	94	7	114	244
07:15 AM	2	3	10	15	6	102	1	109	20	1	6	27	14	127	8	149	300
07:30 AM	2	1	9	12	7	146	3	156	19	7	6	32	10	150	9	169	369
07:45 AM	1	1	12	14	9	134	4	147	15	3	5	23	14	132	2	148	332
Total	6	5	38	49	26	477	12	515	68	14	19	101	51	503	26	580	1245
08:00 AM	0	1	20	21	3	125	4	132	12	0	7	19	15	107	4	126	298
08:15 AM	3	4	15	22	4	107	2	113	8	2	4	14	8	72	1	81	230
08:30 AM	3	2	6	11	7	102	1	110	9	2	10	21	9	99	6	114	256
08:45 AM	2	1	11	14	5	67	6	78	9	4	1	14	18	108	6	132	238
Total	8	8	52	68	19	401	13	433	38	8	22	68	50	386	17	453	1022
Grand Total	14	13	90	117	45	878	25	948	106	22	41	169	101	889	43	1033	2267
Apprch %	12	11.1	76.9		4.7	92.6	2.6		62.7	13	24.3		9.8	86.1	4.2		
Total %	0.6	0.6	4	5.2	2	38.7	1.1	41.8	4.7	1	1.8	7.5	4.5	39.2	1.9	45.6	

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**2**	**3**	10	15	6	102	1	109	**20**	1	6	27	14	127	8	149	300
07:30 AM	2	1	9	12	7	**146**	3	**156**	19	**7**	6	**32**	10	**150**	**9**	**169**	**369**
07:45 AM	1	1	12	14	**9**	134	**4**	147	15	3	5	23	14	132	2	148	332
08:00 AM	0	1	**20**	**21**	3	125	4	132	12	0	**7**	19	**15**	107	4	126	298
Total Volume	5	6	51	62	25	507	12	544	66	11	24	101	53	516	23	592	1299
% App. Total	8.1	9.7	82.3		4.6	93.2	2.2		65.3	10.9	23.8		9	87.2	3.9		
PHF	.625	.500	.638	.738	.694	.868	.750	.872	.825	.393	.857	.789	.883	.860	.639	.876	.880

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	**2**	**3**	10	15	6	102	1	109	**20**	1	6	27	14	127	8	149
+15 mins.	2	1	9	12	7	**146**	3	**156**	19	**7**	6	**32**	10	**150**	**9**	**169**
+30 mins.	1	1	12	14	**9**	134	**4**	147	15	3	5	23	14	132	2	148
+45 mins.	0	1	**20**	**21**	3	125	4	132	12	0	**7**	19	**15**	107	4	126
Total Volume	5	6	51	62	25	507	12	544	66	11	24	101	53	516	23	592
% App. Total	8.1	9.7	82.3		4.6	93.2	2.2		65.3	10.9	23.8		9	87.2	3.9	
PHF	.625	.500	.638	.738	.694	.868	.750	.872	.825	.393	.857	.789	.883	.860	.639	.876

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

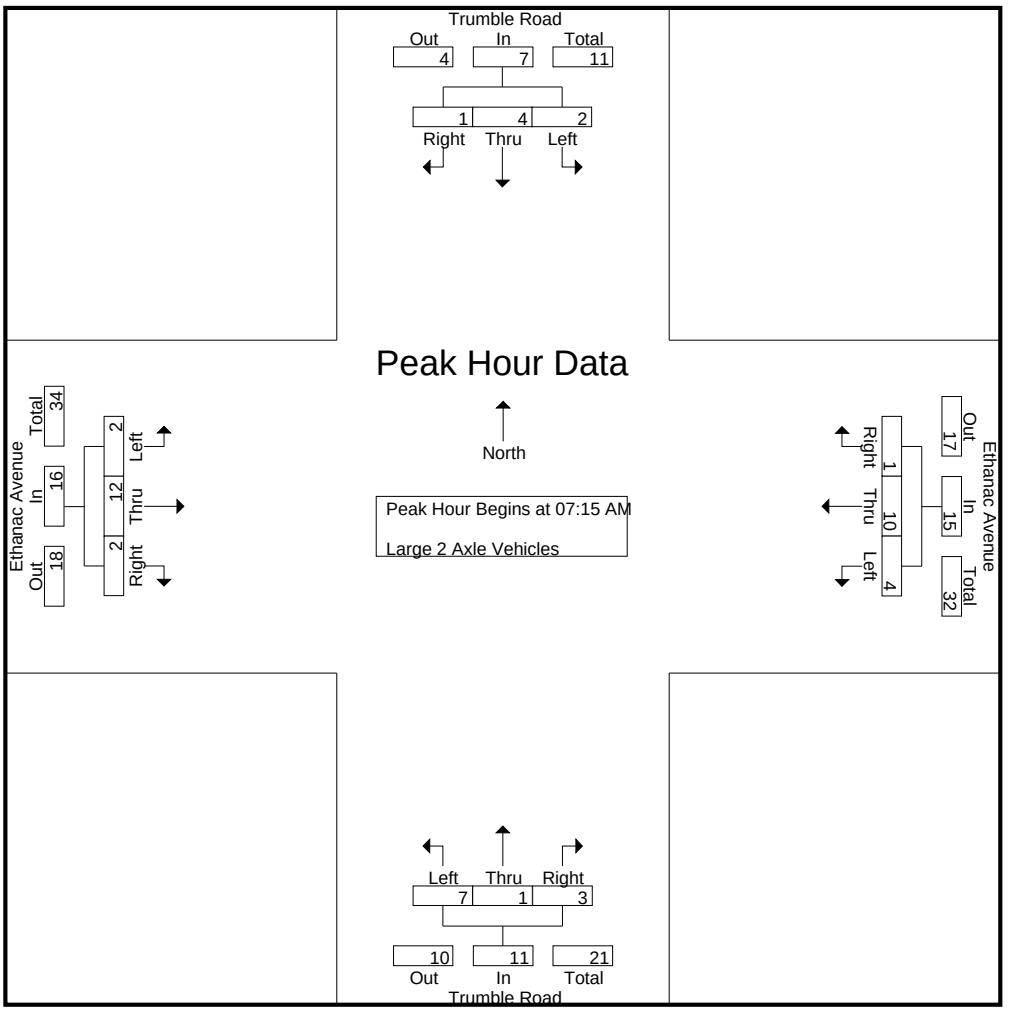
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	1	1	0	0	1	0	4	1	5	7
07:15 AM	1	0	0	1	3	3	0	6	1	0	0	1	0	4	1	5	13
07:30 AM	0	4	0	4	0	2	0	2	1	1	2	4	0	2	0	2	12
07:45 AM	0	0	0	0	1	0	1	2	1	0	0	1	1	3	1	5	8
Total	1	4	0	5	4	5	2	11	4	1	2	7	1	13	3	17	40
08:00 AM	1	0	1	2	0	5	0	5	4	0	1	5	1	3	0	4	16
08:15 AM	0	0	1	1	0	3	0	3	0	0	0	0	2	2	0	4	8
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
08:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	1	5	0	6	10
Total	1	0	2	3	0	11	0	11	5	0	1	6	4	12	0	16	36
Grand Total	2	4	2	8	4	16	2	22	9	1	3	13	5	25	3	33	76
Apprch %	25	50	25		18.2	72.7	9.1		69.2	7.7	23.1		15.2	75.8	9.1		
Total %	2.6	5.3	2.6	10.5	5.3	21.1	2.6	28.9	11.8	1.3	3.9	17.1	6.6	32.9	3.9	43.4	

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**1**	0	0	1	**3**	3	0	**6**	1	0	0	1	0	**4**	**1**	**5**	13
07:30 AM	0	**4**	0	**4**	0	2	0	2	1	**1**	**2**	4	0	2	0	2	12
07:45 AM	0	0	0	0	1	0	**1**	2	1	0	0	1	**1**	3	1	5	8
08:00 AM	1	0	**1**	2	0	**5**	0	5	**4**	0	1	**5**	1	3	0	4	**16**
Total Volume	2	4	1	7	4	10	1	15	7	1	3	11	2	12	2	16	49
% App. Total	28.6	57.1	14.3		26.7	66.7	6.7		63.6	9.1	27.3		12.5	75	12.5		
PHF	.500	.250	.250	.438	.333	.500	.250	.625	.438	.250	.375	.550	.500	.750	.500	.800	.766

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	**1**	0	0	1	**3**	3	0	**6**	1	0	0	1	0	**4**	**1**	**5**
+15 mins.	0	**4**	0	**4**	0	2	0	2	1	**1**	**2**	4	0	2	0	2
+30 mins.	0	0	0	0	1	0	**1**	2	1	0	0	1	**1**	3	1	5
+45 mins.	1	0	**1**	2	0	**5**	0	5	**4**	0	1	**5**	1	3	0	4
Total Volume	2	4	1	7	4	10	1	15	7	1	3	11	2	12	2	16
% App. Total	28.6	57.1	14.3		26.7	66.7	6.7		63.6	9.1	27.3		12.5	75	12.5	
PHF	.500	.250	.250	.438	.333	.500	.250	.625	.438	.250	.375	.550	.500	.750	.500	.800

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

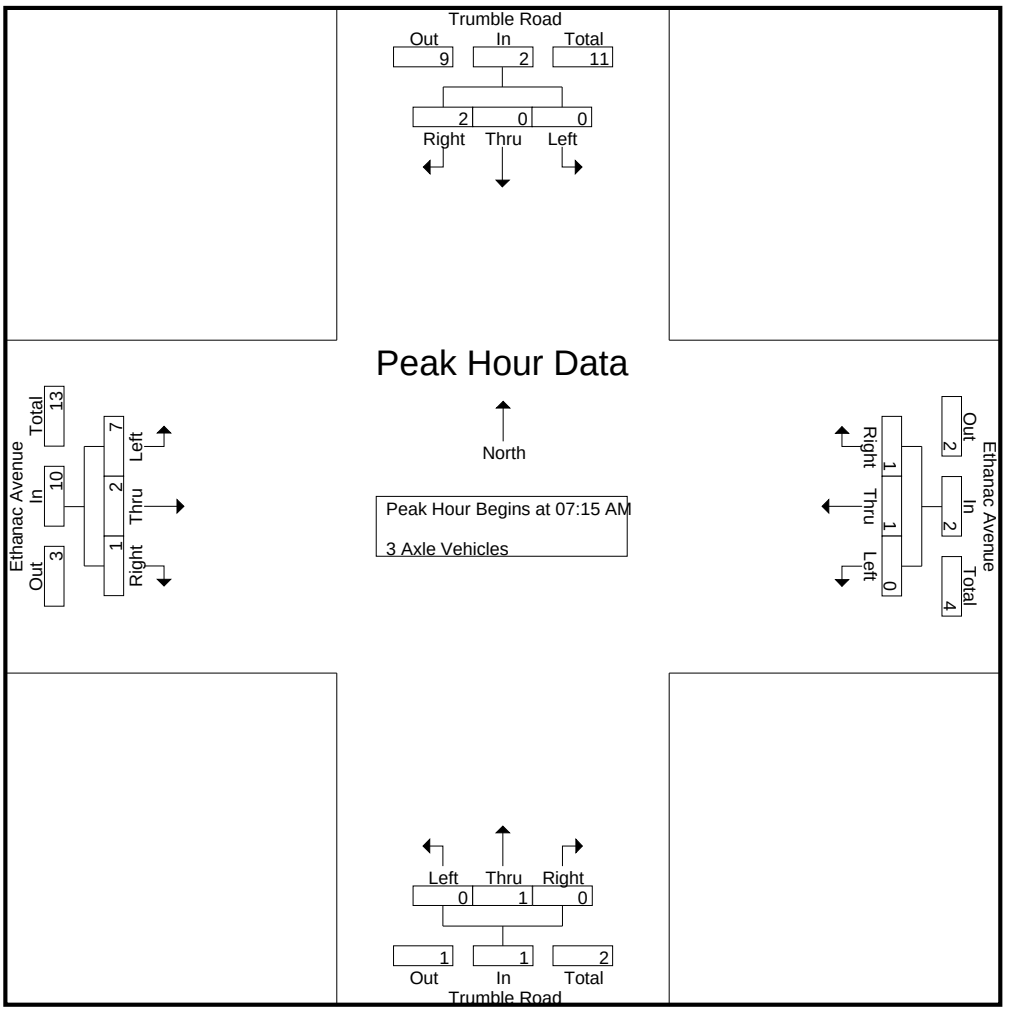
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	2	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	4	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	4
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	1	0	2	7	2	1	10	12
08:00 AM	0	0	2	2	0	1	1	2	0	0	0	0	1	1	0	2	6
08:15 AM	0	0	0	0	0	0	3	3	0	0	0	0	2	1	0	3	6
08:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	5	0	0	5	7
08:45 AM	0	0	0	0	0	0	2	2	0	1	0	1	1	1	0	2	5
Total	0	0	2	2	0	3	6	9	0	1	0	1	9	3	0	12	24
Grand Total	0	0	2	2	0	3	6	9	1	2	0	3	16	5	1	22	36
Apprch %	0	0	100		0	33.3	66.7		33.3	66.7	0		72.7	22.7	4.5		
Total %	0	0	5.6	5.6	0	8.3	16.7	25	2.8	5.6	0	8.3	44.4	13.9	2.8	61.1	

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	**3**	0	**1**	**4**	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	**1**	0	4	4
07:45 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
08:00 AM	0	0	**2**	**2**	0	**1**	**1**	**2**	0	0	0	0	1	1	0	2	**6**
Total Volume	0	0	2	2	0	1	1	2	0	1	0	1	7	2	1	10	15
% App. Total	0	0	100		0	50	50		0	100	0		70	20	10		
PHF	.000	.000	.250	.250	.000	.250	.250	.250	.000	.250	.000	.250	.583	.500	.250	.625	.625

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**3**	0	**1**	**4**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	3	**1**	0	4
+30 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+45 mins.	0	0	**2**	**2**	0	**1**	**1**	**2**	0	0	0	0	1	1	0	2
Total Volume	0	0	2	2	0	1	1	2	0	1	0	1	7	2	1	10
% App. Total	0	0	100		0	50	50		0	100	0		70	20	10	
PHF	.000	.000	.250	.250	.000	.250	.250	.250	.000	.250	.000	.250	.583	.500	.250	.625

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

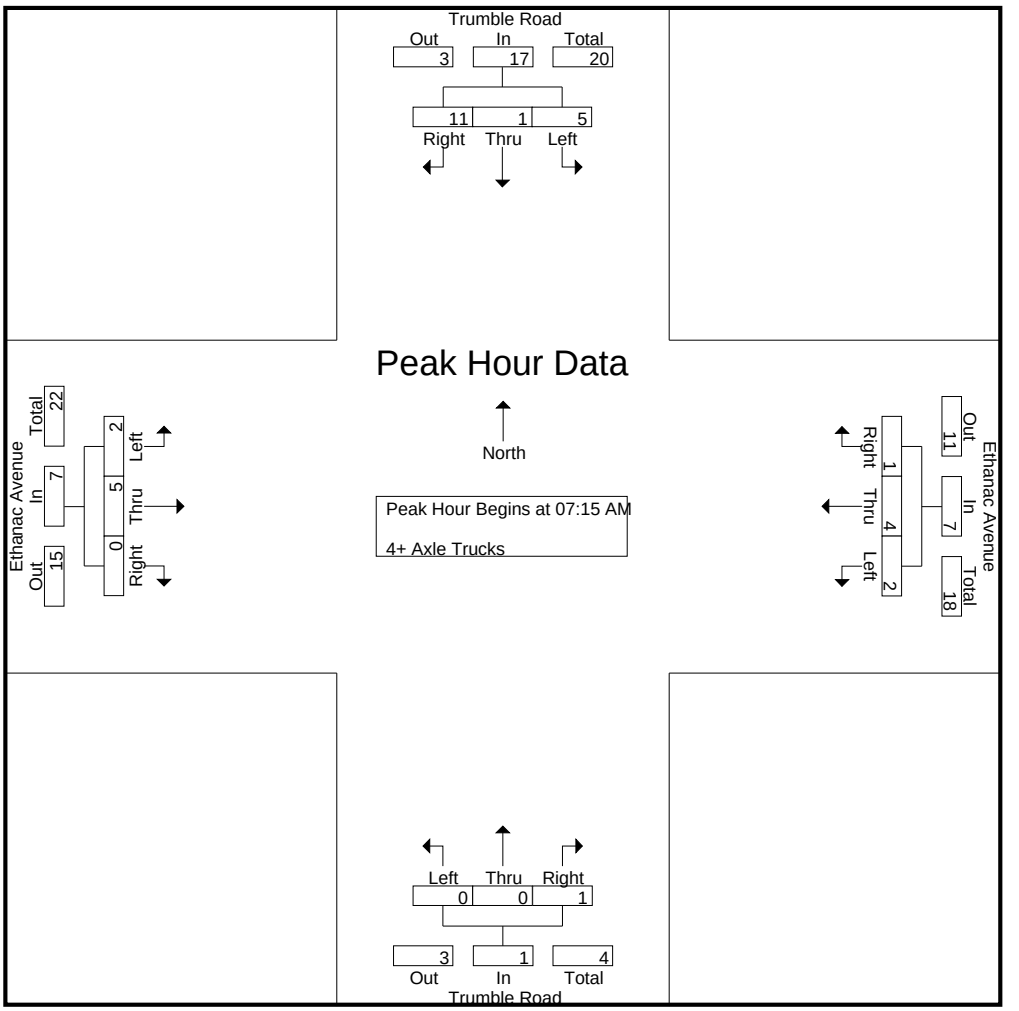
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	0	3	6	0	2	0	2	0	0	0	0	1	0	0	1	9
07:15 AM	1	0	2	3	0	0	0	0	0	0	0	0	0	1	0	1	4
07:30 AM	3	0	3	6	2	1	0	3	0	0	0	0	0	1	0	1	10
07:45 AM	1	1	5	7	0	3	1	4	0	0	0	0	1	0	0	1	12
Total	8	1	13	22	2	6	1	9	0	0	0	0	2	2	0	4	35
08:00 AM	0	0	1	1	0	0	0	0	0	0	1	1	1	3	0	4	6
08:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
08:30 AM	0	0	5	5	0	1	0	1	0	0	0	0	2	0	0	2	8
08:45 AM	0	0	4	4	0	1	0	1	0	0	0	0	1	1	0	2	7
Total	0	0	11	11	0	2	0	2	0	0	1	1	4	5	0	9	23
Grand Total	8	1	24	33	2	8	1	11	0	0	1	1	6	7	0	13	58
Apprch %	24.2	3	72.7		18.2	72.7	9.1		0	0	100		46.2	53.8	0		
Total %	13.8	1.7	41.4	56.9	3.4	13.8	1.7	19	0	0	1.7	1.7	10.3	12.1	0	22.4	

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	0	2	3	0	0	0	0	0	0	0	0	0	1	0	1	4
07:30 AM	**3**	0	3	6	**2**	1	0	3	0	0	0	0	0	1	0	1	10
07:45 AM	1	**1**	**5**	**7**	0	**3**	**1**	**4**	0	0	0	0	**1**	0	0	1	**12**
08:00 AM	0	0	1	1	0	0	0	0	0	0	**1**	**1**	1	**3**	0	**4**	6
Total Volume	5	1	11	17	2	4	1	7	0	0	1	1	2	5	0	7	32
% App. Total	29.4	5.9	64.7		28.6	57.1	14.3		0	0	100		28.6	71.4	0		
PHF	.417	.250	.550	.607	.250	.333	.250	.438	.000	.000	.250	.250	.500	.417	.000	.438	.667

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	1	0	2	3	0	0	0	0	0	0	0	0	0	1	0	1
+15 mins.	**3**	0	3	6	**2**	1	0	3	0	0	0	0	0	1	0	1
+30 mins.	1	**1**	**5**	**7**	0	**3**	**1**	**4**	0	0	0	0	**1**	0	0	1
+45 mins.	0	0	1	1	0	0	0	0	0	0	**1**	**1**	1	**3**	0	**4**
Total Volume	5	1	11	17	2	4	1	7	0	0	1	1	2	5	0	7
% App. Total	29.4	5.9	64.7		28.6	57.1	14.3		0	0	100		28.6	71.4	0	
PHF	.417	.250	.550	.607	.250	.333	.250	.438	.000	.000	.250	.250	.500	.417	.000	.438

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

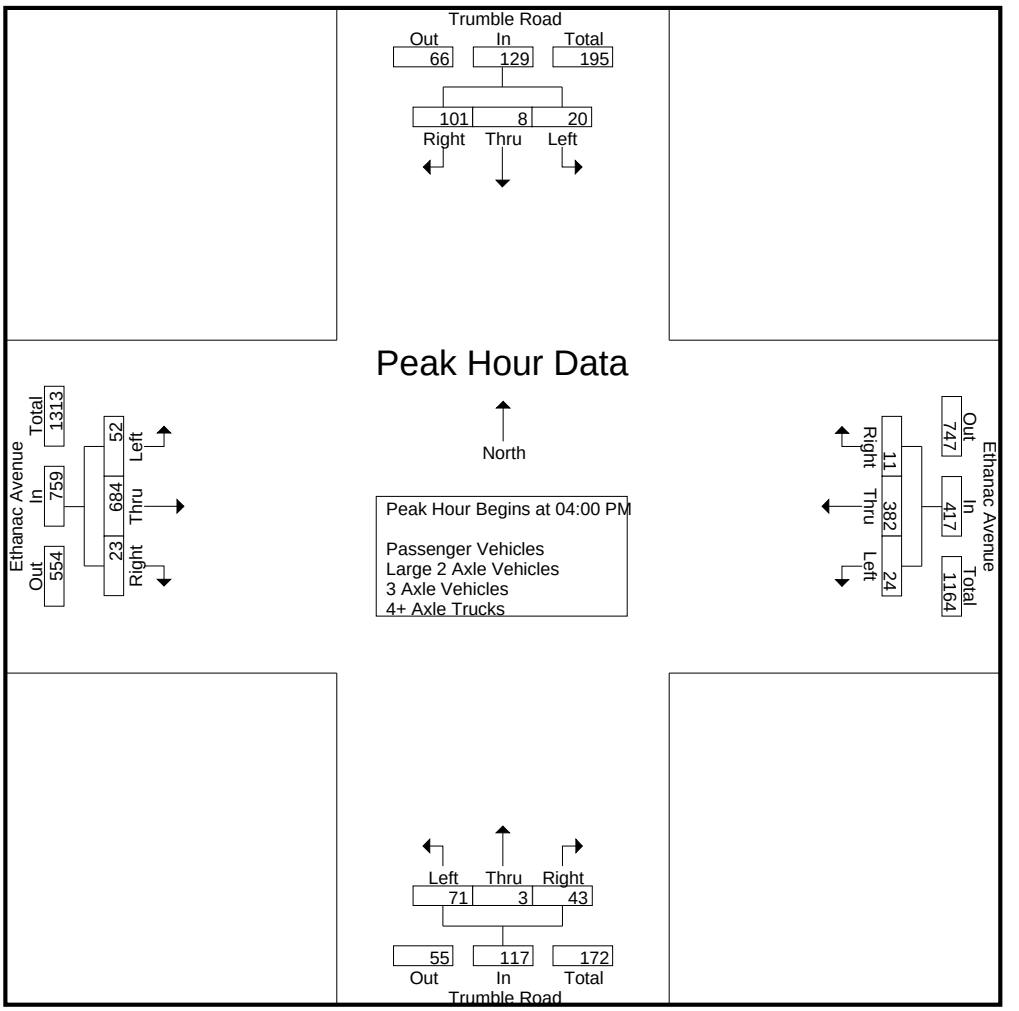
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	8	2	38	48	9	106	4	119	22	1	11	34	17	165	6	188	389
04:15 PM	3	3	20	26	4	80	3	87	18	0	9	27	16	190	10	216	356
04:30 PM	2	0	27	29	8	97	2	107	18	1	12	31	8	145	4	157	324
04:45 PM	7	3	16	26	3	99	2	104	13	1	11	25	11	184	3	198	353
Total	20	8	101	129	24	382	11	417	71	3	43	117	52	684	23	759	1422
05:00 PM	11	1	28	40	7	103	1	111	14	1	8	23	10	182	4	196	370
05:15 PM	9	0	18	27	6	91	4	101	25	1	10	36	13	191	5	209	373
05:30 PM	6	0	3	9	3	88	4	95	10	0	11	21	8	144	5	157	282
05:45 PM	2	0	17	19	6	90	3	99	11	0	12	23	9	180	8	197	338
Total	28	1	66	95	22	372	12	406	60	2	41	103	40	697	22	759	1363
Grand Total	48	9	167	224	46	754	23	823	131	5	84	220	92	1381	45	1518	2785
Apprch %	21.4	4	74.6		5.6	91.6	2.8		59.5	2.3	38.2		6.1	91	3		
Total %	1.7	0.3	6	8	1.7	27.1	0.8	29.6	4.7	0.2	3	7.9	3.3	49.6	1.6	54.5	
Passenger Vehicles	48	9	160	217	45	745	22	812	122	3	76	201	75	1347	40	1462	2692
% Passenger Vehicles	100	100	95.8	96.9	97.8	98.8	95.7	98.7	93.1	60	90.5	91.4	81.5	97.5	88.9	96.3	96.7
Large 2 Axle Vehicles	0	0	3	3	1	6	0	7	6	0	8	14	3	20	2	25	49
% Large 2 Axle Vehicles	0	0	1.8	1.3	2.2	0.8	0	0.9	4.6	0	9.5	6.4	3.3	1.4	4.4	1.6	1.8
3 Axle Vehicles	0	0	1	1	0	0	1	1	1	2	0	3	12	5	1	18	23
% 3 Axle Vehicles	0	0	0.6	0.4	0	0	4.3	0.1	0.8	40	0	1.4	13	0.4	2.2	1.2	0.8
4+ Axle Trucks	0	0	3	3	0	3	0	3	2	0	0	2	2	9	2	13	21
% 4+ Axle Trucks	0	0	1.8	1.3	0	0.4	0	0.4	1.5	0	0	0.9	2.2	0.7	4.4	0.9	0.8

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**8**	2	**38**	**48**	**9**	**106**	**4**	**119**	**22**	**1**	11	**34**	**17**	165	6	188	**389**
04:15 PM	3	**3**	20	26	4	80	3	87	18	0	9	27	16	**190**	**10**	**216**	356
04:30 PM	2	0	27	29	8	97	2	107	18	1	**12**	31	8	145	4	157	324
04:45 PM	7	3	16	26	3	99	2	104	13	1	11	25	11	184	3	198	353
Total Volume	20	8	101	129	24	382	11	417	71	3	43	117	52	684	23	759	1422
% App. Total	15.5	6.2	78.3		5.8	91.6	2.6		60.7	2.6	36.8		6.9	90.1	3		
PHF	.625	.667	.664	.672	.667	.901	.688	.876	.807	.750	.896	.860	.765	.900	.575	.878	.914

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:00 PM				04:15 PM			
+0 mins.	**8**	2	**38**	**48**	**8**	97	2	107	**22**	**1**	11	**34**	**16**	**190**	**10**	**216**
+15 mins.	3	**3**	20	26	3	99	2	104	18	0	9	27	8	145	4	157
+30 mins.	2	0	27	29	7	**103**	1	**111**	18	1	**12**	31	11	184	3	198
+45 mins.	7	3	16	26	6	91	**4**	101	13	1	11	25	10	182	4	196
Total Volume	20	8	101	129	24	390	9	423	71	3	43	117	45	701	21	767
% App. Total	15.5	6.2	78.3		5.7	92.2	2.1		60.7	2.6	36.8		5.9	91.4	2.7	
PHF	.625	.667	.664	.672	.750	.947	.563	.953	.807	.750	.896	.860	.703	.922	.525	.888

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

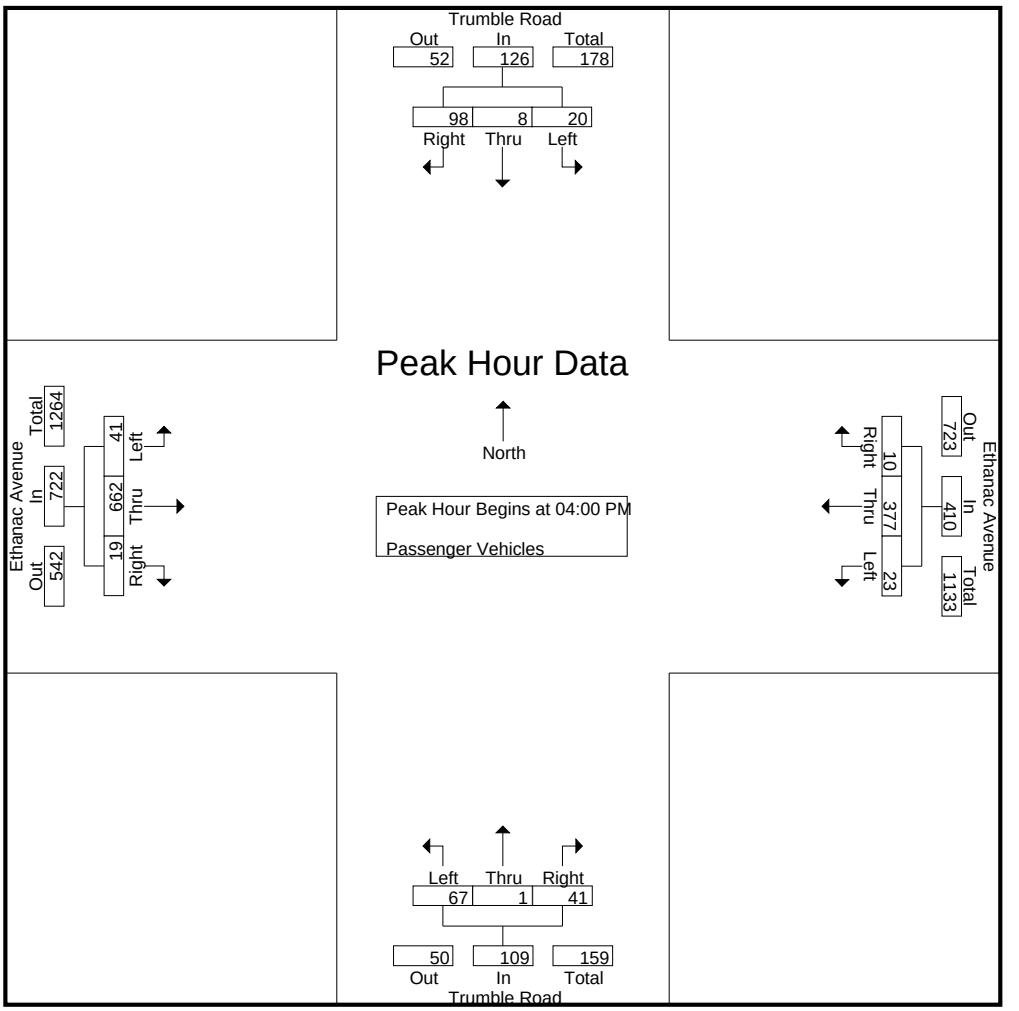
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	8	2	38	48	8	104	4	116	21	1	11	33	15	158	5	178	375
04:15 PM	3	3	18	24	4	80	2	86	17	0	8	25	12	185	8	205	340
04:30 PM	2	0	26	28	8	97	2	107	17	0	11	28	8	139	4	151	314
04:45 PM	7	3	16	26	3	96	2	101	12	0	11	23	6	180	2	188	338
Total	20	8	98	126	23	377	10	410	67	1	41	109	41	662	19	722	1367
05:00 PM	11	1	26	38	7	102	1	110	12	1	7	20	8	176	4	188	356
05:15 PM	9	0	17	26	6	90	4	100	23	1	8	32	10	187	4	201	359
05:30 PM	6	0	3	9	3	86	4	93	9	0	9	18	7	144	5	156	276
05:45 PM	2	0	16	18	6	90	3	99	11	0	11	22	9	178	8	195	334
Total	28	1	62	91	22	368	12	402	55	2	35	92	34	685	21	740	1325
Grand Total	48	9	160	217	45	745	22	812	122	3	76	201	75	1347	40	1462	2692
Apprch %	22.1	4.1	73.7		5.5	91.7	2.7		60.7	1.5	37.8		5.1	92.1	2.7		
Total %	1.8	0.3	5.9	8.1	1.7	27.7	0.8	30.2	4.5	0.1	2.8	7.5	2.8	50	1.5	54.3	

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**8**	2	**38**	**48**	**8**	**104**	**4**	**116**	**21**	**1**	**11**	**33**	**15**	158	5	178	**375**
04:15 PM	3	**3**	18	24	4	80	2	86	17	0	8	25	12	**185**	**8**	**205**	340
04:30 PM	2	0	26	28	8	97	2	107	17	0	11	28	8	139	4	151	314
04:45 PM	7	3	16	26	3	96	2	101	12	0	11	23	6	180	2	188	338
Total Volume	20	8	98	126	23	377	10	410	67	1	41	109	41	662	19	722	1367
% App. Total	15.9	6.3	77.8		5.6	92	2.4		61.5	0.9	37.6		5.7	91.7	2.6		
PHF	.625	.667	.645	.656	.719	.906	.625	.884	.798	.250	.932	.826	.683	.895	.594	.880	.911

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	**8**	2	**38**	**48**	**8**	**104**	**4**	**116**	**21**	**1**	**11**	**33**	**15**	158	5	178
+15 mins.	3	**3**	18	24	4	80	2	86	17	0	8	25	12	**185**	**8**	**205**
+30 mins.	2	0	26	28	8	97	2	107	17	0	11	28	8	139	4	151
+45 mins.	7	3	16	26	3	96	2	101	12	0	11	23	6	180	2	188
Total Volume	20	8	98	126	23	377	10	410	67	1	41	109	41	662	19	722
% App. Total	15.9	6.3	77.8		5.6	92	2.4		61.5	0.9	37.6		5.7	91.7	2.6	
PHF	.625	.667	.645	.656	.719	.906	.625	.884	.798	.250	.932	.826	.683	.895	.594	.880

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

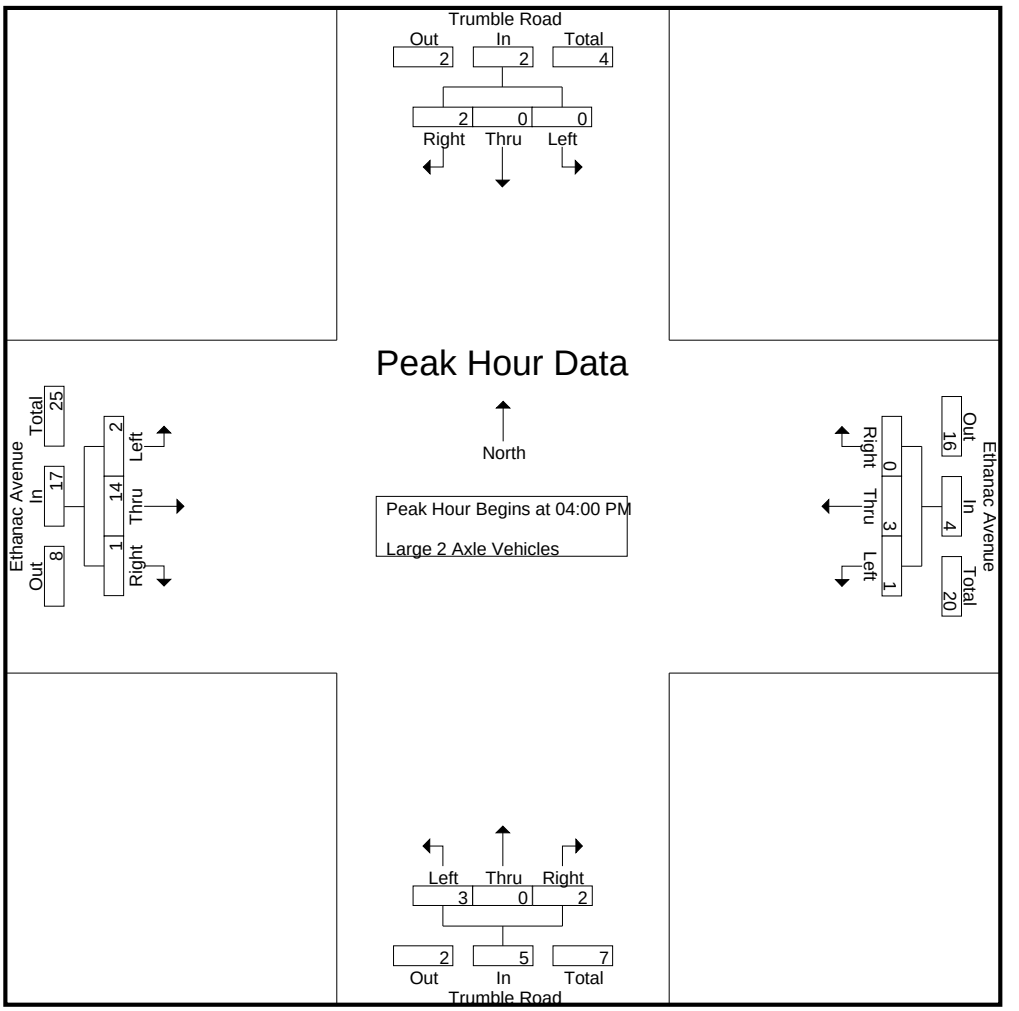
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	2	0	3	1	0	0	1	1	4	0	5	9
04:15 PM	0	0	2	2	0	0	0	0	0	0	1	1	0	3	1	4	7
04:30 PM	0	0	0	0	0	0	0	0	1	0	1	2	0	5	0	5	7
04:45 PM	0	0	0	0	0	1	0	1	1	0	0	1	1	2	0	3	5
Total	0	0	2	2	1	3	0	4	3	0	2	5	2	14	1	17	28
05:00 PM	0	0	0	0	0	1	0	1	1	0	1	2	0	3	0	3	6
05:15 PM	0	0	0	0	0	0	0	0	2	0	2	4	1	2	1	4	8
05:30 PM	0	0	0	0	0	2	0	2	0	0	2	2	0	0	0	0	4
05:45 PM	0	0	1	1	0	0	0	0	0	0	1	1	0	1	0	1	3
Total	0	0	1	1	0	3	0	3	3	0	6	9	1	6	1	8	21
Grand Total	0	0	3	3	1	6	0	7	6	0	8	14	3	20	2	25	49
Apprch %	0	0	100		14.3	85.7	0		42.9	0	57.1		12	80	8		
Total %	0	0	6.1	6.1	2	12.2	0	14.3	12.2	0	16.3	28.6	6.1	40.8	4.1	51	

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	**1**	**2**	0	**3**	**1**	0	0	1	**1**	4	0	**5**	**9**
04:15 PM	0	0	**2**	**2**	0	0	0	0	0	0	**1**	1	0	3	**1**	4	7
04:30 PM	0	0	0	0	0	0	0	0	1	0	1	**2**	0	**5**	0	5	7
04:45 PM	0	0	0	0	0	1	0	1	1	0	0	1	1	2	0	3	5
Total Volume	0	0	2	2	1	3	0	4	3	0	2	5	2	14	1	17	28
% App. Total	0	0	100		25	75	0		60	0	40		11.8	82.4	5.9		
PHF	.000	.000	.250	.250	.250	.375	.000	.333	.750	.000	.500	.625	.500	.700	.250	.850	.778

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	**1**	**2**	0	**3**	**1**	0	0	1	**1**	4	0	**5**
+15 mins.	0	0	**2**	**2**	0	0	0	0	0	0	**1**	1	0	3	**1**	4
+30 mins.	0	0	0	0	0	0	0	0	1	0	1	**2**	0	**5**	0	5
+45 mins.	0	0	0	0	0	1	0	1	1	0	0	1	1	2	0	3
Total Volume	0	0	2	2	1	3	0	4	3	0	2	5	2	14	1	17
% App. Total	0	0	100		25	75	0		60	0	40		11.8	82.4	5.9	
PHF	.000	.000	.250	.250	.250	.375	.000	.333	.750	.000	.500	.625	.500	.700	.250	.850

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

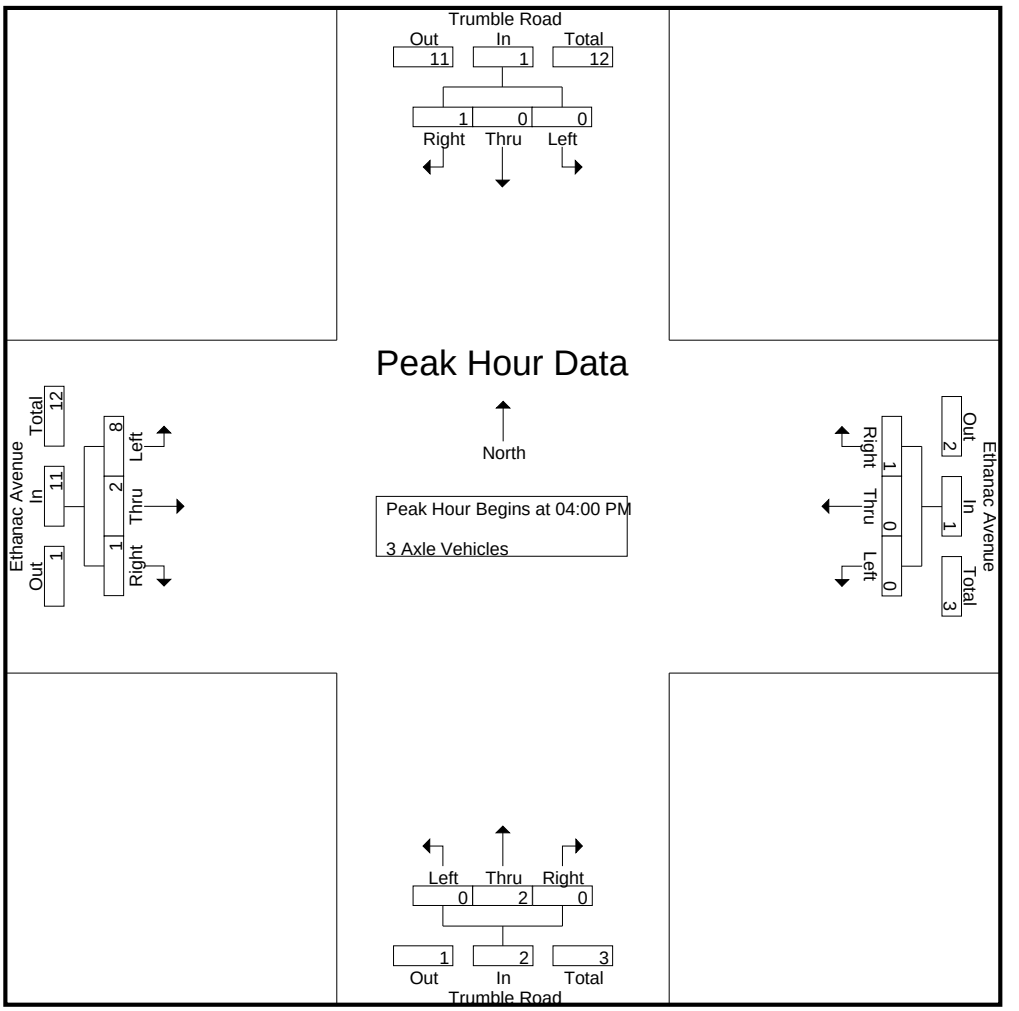
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
04:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	4	0	1	5	6
04:30 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	3	0	0	3	4
Total	0	0	1	1	0	0	1	1	0	2	0	2	8	2	1	11	15
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1	2	0	3	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:45 PM	0	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	1	0	0	1	4	3	0	7	8
Grand Total	0	0	1	1	0	0	1	1	1	2	0	3	12	5	1	18	23
Apprch %	0	0	100		0	0	100		33.3	66.7	0		66.7	27.8	5.6		
Total %	0	0	4.3	4.3	0	0	4.3	4.3	4.3	8.7	0	13	52.2	21.7	4.3	78.3	

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	**2**	0	3	3
04:15 PM	0	0	0	0	0	0	**1**	**1**	0	0	0	0	**4**	0	**1**	**5**	**6**
04:30 PM	0	0	**1**	**1**	0	0	0	0	0	**1**	0	**1**	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	3	0	0	3	4
Total Volume	0	0	1	1	0	0	1	1	0	2	0	2	8	2	1	11	15
% App. Total	0	0	100		0	0	100		0	100	0		72.7	18.2	9.1		
PHF	.000	.000	.250	.250	.000	.000	.250	.250	.000	.500	.000	.500	.500	.250	.250	.550	.625

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	**2**	0	3
+15 mins.	0	0	0	0	0	0	**1**	**1**	0	0	0	0	**4**	0	**1**	**5**
+30 mins.	0	0	**1**	**1**	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	3	0	0	3
Total Volume	0	0	1	1	0	0	1	1	0	2	0	2	8	2	1	11
% App. Total	0	0	100		0	0	100		0	100	0		72.7	18.2	9.1	
PHF	.000	.000	.250	.250	.000	.000	.250	.250	.000	.500	.000	.500	.500	.250	.250	.550

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

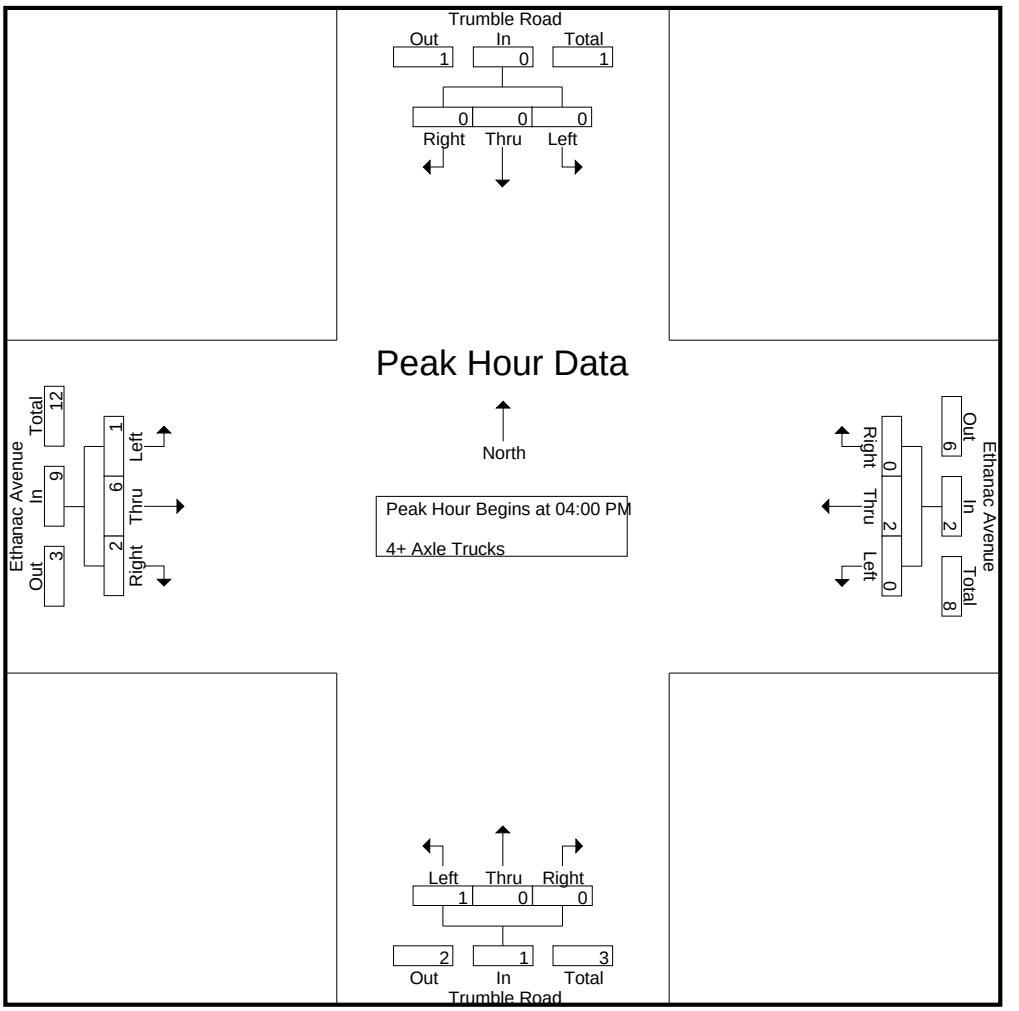
	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
04:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	2	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	1	2	1	4	6
Total	0	0	0	0	0	2	0	2	1	0	0	1	1	6	2	9	12
05:00 PM	0	0	2	2	0	0	0	0	0	0	0	0	1	1	0	2	4
05:15 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	1	0	1	3
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	3	3	0	1	0	1	1	0	0	1	1	3	0	4	9
Grand Total	0	0	3	3	0	3	0	3	2	0	0	2	2	9	2	13	21
Apprch %	0	0	100		0	100	0		100	0	0		15.4	69.2	15.4		
Total %	0	0	14.3	14.3	0	14.3	0	14.3	9.5	0	0	9.5	9.5	42.9	9.5	61.9	

	Trumble Road Southbound				Ethanac Avenue Westbound				Trumble Road Northbound				Ethanac Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	2	2
04:15 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	**2**	0	2	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	**1**	2	1	**4**	**6**
Total Volume	0	0	0	0	0	2	0	2	1	0	0	1	1	6	2	9	12
% App. Total	0	0	0		0	100	0		100	0	0		11.1	66.7	22.2		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.250	.750	.500	.563	.500

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City of Menifee
N/S: Trumble Road
E/W: Ethanac Avenue
Weather: Clear

File Name : 03_MEN_Tru_Eth PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	2
+15 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	**2**	0	2
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	**1**	2	1	**4**
Total Volume	0	0	0	0	0	2	0	2	1	0	0	1	1	6	2	9
% App. Total	0	0	0		0	100	0		100	0	0		11.1	66.7	22.2	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.250	.750	.500	.563

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

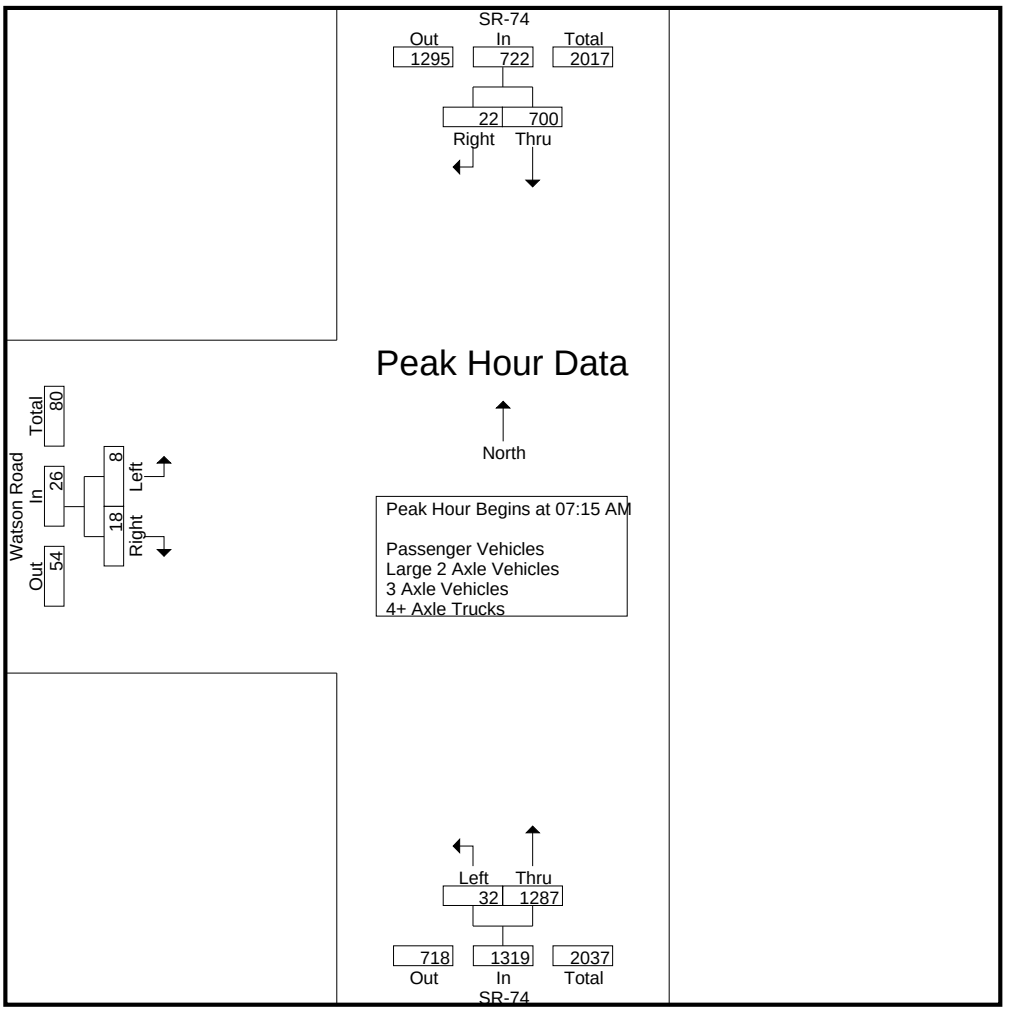
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	133	8	141	8	314	322	4	2	6	469
07:15 AM	162	5	167	6	313	319	2	5	7	493
07:30 AM	174	5	179	6	313	319	4	3	7	505
07:45 AM	203	8	211	9	357	366	2	4	6	583
Total	672	26	698	29	1297	1326	12	14	26	2050
08:00 AM	161	4	165	11	304	315	0	6	6	486
08:15 AM	147	7	154	6	245	251	2	6	8	413
08:30 AM	168	6	174	6	255	261	1	4	5	440
08:45 AM	127	4	131	1	222	223	6	3	9	363
Total	603	21	624	24	1026	1050	9	19	28	1702
Grand Total	1275	47	1322	53	2323	2376	21	33	54	3752
Apprch %	96.4	3.6		2.2	97.8		38.9	61.1		
Total %	34	1.3	35.2	1.4	61.9	63.3	0.6	0.9	1.4	
Passenger Vehicles	1157	38	1195	41	2221	2262	14	23	37	3494
% Passenger Vehicles	90.7	80.9	90.4	77.4	95.6	95.2	66.7	69.7	68.5	93.1
Large 2 Axle Vehicles	60	2	62	3	43	46	3	3	6	114
% Large 2 Axle Vehicles	4.7	4.3	4.7	5.7	1.9	1.9	14.3	9.1	11.1	3
3 Axle Vehicles	18	2	20	1	19	20	0	0	0	40
% 3 Axle Vehicles	1.4	4.3	1.5	1.9	0.8	0.8	0	0	0	1.1
4+ Axle Trucks	40	5	45	8	40	48	4	7	11	104
% 4+ Axle Trucks	3.1	10.6	3.4	15.1	1.7	2	19	21.2	20.4	2.8

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	162	5	167	6	313	319	2	5	**7**	493
07:30 AM	174	5	179	6	313	319	**4**	3	7	505
07:45 AM	**203**	**8**	**211**	9	**357**	**366**	2	4	6	**583**
08:00 AM	161	4	165	**11**	304	315	0	**6**	6	486
Total Volume	700	22	722	32	1287	1319	8	18	26	2067
% App. Total	97	3		2.4	97.6		30.8	69.2		
PHF	.862	.688	.855	.727	.901	.901	.500	.750	.929	.886

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:00 AM			08:00 AM		
+0 mins.	162	5	167	8	314	322	0	**6**	6
+15 mins.	174	5	179	6	313	319	2	6	8
+30 mins.	**203**	**8**	**211**	6	313	319	1	4	5
+45 mins.	161	4	165	**9**	**357**	**366**	**6**	3	**9**
Total Volume	700	22	722	29	1297	1326	9	19	28
% App. Total	97	3		2.2	97.8		32.1	67.9	
PHF	.862	.688	.855	.806	.908	.906	.375	.792	.778

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

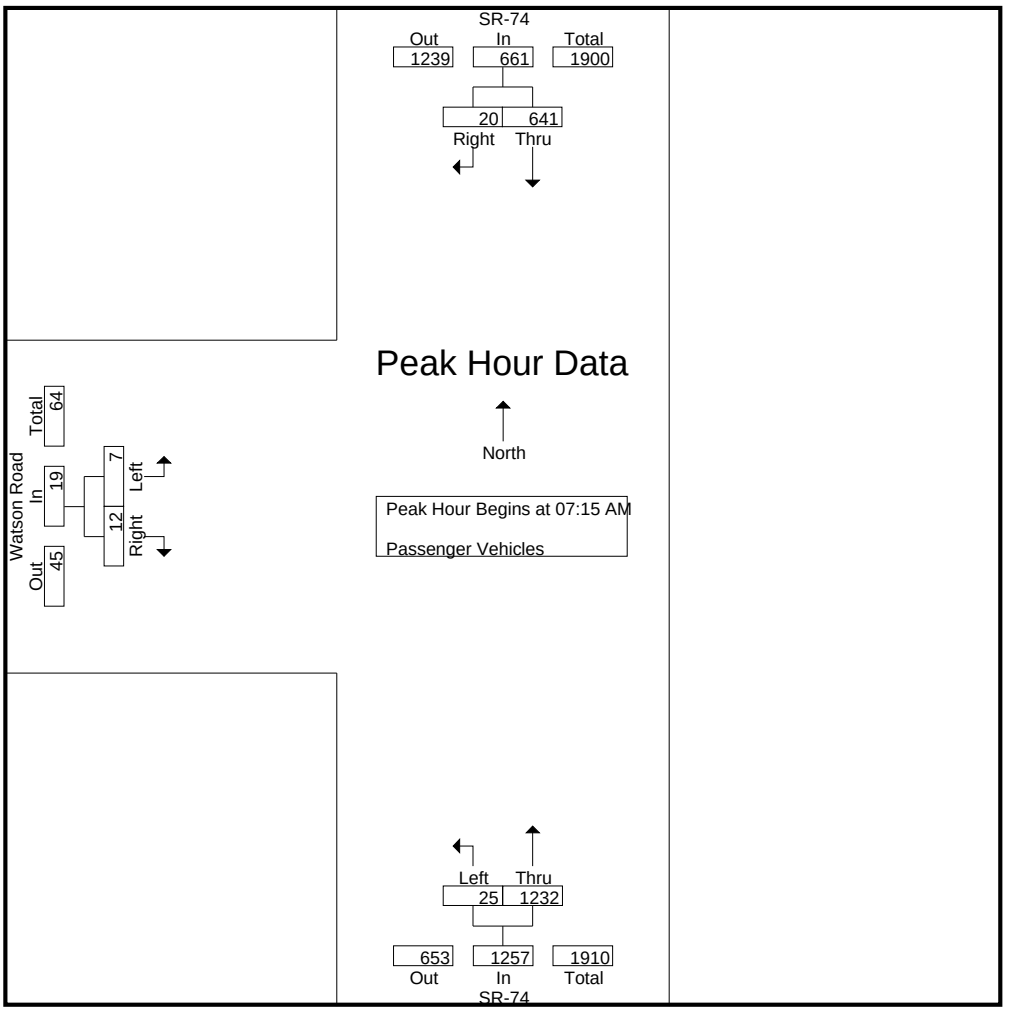
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	117	8	125	7	308	315	2	2	4	444
07:15 AM	147	5	152	4	306	310	2	3	5	467
07:30 AM	158	5	163	5	295	300	4	2	6	469
07:45 AM	186	6	192	8	345	353	1	3	4	549
Total	608	24	632	24	1254	1278	9	10	19	1929
08:00 AM	150	4	154	8	286	294	0	4	4	452
08:15 AM	136	5	141	5	230	235	0	3	3	379
08:30 AM	151	1	152	3	243	246	1	4	5	403
08:45 AM	112	4	116	1	208	209	4	2	6	331
Total	549	14	563	17	967	984	5	13	18	1565
Grand Total	1157	38	1195	41	2221	2262	14	23	37	3494
Apprch %	96.8	3.2		1.8	98.2		37.8	62.2		
Total %	33.1	1.1	34.2	1.2	63.6	64.7	0.4	0.7	1.1	

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	147	5	152	4	306	310	2	3	5	467
07:30 AM	158	5	163	5	295	300	**4**	2	**6**	469
07:45 AM	**186**	**6**	**192**	**8**	**345**	**353**	1	3	4	**549**
08:00 AM	150	4	154	8	286	294	0	**4**	4	452
Total Volume	641	20	661	25	1232	1257	7	12	19	1937
% App. Total	97	3		2	98		36.8	63.2		
PHF	.862	.833	.861	.781	.893	.890	.438	.750	.792	.882

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	147	5	152	4	306	310	2	3	5
+15 mins.	158	5	163	5	295	300	**4**	2	**6**
+30 mins.	**186**	**6**	**192**	**8**	**345**	**353**	1	3	4
+45 mins.	150	4	154	8	286	294	0	**4**	4
Total Volume	641	20	661	25	1232	1257	7	12	19
% App. Total	97	3		2	98		36.8	63.2	
PHF	.862	.833	.861	.781	.893	.890	.438	.750	.792

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

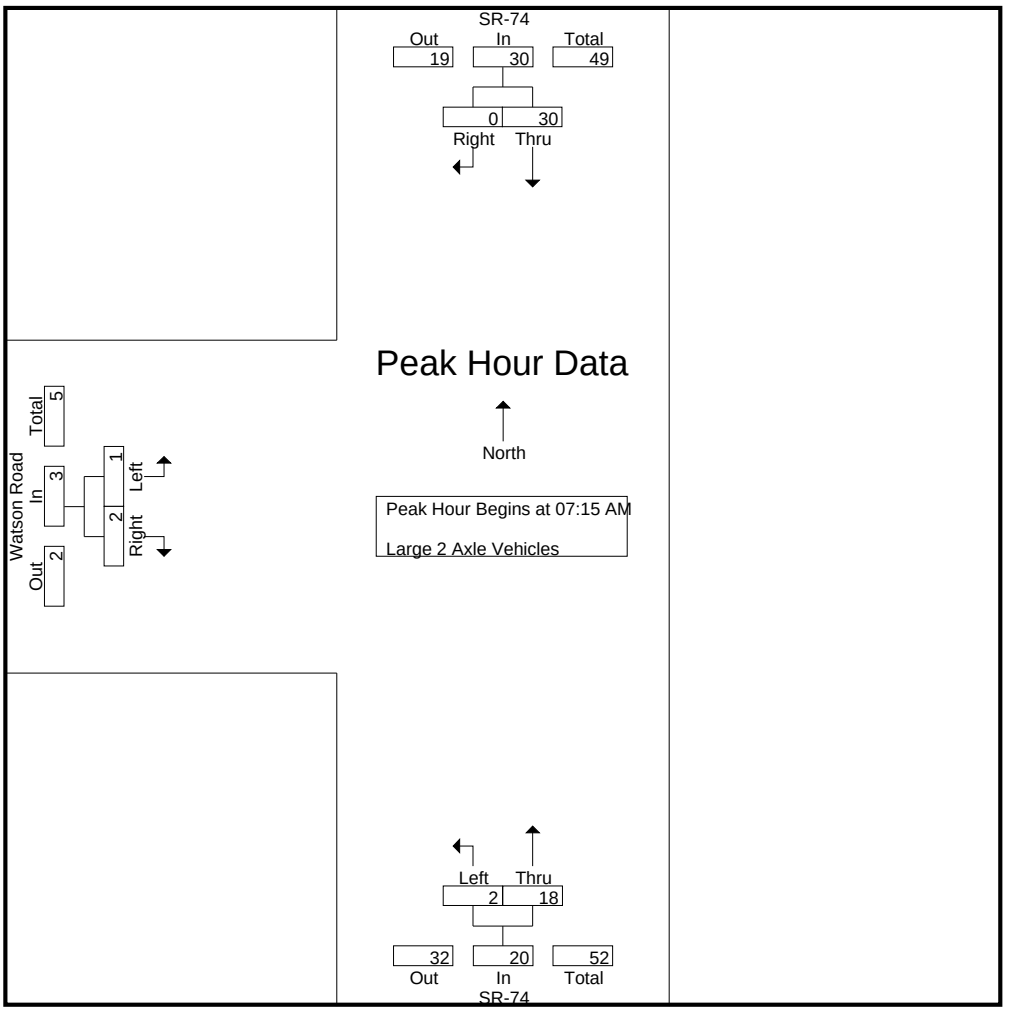
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	6	0	6	0	2	2	1	0	1	9
07:15 AM	9	0	9	0	4	4	0	0	0	13
07:30 AM	9	0	9	1	6	7	0	0	0	16
07:45 AM	8	0	8	0	4	4	1	1	2	14
Total	32	0	32	1	16	17	2	1	3	52
08:00 AM	4	0	4	1	4	5	0	1	1	10
08:15 AM	4	1	5	1	7	8	0	0	0	13
08:30 AM	12	1	13	0	6	6	0	0	0	19
08:45 AM	8	0	8	0	10	10	1	1	2	20
Total	28	2	30	2	27	29	1	2	3	62
Grand Total	60	2	62	3	43	46	3	3	6	114
Apprch %	96.8	3.2		6.5	93.5		50	50		
Total %	52.6	1.8	54.4	2.6	37.7	40.4	2.6	2.6	5.3	

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	**9**	0	**9**	0	4	4	0	0	0	13
07:30 AM	9	0	9	**1**	**6**	**7**	0	0	0	**16**
07:45 AM	8	0	8	0	4	4	**1**	**1**	**2**	14
08:00 AM	4	0	4	1	4	5	0	1	1	10
Total Volume	30	0	30	2	18	20	1	2	3	53
% App. Total	100	0		10	90		33.3	66.7		
PHF	.833	.000	.833	.500	.750	.714	.250	.500	.375	.828

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	**9**	0	**9**	0	4	4	0	0	0
+15 mins.	9	0	9	**1**	**6**	**7**	0	0	0
+30 mins.	8	0	8	0	4	4	**1**	**1**	**2**
+45 mins.	4	0	4	1	4	5	0	1	1
Total Volume	30	0	30	2	18	20	1	2	3
% App. Total	100	0		10	90		33.3	66.7	
PHF	.833	.000	.833	.500	.750	.714	.250	.500	.375

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

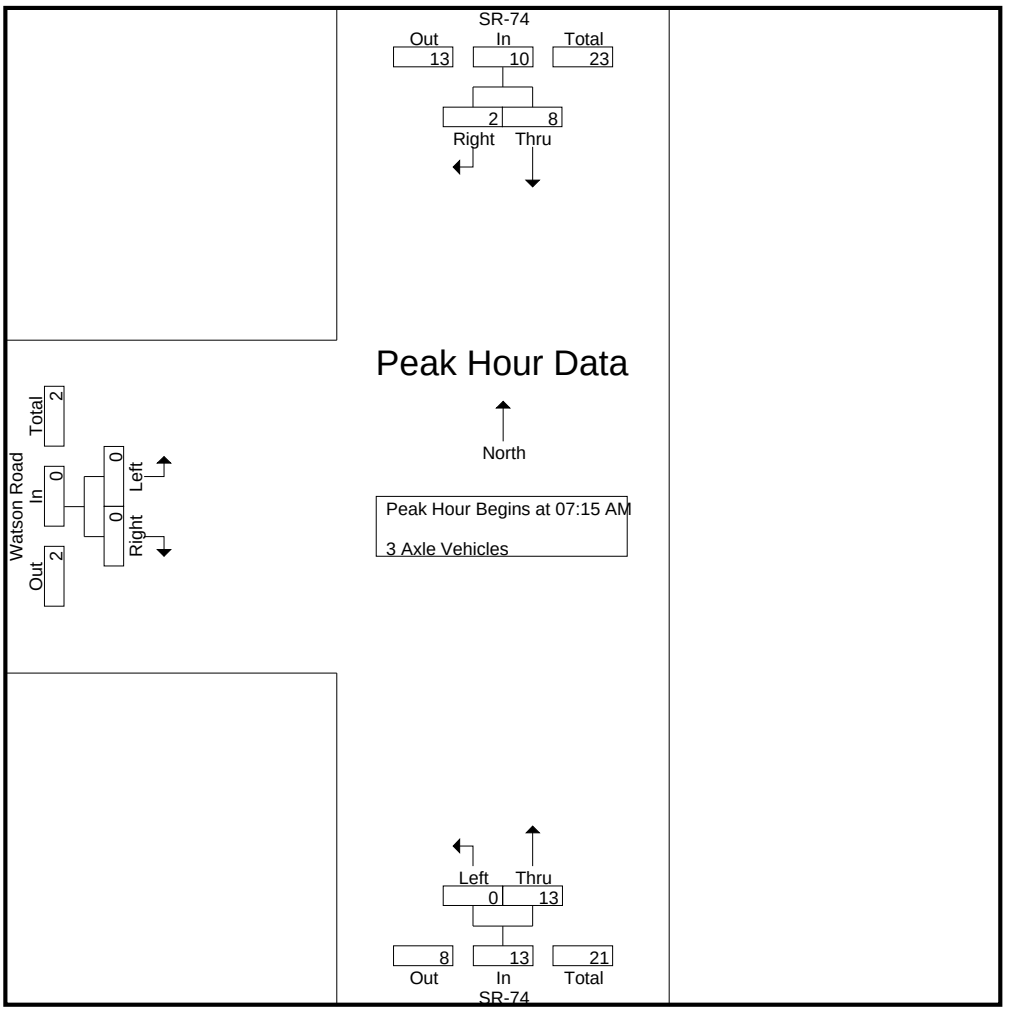
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	3	0	3	0	2	2	0	0	0	5
07:15 AM	2	0	2	0	0	0	0	0	0	2
07:30 AM	2	0	2	0	5	5	0	0	0	7
07:45 AM	2	2	4	0	4	4	0	0	0	8
Total	9	2	11	0	11	11	0	0	0	22
08:00 AM	2	0	2	0	4	4	0	0	0	6
08:15 AM	2	0	2	0	2	2	0	0	0	4
08:30 AM	3	0	3	1	1	2	0	0	0	5
08:45 AM	2	0	2	0	1	1	0	0	0	3
Total	9	0	9	1	8	9	0	0	0	18
Grand Total	18	2	20	1	19	20	0	0	0	40
Apprch %	90	10		5	95		0	0		
Total %	45	5	50	2.5	47.5	50	0	0	0	

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	**2**	0	2	0	0	0	0	0	0	2
07:30 AM	2	0	2	0	**5**	**5**	0	0	0	7
07:45 AM	2	**2**	**4**	0	4	4	0	0	0	**8**
08:00 AM	2	0	2	0	4	4	0	0	0	6
Total Volume	8	2	10	0	13	13	0	0	0	23
% App. Total	80	20		0	100		0	0		
PHF	1.00	.250	.625	.000	.650	.650	.000	.000	.000	.719

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	**2**	0	2	0	0	0	0	0	0
+15 mins.	2	0	2	0	**5**	**5**	0	0	0
+30 mins.	2	**2**	**4**	0	4	4	0	0	0
+45 mins.	2	0	2	0	4	4	0	0	0
Total Volume	8	2	10	0	13	13	0	0	0
% App. Total	80	20		0	100		0	0	
PHF	1.000	.250	.625	.000	.650	.650	.000	.000	.000

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

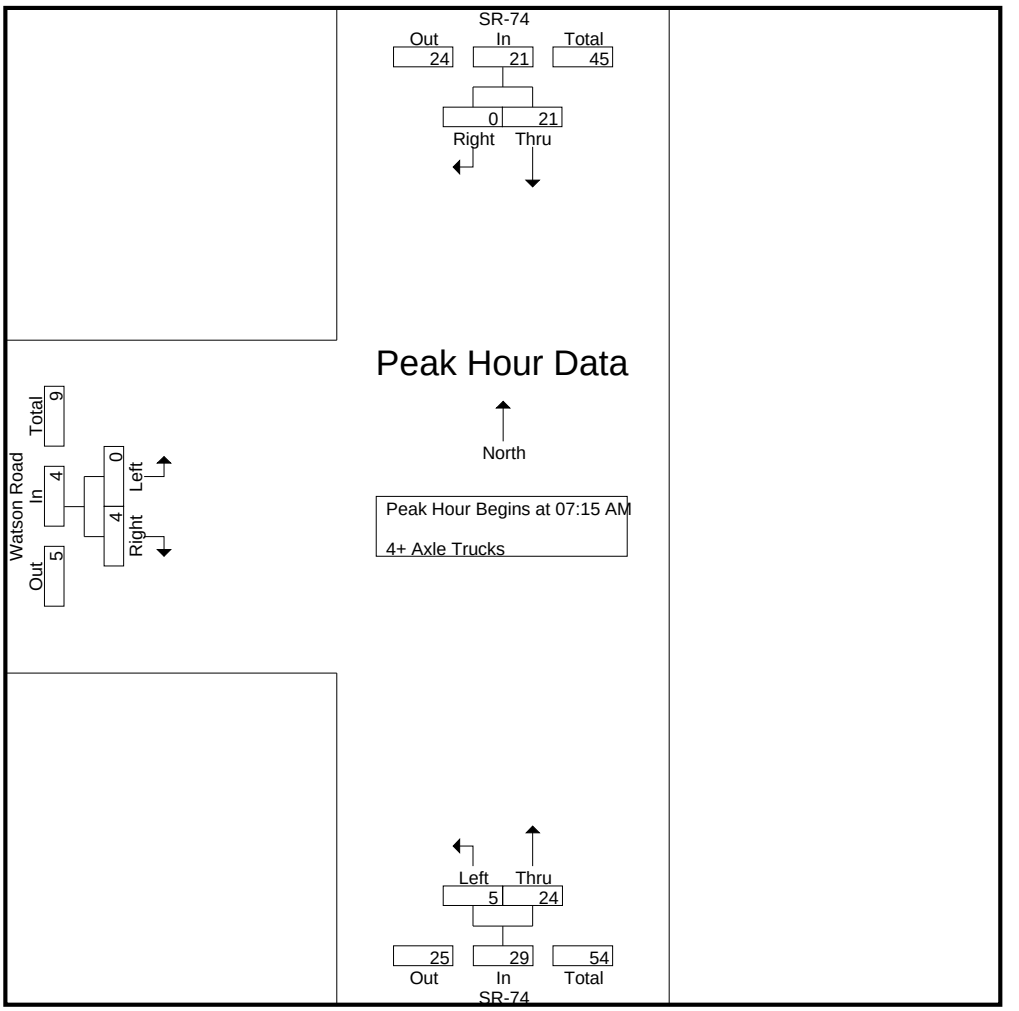
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	7	0	7	1	2	3	1	0	1	11
07:15 AM	4	0	4	2	3	5	0	2	2	11
07:30 AM	5	0	5	0	7	7	0	1	1	13
07:45 AM	7	0	7	1	4	5	0	0	0	12
Total	23	0	23	4	16	20	1	3	4	47
08:00 AM	5	0	5	2	10	12	0	1	1	18
08:15 AM	5	1	6	0	6	6	2	3	5	17
08:30 AM	2	4	6	2	5	7	0	0	0	13
08:45 AM	5	0	5	0	3	3	1	0	1	9
Total	17	5	22	4	24	28	3	4	7	57
Grand Total	40	5	45	8	40	48	4	7	11	104
Apprch %	88.9	11.1		16.7	83.3		36.4	63.6		
Total %	38.5	4.8	43.3	7.7	38.5	46.2	3.8	6.7	10.6	

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	4	0	4	**2**	3	5	0	**2**	**2**	11
07:30 AM	5	0	5	0	7	7	0	1	1	13
07:45 AM	**7**	0	**7**	1	4	5	0	0	0	12
08:00 AM	5	0	5	2	**10**	**12**	0	1	1	**18**
Total Volume	21	0	21	5	24	29	0	4	4	54
% App. Total	100	0		17.2	82.8		0	100		
PHF	.750	.000	.750	.625	.600	.604	.000	.500	.500	.750

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat AM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	4	0	4	**2**	3	5	0	**2**	**2**
+15 mins.	5	0	5	0	7	7	0	1	1
+30 mins.	**7**	0	**7**	1	4	5	0	0	0
+45 mins.	5	0	5	2	**10**	**12**	0	1	1
Total Volume	21	0	21	5	24	29	0	4	4
% App. Total	100	0		17.2	82.8		0	100	
PHF	.750	.000	.750	.625	.600	.604	.000	.500	.500

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

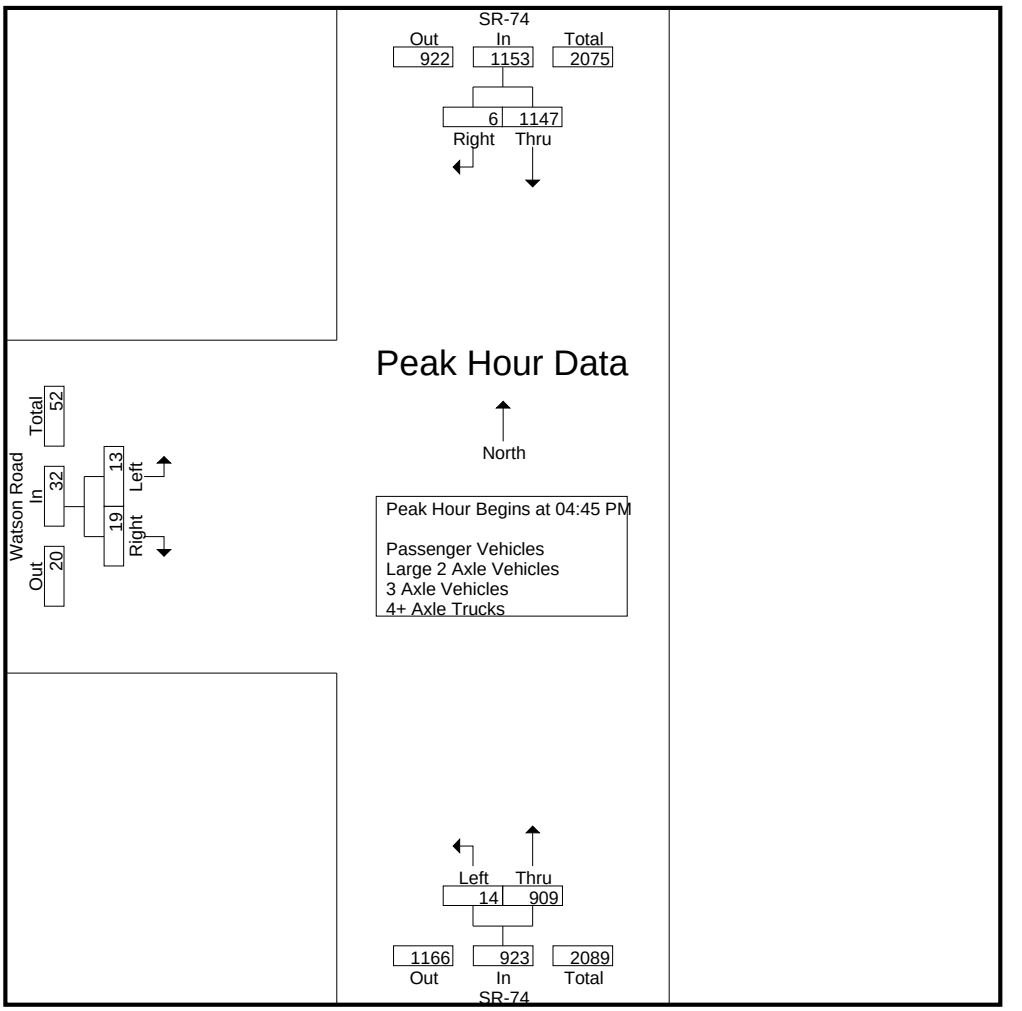
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	261	8	269	0	259	259	8	11	19	547
04:15 PM	285	3	288	4	198	202	1	2	3	493
04:30 PM	277	3	280	7	210	217	2	9	11	508
04:45 PM	296	2	298	3	220	223	4	3	7	528
Total	1119	16	1135	14	887	901	15	25	40	2076
05:00 PM	322	3	325	4	216	220	5	7	12	557
05:15 PM	269	0	269	5	229	234	3	4	7	510
05:30 PM	260	1	261	2	244	246	1	5	6	513
05:45 PM	262	1	263	0	246	246	0	4	4	513
Total	1113	5	1118	11	935	946	9	20	29	2093
Grand Total	2232	21	2253	25	1822	1847	24	45	69	4169
Apprch %	99.1	0.9		1.4	98.6		34.8	65.2		
Total %	53.5	0.5	54	0.6	43.7	44.3	0.6	1.1	1.7	
Passenger Vehicles	2185	19	2204	16	1755	1771	22	37	59	4034
% Passenger Vehicles	97.9	90.5	97.8	64	96.3	95.9	91.7	82.2	85.5	96.8
Large 2 Axle Vehicles	35	1	36	0	36	36	1	0	1	73
% Large 2 Axle Vehicles	1.6	4.8	1.6	0	2	1.9	4.2	0	1.4	1.8
3 Axle Vehicles	3	0	3	0	16	16	0	0	0	19
% 3 Axle Vehicles	0.1	0	0.1	0	0.9	0.9	0	0	0	0.5
4+ Axle Trucks	9	1	10	9	15	24	1	8	9	43
% 4+ Axle Trucks	0.4	4.8	0.4	36	0.8	1.3	4.2	17.8	13	1

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	296	2	298	3	220	223	4	3	7	528
05:00 PM	**322**	**3**	**325**	4	216	220	**5**	**7**	**12**	**557**
05:15 PM	269	0	269	**5**	229	234	3	4	7	510
05:30 PM	260	1	261	2	**244**	**246**	1	5	6	513
Total Volume	1147	6	1153	14	909	923	13	19	32	2108
% App. Total	99.5	0.5		1.5	98.5		40.6	59.4		
PHF	.891	.500	.887	.700	.931	.938	.650	.679	.667	.946

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			05:00 PM			04:00 PM		
+0 mins.	285	**3**	288	4	216	220	**8**	**11**	**19**
+15 mins.	277	3	280	**5**	229	234	1	2	3
+30 mins.	296	2	298	2	244	**246**	2	9	11
+45 mins.	**322**	3	**325**	0	**246**	246	4	3	7
Total Volume	1180	11	1191	11	935	946	15	25	40
% App. Total	99.1	0.9		1.2	98.8		37.5	62.5	
PHF	.916	.917	.916	.550	.950	.961	.469	.568	.526

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Passenger Vehicles

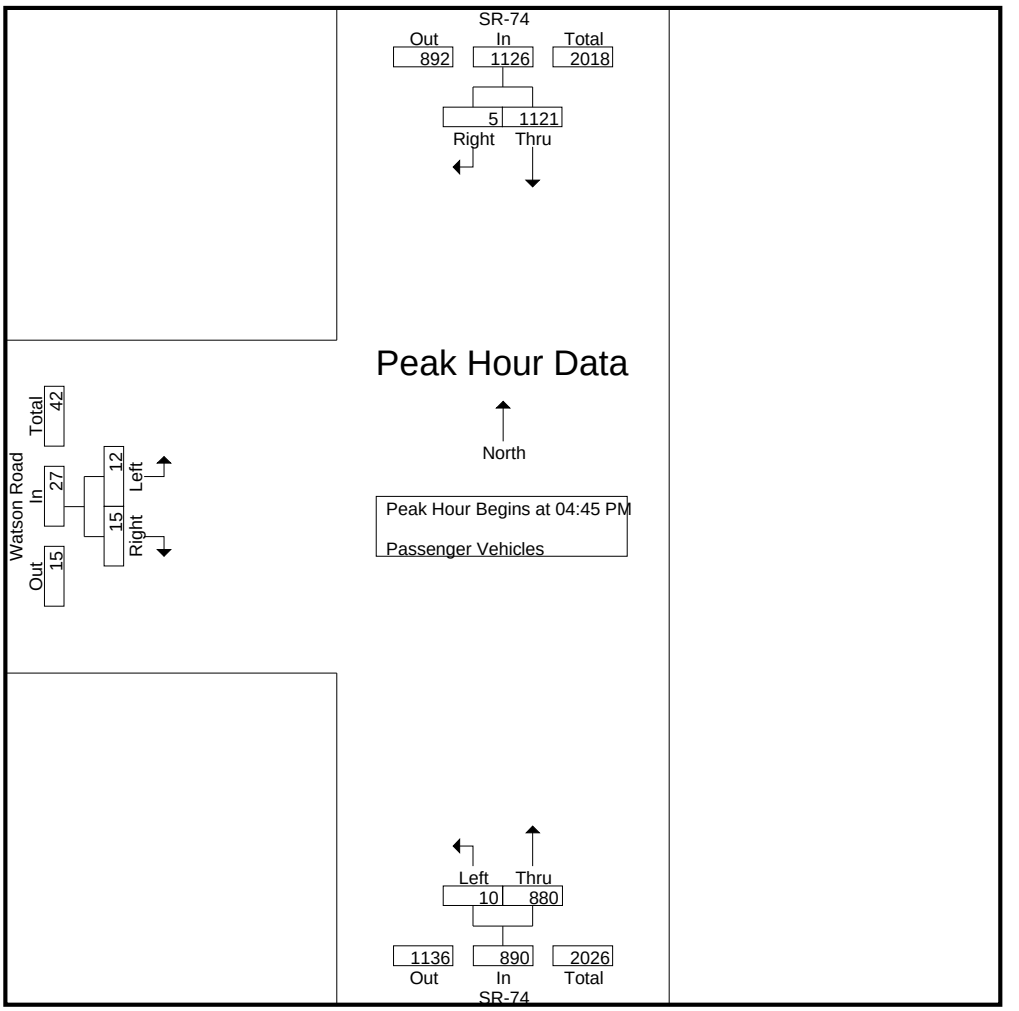
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	252	8	260	0	249	249	7	10	17	526
04:15 PM	281	3	284	3	186	189	1	2	3	476
04:30 PM	270	2	272	3	202	205	2	6	8	485
04:45 PM	289	2	291	2	210	212	3	1	4	507
Total	1092	15	1107	8	847	855	13	19	32	1994
05:00 PM	319	2	321	2	210	212	5	6	11	544
05:15 PM	262	0	262	4	221	225	3	4	7	494
05:30 PM	251	1	252	2	239	241	1	4	5	498
05:45 PM	261	1	262	0	238	238	0	4	4	504
Total	1093	4	1097	8	908	916	9	18	27	2040
Grand Total	2185	19	2204	16	1755	1771	22	37	59	4034
Apprch %	99.1	0.9		0.9	99.1		37.3	62.7		
Total %	54.2	0.5	54.6	0.4	43.5	43.9	0.5	0.9	1.5	

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	289	**2**	291	2	210	212	3	1	4	507
05:00 PM	**319**	2	**321**	2	210	212	**5**	**6**	**11**	**544**
05:15 PM	262	0	262	**4**	221	225	3	4	7	494
05:30 PM	251	1	252	2	**239**	**241**	1	4	5	498
Total Volume	1121	5	1126	10	880	890	12	15	27	2043
% App. Total	99.6	0.4		1.1	98.9		44.4	55.6		
PHF	.879	.625	.877	.625	.921	.923	.600	.625	.614	.939

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	289	**2**	291	2	210	212	3	1	4
+15 mins.	**319**	2	**321**	2	210	212	**5**	**6**	**11**
+30 mins.	262	0	262	**4**	221	225	3	4	7
+45 mins.	251	1	252	2	**239**	**241**	1	4	5
Total Volume	1121	5	1126	10	880	890	12	15	27
% App. Total	99.6	0.4		1.1	98.9		44.4	55.6	
PHF	.879	.625	.877	.625	.921	.923	.600	.625	.614

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

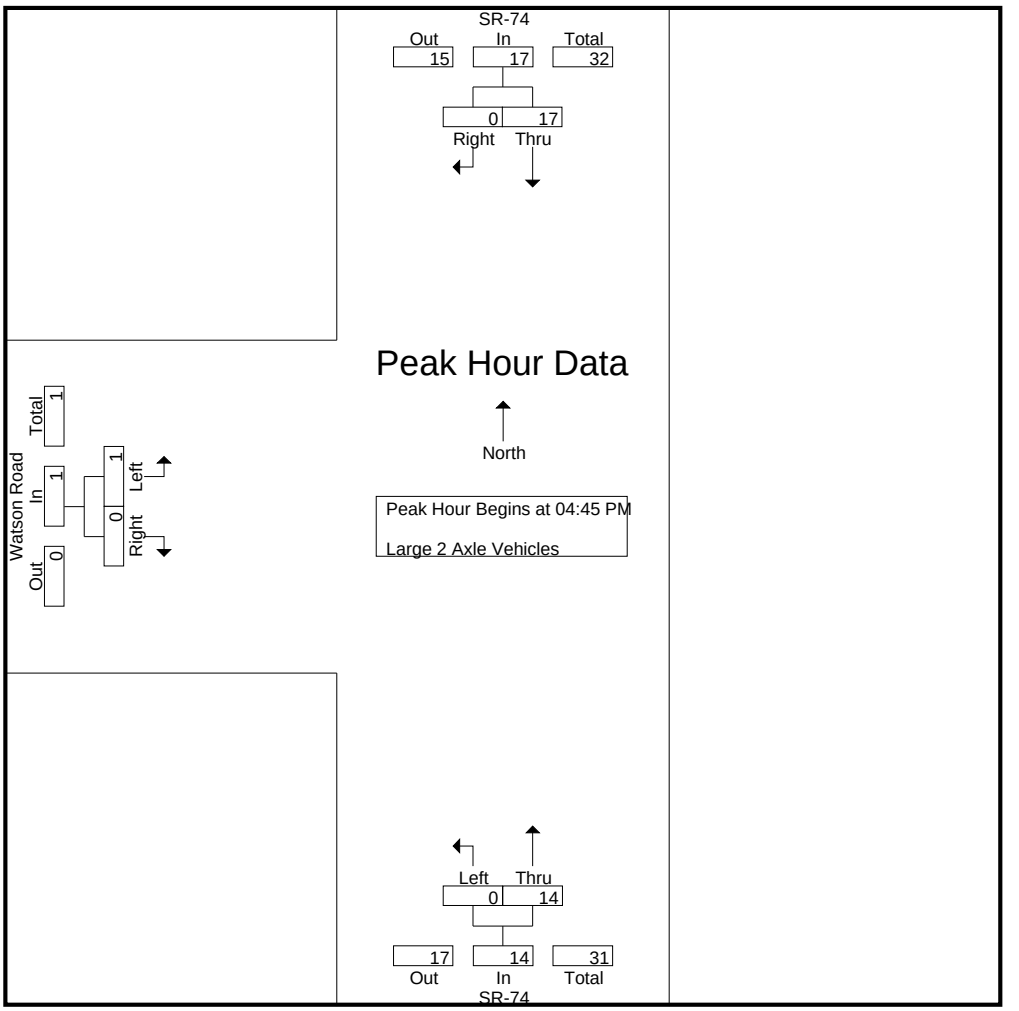
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	8	0	8	0	7	7	0	0	0	15
04:15 PM	4	0	4	0	6	6	0	0	0	10
04:30 PM	6	1	7	0	3	3	0	0	0	10
04:45 PM	5	0	5	0	5	5	1	0	1	11
Total	23	1	24	0	21	21	1	0	1	46
05:00 PM	2	0	2	0	2	2	0	0	0	4
05:15 PM	3	0	3	0	4	4	0	0	0	7
05:30 PM	7	0	7	0	3	3	0	0	0	10
05:45 PM	0	0	0	0	6	6	0	0	0	6
Total	12	0	12	0	15	15	0	0	0	27
Grand Total	35	1	36	0	36	36	1	0	1	73
Apprch %	97.2	2.8		0	100		100	0		
Total %	47.9	1.4	49.3	0	49.3	49.3	1.4	0	1.4	

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	5	0	5	0	**5**	**5**	**1**	0	**1**	**11**
05:00 PM	2	0	2	0	2	2	0	0	0	4
05:15 PM	3	0	3	0	4	4	0	0	0	7
05:30 PM	**7**	0	**7**	0	3	3	0	0	0	10
Total Volume	17	0	17	0	14	14	1	0	1	32
% App. Total	100	0		0	100		100	0		
PHF	.607	.000	.607	.000	.700	.700	.250	.000	.250	.727

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	5	0	5	0	**5**	**5**	**1**	0	**1**
+15 mins.	2	0	2	0	2	2	0	0	0
+30 mins.	3	0	3	0	4	4	0	0	0
+45 mins.	**7**	0	**7**	0	3	3	0	0	0
Total Volume	17	0	17	0	14	14	1	0	1
% App. Total	100	0		0	100		100	0	
PHF	.607	.000	.607	.000	.700	.700	.250	.000	.250

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

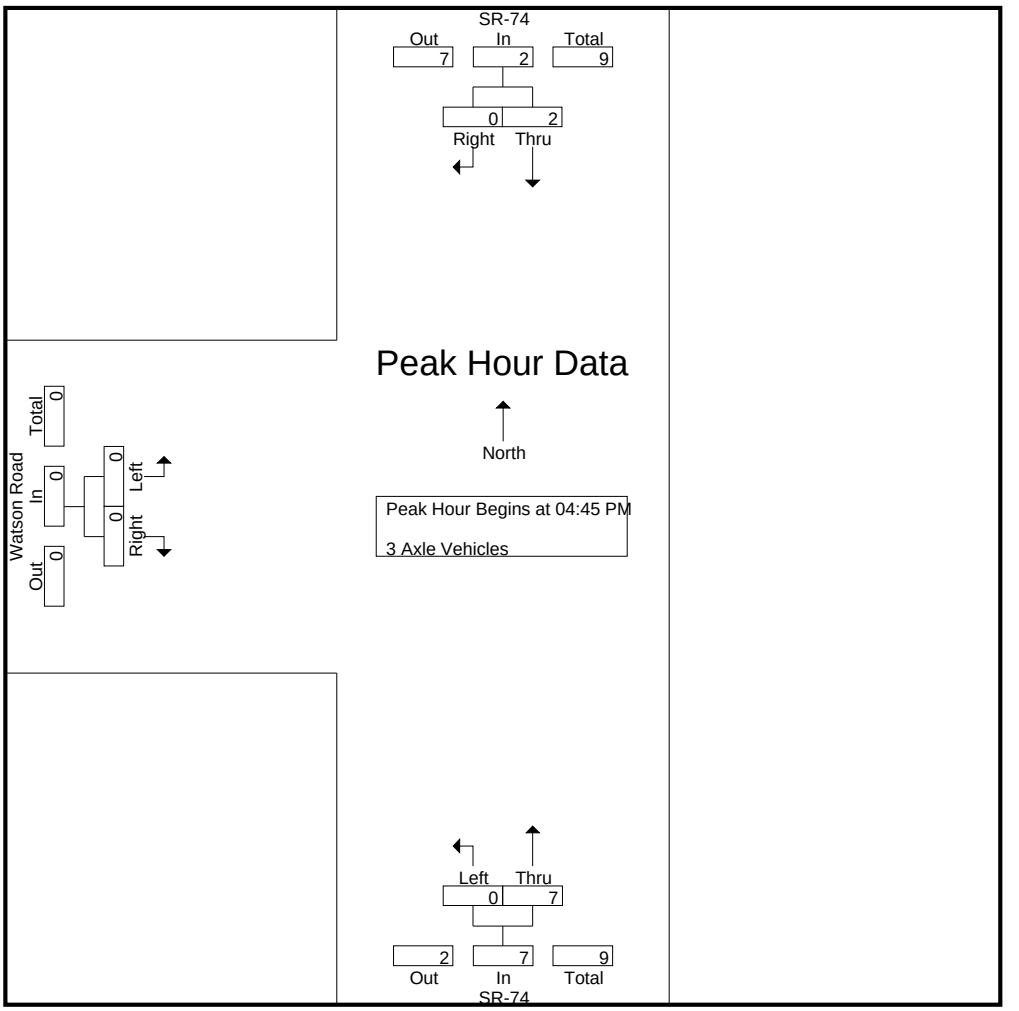
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	1	0	1	0	3	3	0	0	0	4
04:15 PM	0	0	0	0	2	2	0	0	0	2
04:30 PM	0	0	0	0	3	3	0	0	0	3
04:45 PM	0	0	0	0	2	2	0	0	0	2
Total	1	0	1	0	10	10	0	0	0	11
05:00 PM	0	0	0	0	3	3	0	0	0	3
05:15 PM	2	0	2	0	1	1	0	0	0	3
05:30 PM	0	0	0	0	1	1	0	0	0	1
05:45 PM	0	0	0	0	1	1	0	0	0	1
Total	2	0	2	0	6	6	0	0	0	8
Grand Total	3	0	3	0	16	16	0	0	0	19
Apprch %	100	0		0	100		0	0		
Total %	15.8	0	15.8	0	84.2	84.2	0	0	0	

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	2	2	0	0	0	2
05:00 PM	0	0	0	0	**3**	**3**	0	0	0	**3**
05:15 PM	**2**	0	**2**	0	1	1	0	0	0	3
05:30 PM	0	0	0	0	1	1	0	0	0	1
Total Volume	2	0	2	0	7	7	0	0	0	9
% App. Total	100	0		0	100		0	0		
PHF	.250	.000	.250	.000	.583	.583	.000	.000	.000	.750

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	2	2	0	0	0
+15 mins.	0	0	0	0	**3**	**3**	0	0	0
+30 mins.	**2**	0	**2**	0	1	1	0	0	0
+45 mins.	0	0	0	0	1	1	0	0	0
Total Volume	2	0	2	0	7	7	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.250	.000	.250	.000	.583	.583	.000	.000	.000

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
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Groups Printed- 4+ Axle Trucks

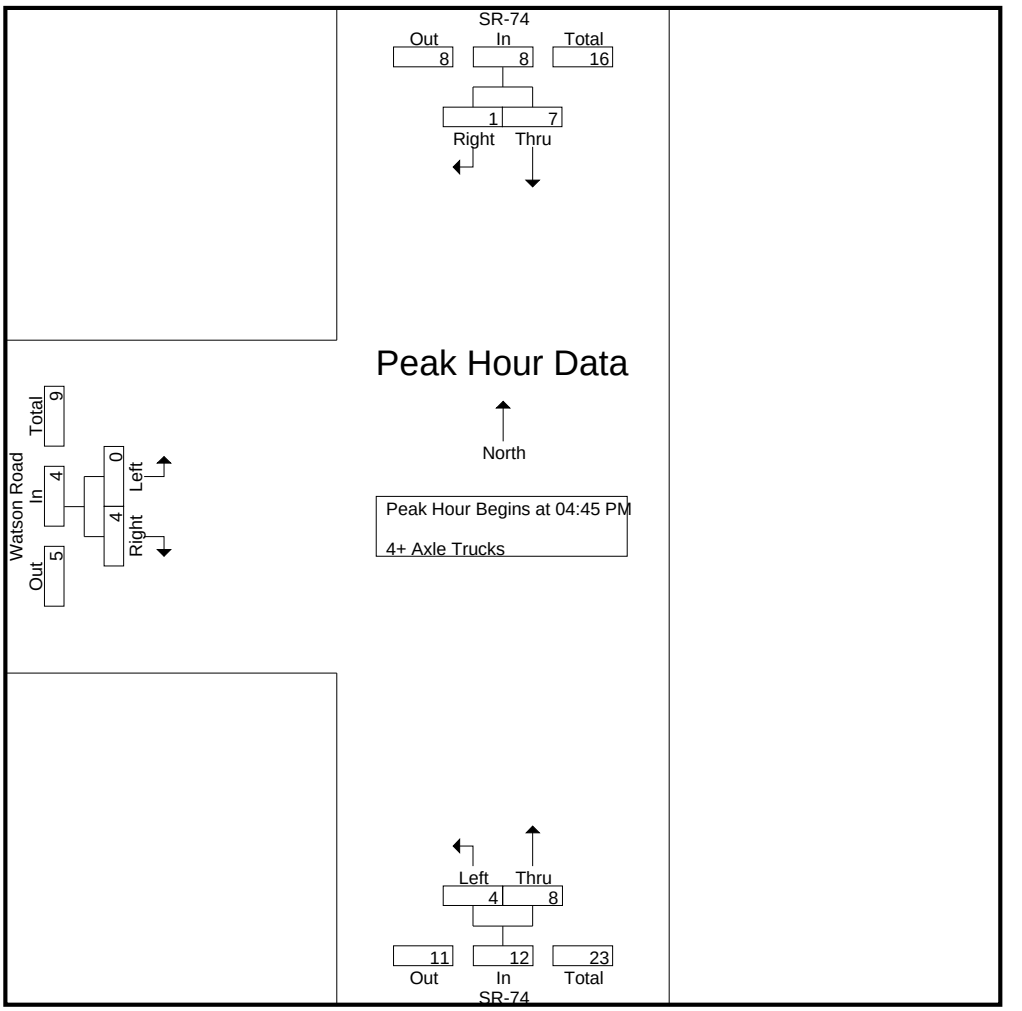
	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	1	2	2
04:15 PM	0	0	0	1	4	5	0	0	0	5
04:30 PM	1	0	1	4	2	6	0	3	3	10
04:45 PM	2	0	2	1	3	4	0	2	2	8
Total	3	0	3	6	9	15	1	6	7	25
05:00 PM	1	1	2	2	1	3	0	1	1	6
05:15 PM	2	0	2	1	3	4	0	0	0	6
05:30 PM	2	0	2	0	1	1	0	1	1	4
05:45 PM	1	0	1	0	1	1	0	0	0	2
Total	6	1	7	3	6	9	0	2	2	18
Grand Total	9	1	10	9	15	24	1	8	9	43
Apprch %	90	10		37.5	62.5		11.1	88.9		
Total %	20.9	2.3	23.3	20.9	34.9	55.8	2.3	18.6	20.9	

	SR-74 Southbound			SR-74 Northbound			Watson Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**2**	0	**2**	1	**3**	**4**	0	**2**	**2**	**8**
05:00 PM	1	**1**	2	**2**	1	3	0	1	1	6
05:15 PM	2	0	2	1	3	4	0	0	0	6
05:30 PM	2	0	2	0	1	1	0	1	1	4
Total Volume	7	1	8	4	8	12	0	4	4	24
% App. Total	87.5	12.5		33.3	66.7		0	100		
PHF	.875	.250	1.00	.500	.667	.750	.000	.500	.500	.750

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City of Menifee
N/S: SR-74
E/W: Watson Road
Weather: Clear

File Name : 04_MEN_SR74_Wat PM
Site Code : 99925132
Start Date : 2/11/2025
Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	**2**	0	**2**	1	**3**	**4**	0	**2**	**2**
+15 mins.	1	**1**	2	**2**	1	3	0	1	1
+30 mins.	2	0	2	1	3	4	0	0	0
+45 mins.	2	0	2	0	1	1	0	1	1
Total Volume	7	1	8	4	8	12	0	4	4
% App. Total	87.5	12.5		33.3	66.7		0	100	
PHF	.875	.250	1.000	.500	.667	.750	.000	.500	.500

Counts Unlimited, Inc.

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City of Menifee
Trumble Road
B/ Watson Avenue - Driveway 1
24 Hour Directional Classification Count

MEN001
Site Code: 999-25132

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	3	0	0	0	0	0	0	0	0	0	0	4
04:00	0	12	8	0	0	0	0	0	0	0	0	0	0	20
05:00	0	14	9	0	0	2	0	0	0	0	0	0	0	25
06:00	0	**19**	11	0	1	4	0	0	1	0	0	0	0	36
07:00	0	17	7	0	2	8	0	0	1	0	0	0	0	35
08:00	0	8	**15**	0	**3**	16	0	0	3	0	2	0	0	47
09:00	0	7	7	0	3	**22**	0	**1**	1	0	0	0	0	41
10:00	0	16	14	0	2	13	0	0	**5**	0	**3**	0	0	**53**
11:00	0	10	9	0	2	12	0	0	0	0	2	0	0	35
12 PM	0	14	16	0	2	12	0	0	0	0	**2**	0	0	46
13:00	0	**33**	17	0	3	15	0	0	**3**	0	1	0	0	**72**
14:00	0	18	**19**	0	**5**	**16**	0	0	2	0	1	0	0	61
15:00	0	19	16	0	3	13	0	0	0	0	1	0	0	52
16:00	0	10	10	0	0	9	**1**	0	0	0	0	0	0	30
17:00	0	11	4	0	0	5	1	0	0	0	2	0	0	23
18:00	0	5	5	0	0	3	0	0	0	0	1	0	0	14
19:00	0	1	1	0	0	0	0	0	0	0	1	0	0	3
20:00	0	0	0	0	0	0	0	0	0	0	1	0	0	1
21:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	0	0	**1**	0	0	0	0	0	0	2	0	0	3
23:00	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	0	224	172	1	26	150	2	1	16	0	20	0	0	612
Percent	0.0%	36.6%	28.1%	0.2%	4.2%	24.5%	0.3%	0.2%	2.6%	0.0%	3.3%	0.0%	0.0%	
AM Peak		06:00	08:00		08:00	09:00		09:00	10:00		10:00			10:00
Vol.		19	15		3	22		1	5		3			53
PM Peak		13:00	14:00	22:00	14:00	14:00	16:00		13:00		12:00			13:00
Vol.		33	19	1	5	16	1		3		2			72
Grand Total	0	224	172	1	26	150	2	1	16	0	20	0	0	612
Percent	0.0%	36.6%	28.1%	0.2%	4.2%	24.5%	0.3%	0.2%	2.6%	0.0%	3.3%	0.0%	0.0%	

Counts Unlimited, Inc.

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City of Menifee
Trumble Road
B/ Watson Avenue - Driveway 1
24 Hour Directional Classification Count

MEN001
Site Code: 999-25132

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	2	0	0	0	0	0	0	0	0	2	0	0	4
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	1	0	0	0	0	0	0	0	1	0	0	4
04:00	0	5	3	0	2	2	1	0	1	0	0	0	0	14
05:00	0	4	2	0	2	5	7	0	3	0	1	0	0	24
06:00	0	3	10	0	0	3	18	0	1	0	0	0	0	35
07:00	**1**	**12**	17	0	2	1	**20**	0	0	0	0	0	0	53
08:00	0	12	**19**	0	**6**	1	10	0	1	0	1	0	0	50
09:00	0	8	14	0	6	**6**	16	0	3	0	**4**	0	0	**57**
10:00	0	8	16	0	6	2	11	**1**	4	0	0	0	0	48
11:00	0	12	15	0	1	5	13	0	**5**	0	1	0	0	52
12 PM	0	22	11	0	3	**4**	9	**1**	1	0	0	0	0	51
13:00	0	18	25	0	2	1	**11**	0	**2**	0	0	0	0	59
14:00	0	17	**29**	0	**4**	2	6	1	0	**1**	0	0	0	60
15:00	0	**43**	26	0	1	2	7	0	0	0	1	0	0	**80**
16:00	0	26	23	0	0	0	0	0	0	0	0	0	0	49
17:00	0	21	12	0	0	0	0	0	0	0	**3**	0	0	36
18:00	0	8	1	0	0	0	0	0	0	0	2	0	0	11
19:00	0	7	2	0	0	0	0	0	0	0	1	0	0	10
20:00	0	1	3	0	1	0	0	0	0	0	1	0	0	6
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	1	0	0	0	0	0	0	0	2	0	0	3
23:00	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Total	1	233	231	0	36	34	129	3	21	1	22	0	0	711
Percent	0.1%	32.8%	32.5%	0.0%	5.1%	4.8%	18.1%	0.4%	3.0%	0.1%	3.1%	0.0%	0.0%	
AM Peak	07:00	07:00	08:00		08:00	09:00	07:00	10:00	11:00		09:00			09:00
Vol.	1	12	19		6	6	20	1	5		4			57
PM Peak		15:00	14:00		14:00	12:00	13:00	12:00	13:00	14:00	17:00			15:00
Vol.		43	29		4	4	11	1	2	1	3			80
Grand Total	1	233	231	0	36	34	129	3	21	1	22	0	0	711
Percent	0.1%	32.8%	32.5%	0.0%	5.1%	4.8%	18.1%	0.4%	3.0%	0.1%	3.1%	0.0%	0.0%	

Counts Unlimited, Inc.
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City of Menifee
Trumble Road
B/ Watson Avenue - Driveway 1
24 Hour Directional Classification Count

MEN001
Site Code: 999-25132

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	2	1	0	0	0	0	0	0	0	0	0	0	3
01:00	0	5	1	0	0	0	0	0	0	0	2	0	0	8
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	3	4	0	0	0	0	0	0	0	1	0	0	8
04:00	0	17	11	0	2	2	1	0	1	0	0	0	0	34
05:00	0	18	11	0	2	7	7	0	3	0	1	0	0	49
06:00	0	22	21	0	1	7	18	0	2	0	0	0	0	71
07:00	**1**	**29**	24	0	4	9	**20**	0	1	0	0	0	0	88
08:00	0	20	**34**	0	**9**	17	10	0	4	0	3	0	0	97
09:00	0	15	21	0	9	**28**	16	**1**	4	0	**4**	0	0	98
10:00	0	24	30	0	8	15	11	1	**9**	0	3	0	0	**101**
11:00	0	22	24	0	3	17	13	0	5	0	3	0	0	87
12 PM	0	36	27	0	5	16	9	**1**	1	0	2	0	0	97
13:00	0	51	42	0	5	16	**11**	0	**5**	0	1	0	0	131
14:00	0	35	**48**	0	**9**	**18**	6	1	2	**1**	1	0	0	121
15:00	0	**62**	42	0	4	15	7	0	0	0	2	0	0	**132**
16:00	0	36	33	0	0	9	1	0	0	0	0	0	0	79
17:00	0	32	16	0	0	5	1	0	0	0	**5**	0	0	59
18:00	0	13	6	0	0	3	0	0	0	0	3	0	0	25
19:00	0	8	3	0	0	0	0	0	0	0	2	0	0	13
20:00	0	1	3	0	1	0	0	0	0	0	2	0	0	7
21:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	0	1	**1**	0	0	0	0	0	0	4	0	0	6
23:00	0	0	0	0	0	0	0	0	0	0	3	0	0	3
Total	1	457	403	1	62	184	131	4	37	1	42	0	0	1323
Percent	0.1%	34.5%	30.5%	0.1%	4.7%	13.9%	9.9%	0.3%	2.8%	0.1%	3.2%	0.0%	0.0%	
AM Peak	07:00	07:00	08:00		08:00	09:00	07:00	09:00	10:00		09:00			10:00
Vol.	1	29	34		9	28	20	1	9		4			101
PM Peak		15:00	14:00	22:00	14:00	14:00	13:00	12:00	13:00	14:00	17:00			15:00
Vol.		62	48	1	9	18	11	1	5	1	5			132
Grand Total	1	457	403	1	62	184	131	4	37	1	42	0	0	1323
Percent	0.1%	34.5%	30.5%	0.1%	4.7%	13.9%	9.9%	0.3%	2.8%	0.1%	3.2%	0.0%	0.0%	

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City of Menifee
Trumble Road
B/ Driveway 1 - Driveway 2
24 Hour Directional Classification Count

MEN002
Site Code: 999-25132

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	5	2	0	0	0	0	0	0	0	**1**	0	0	8
01:00	0	0	0	0	0	5	0	0	0	0	0	0	0	5
02:00	0	3	0	0	0	6	0	0	0	0	0	0	0	9
03:00	0	1	1	0	0	13	0	0	0	0	0	0	0	15
04:00	0	6	5	0	1	**15**	0	0	0	0	0	0	0	27
05:00	**1**	15	5	0	1	9	0	0	**1**	0	0	0	0	32
06:00	0	**17**	7	0	1	15	0	0	0	0	0	0	0	**40**
07:00	0	9	10	0	1	8	0	0	1	0	1	0	0	30
08:00	0	10	7	0	2	12	0	0	0	**1**	0	0	0	32
09:00	0	10	**15**	0	0	11	0	0	1	1	1	0	0	39
10:00	0	14	9	0	**3**	11	0	0	1	0	0	0	0	38
11:00	0	17	4	0	1	10	0	0	1	0	1	0	0	34
12 PM	**1**	12	**17**	0	**3**	**11**	0	0	0	0	0	0	0	**44**
13:00	0	12	11	0	0	8	0	0	**2**	0	0	0	0	33
14:00	0	10	11	0	1	4	**1**	0	1	0	0	0	0	28
15:00	0	13	8	0	3	4	0	0	0	0	0	0	0	28
16:00	1	**14**	11	0	1	3	0	0	0	0	0	0	0	30
17:00	1	5	5	0	1	1	0	0	0	0	**1**	0	0	14
18:00	1	7	2	0	0	0	0	0	0	0	1	0	0	11
19:00	0	4	0	0	0	0	0	0	0	0	1	0	0	5
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	3	1	0	0	0	0	0	0	0	1	0	0	5
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
Total	5	194	133	0	19	146	1	0	8	2	8	0	0	516
Percent	1.0%	37.6%	25.8%	0.0%	3.7%	28.3%	0.2%	0.0%	1.6%	0.4%	1.6%	0.0%	0.0%	
AM Peak	05:00	06:00	09:00		10:00	04:00			05:00	08:00	00:00			06:00
Vol.	1	17	15		3	15			1	1	1			40
PM Peak	12:00	16:00	12:00		12:00	12:00	14:00		13:00		17:00			12:00
Vol.	1	14	17		3	11	1		2		1			44
Grand Total	5	194	133	0	19	146	1	0	8	2	8	0	0	516
Percent	1.0%	37.6%	25.8%	0.0%	3.7%	28.3%	0.2%	0.0%	1.6%	0.4%	1.6%	0.0%	0.0%	

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City of Menifee
Trumble Road
B/ Driveway 1 - Driveway 2
24 Hour Directional Classification Count

MEN002
Site Code: 999-25132

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	1	0	0	0	0	7	0	0	0	0	0	0	8
01:00	0	1	0	0	0	0	8	0	0	0	0	0	0	9
02:00	0	1	0	0	0	**6**	10	0	0	0	1	0	0	18
03:00	0	0	0	0	0	0	**17**	0	0	0	0	0	0	17
04:00	0	0	3	0	3	1	17	0	1	0	1	0	0	26
05:00	0	1	1	0	2	2	14	0	1	0	1	0	0	22
06:00	0	6	6	0	**4**	3	12	0	1	**1**	**3**	0	0	36
07:00	0	11	22	0	4	0	12	0	2	0	1	0	0	52
08:00	0	15	**24**	0	0	0	10	0	3	0	0	0	0	52
09:00	0	15	16	0	3	3	12	0	3	0	2	0	0	54
10:00	0	13	18	0	2	2	8	0	**4**	0	1	0	0	48
11:00	0	**31**	13	0	1	6	6	0	1	0	1	0	0	**59**
12 PM	1	21	18	0	**5**	0	**5**	0	0	0	0	0	0	50
13:00	1	12	15	0	2	1	0	0	0	0	0	0	0	31
14:00	0	11	16	0	2	**3**	3	0	**2**	0	**2**	0	0	39
15:00	0	**38**	18	0	3	1	0	0	0	0	0	0	0	**60**
16:00	0	24	**19**	0	1	0	0	0	0	0	0	0	0	44
17:00	**2**	27	10	0	0	0	0	**1**	0	0	0	0	0	40
18:00	0	5	0	0	1	0	0	0	0	0	1	0	0	7
19:00	0	6	2	0	0	0	0	0	0	0	1	0	0	9
20:00	0	1	2	0	0	0	0	0	0	0	1	0	0	4
21:00	0	0	0	0	0	0	0	0	0	0	1	0	0	1
22:00	0	0	1	0	0	0	0	0	0	0	2	0	0	3
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	4	242	204	0	33	28	141	1	18	1	19	0	0	691
Percent	0.6%	35.0%	29.5%	0.0%	4.8%	4.1%	20.4%	0.1%	2.6%	0.1%	2.7%	0.0%	0.0%	
AM Peak		11:00	08:00		06:00	02:00	03:00		10:00	06:00	06:00			11:00
Vol.		31	24		4	6	17		4	1	3			59
PM Peak	17:00	15:00	16:00		12:00	14:00	12:00	17:00	14:00		14:00			15:00
Vol.	2	38	19		5	3	5	1	2		2			60
Grand Total	4	242	204	0	33	28	141	1	18	1	19	0	0	691
Percent	0.6%	35.0%	29.5%	0.0%	4.8%	4.1%	20.4%	0.1%	2.6%	0.1%	2.7%	0.0%	0.0%	

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City of Menifee
Trumble Road
B/ Driveway 1 - Driveway 2
24 Hour Directional Classification Count

MEN002
Site Code: 999-25132

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	6	2	0	0	0	7	0	0	0	1	0	0	16
01:00	0	1	0	0	0	5	8	0	0	0	0	0	0	14
02:00	0	4	0	0	0	12	10	0	0	0	1	0	0	27
03:00	0	1	1	0	0	13	**17**	0	0	0	0	0	0	32
04:00	0	6	8	0	4	16	17	0	1	0	1	0	0	53
05:00	**1**	16	6	0	3	11	14	0	2	0	1	0	0	54
06:00	0	23	13	0	**5**	**18**	12	0	1	**1**	**3**	0	0	76
07:00	0	20	**32**	0	5	8	12	0	3	0	2	0	0	82
08:00	0	25	31	0	2	12	10	0	3	1	0	0	0	84
09:00	0	25	31	0	3	14	12	0	4	1	3	0	0	**93**
10:00	0	27	27	0	5	13	8	0	**5**	0	1	0	0	86
11:00	0	**48**	17	0	2	16	6	0	2	0	2	0	0	93
12 PM	2	33	**35**	0	**8**	**11**	**5**	0	0	0	0	0	0	**94**
13:00	1	24	26	0	2	9	0	0	2	0	0	0	0	64
14:00	0	21	27	0	3	7	4	0	**3**	0	**2**	0	0	67
15:00	0	**51**	26	0	6	5	0	0	0	0	0	0	0	88
16:00	1	38	30	0	2	3	0	0	0	0	0	0	0	74
17:00	**3**	32	15	0	1	1	0	**1**	0	0	1	0	0	54
18:00	1	12	2	0	1	0	0	0	0	0	2	0	0	18
19:00	0	10	2	0	0	0	0	0	0	0	2	0	0	14
20:00	0	2	2	0	0	0	0	0	0	0	1	0	0	5
21:00	0	3	1	0	0	0	0	0	0	0	2	0	0	6
22:00	0	1	2	0	0	0	0	0	0	0	2	0	0	5
23:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
Total	9	436	337	0	52	174	142	1	26	3	27	0	0	1207
Percent	0.7%	36.1%	27.9%	0.0%	4.3%	14.4%	11.8%	0.1%	2.2%	0.2%	2.2%	0.0%	0.0%	
AM Peak	05:00	11:00	07:00		06:00	06:00	03:00		10:00	06:00	06:00			09:00
Vol.	1	48	32		5	18	17		5	1	3			93
PM Peak	17:00	15:00	12:00		12:00	12:00	12:00	17:00	14:00		14:00			12:00
Vol.	3	51	35		8	11	5	1	3		2			94
Grand Total	9	436	337	0	52	174	142	1	26	3	27	0	0	1207
Percent	0.7%	36.1%	27.9%	0.0%	4.3%	14.4%	11.8%	0.1%	2.2%	0.2%	2.2%	0.0%	0.0%	

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City of Menifee
Trumble Road
B/ Driveway 2 - Illinois Avenue
24 Hour Directional Classification Count

MEN003
Site Code: 999-25132

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	5	2	0	0	0	0	0	0	0	**1**	0	0	8
01:00	0	0	0	0	0	5	0	0	0	0	0	0	0	5
02:00	0	3	0	0	0	6	0	0	0	0	0	0	0	9
03:00	0	1	1	0	0	13	0	0	0	0	0	0	0	15
04:00	0	6	5	0	1	**15**	0	0	0	0	0	0	0	27
05:00	**1**	17	6	0	1	9	0	0	1	0	0	0	0	35
06:00	1	**26**	6	0	0	15	0	0	0	0	0	0	0	**48**
07:00	0	14	10	0	1	8	0	0	0	0	1	0	0	34
08:00	0	13	8	0	2	12	0	0	0	**1**	0	0	0	36
09:00	0	9	**15**	0	0	11	0	0	1	1	1	0	0	38
10:00	0	14	9	0	**5**	11	0	0	1	0	0	0	0	40
11:00	1	16	4	0	1	11	0	0	**2**	0	1	0	0	36
12 PM	**1**	**16**	**17**	0	**3**	**11**	0	0	0	0	0	0	0	**48**
13:00	0	15	11	0	0	8	0	0	**2**	0	0	0	0	36
14:00	0	11	12	0	2	5	**1**	0	1	0	0	0	0	32
15:00	0	9	8	0	3	4	0	0	0	0	0	0	0	24
16:00	1	14	10	0	1	3	0	0	0	0	0	0	0	29
17:00	1	6	5	0	1	1	0	0	0	0	**1**	0	0	15
18:00	1	7	2	0	0	0	0	0	0	0	1	0	0	11
19:00	0	4	0	0	0	0	0	0	0	0	1	0	0	5
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	3	1	0	0	0	0	0	0	0	1	0	0	5
22:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
23:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
Total	7	214	134	0	21	148	1	0	8	2	8	0	0	543
Percent	1.3%	39.4%	24.7%	0.0%	3.9%	27.3%	0.2%	0.0%	1.5%	0.4%	1.5%	0.0%	0.0%	
AM Peak	05:00	06:00	09:00		10:00	04:00			11:00	08:00	00:00			06:00
Vol.	1	26	15		5	15			2	1	1			48
PM Peak	12:00	12:00	12:00		12:00	12:00	14:00		13:00		17:00			12:00
Vol.	1	16	17		3	11	1		2		1			48
Grand Total	7	214	134	0	21	148	1	0	8	2	8	0	0	543
Percent	1.3%	39.4%	24.7%	0.0%	3.9%	27.3%	0.2%	0.0%	1.5%	0.4%	1.5%	0.0%	0.0%	

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City of Menifee
Trumble Road
B/ Driveway 2 - Illinois Avenue
24 Hour Directional Classification Count

MEN003
Site Code: 999-25132

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	2	0	0	0	0	7	0	0	0	0	0	0	9
01:00	0	1	0	0	0	0	8	0	0	0	0	0	0	9
02:00	0	3	0	0	0	**6**	10	0	0	0	1	0	0	20
03:00	0	1	0	0	0	0	**17**	0	0	0	0	0	0	18
04:00	0	0	3	0	3	1	17	0	1	0	1	0	0	26
05:00	0	1	0	0	2	2	14	0	1	0	1	0	0	21
06:00	0	2	5	0	**5**	5	12	0	0	**1**	**3**	0	0	33
07:00	0	10	21	0	4	0	12	0	2	0	1	0	0	50
08:00	0	14	**23**	0	0	0	10	0	2	0	0	0	0	49
09:00	0	13	17	0	2	3	12	0	**4**	0	2	0	0	53
10:00	0	13	18	0	2	2	8	0	4	0	1	0	0	48
11:00	0	**33**	12	0	1	6	6	0	1	1	1	0	0	**61**
12 PM	1	22	18	0	**5**	0	**5**	0	0	0	0	0	0	51
13:00	1	13	15	0	2	1	0	0	0	0	0	0	0	32
14:00	0	13	17	0	2	**3**	3	0	**2**	0	**2**	0	0	42
15:00	0	**45**	18	0	4	1	0	0	0	0	0	0	0	**68**
16:00	0	24	**20**	0	1	0	0	0	0	0	0	0	0	45
17:00	**2**	37	11	0	0	0	0	**1**	0	0	0	0	0	51
18:00	0	5	0	0	1	0	0	0	0	0	1	0	0	7
19:00	0	5	3	0	0	0	0	0	0	0	1	0	0	9
20:00	0	2	2	0	0	0	0	0	0	0	1	0	0	5
21:00	0	0	0	0	0	0	0	0	0	0	1	0	0	1
22:00	0	1	1	0	0	0	0	0	0	0	2	0	0	4
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	4	262	204	0	34	30	141	1	17	2	19	0	0	714
Percent	0.6%	36.7%	28.6%	0.0%	4.8%	4.2%	19.7%	0.1%	2.4%	0.3%	2.7%	0.0%	0.0%	
AM Peak		11:00	08:00		06:00	02:00	03:00		09:00	06:00	06:00			11:00
Vol.		33	23		5	6	17		4	1	3			61
PM Peak	17:00	15:00	16:00		12:00	14:00	12:00	17:00	14:00		14:00			15:00
Vol.	2	45	20		5	3	5	1	2		2			68
Grand Total	4	262	204	0	34	30	141	1	17	2	19	0	0	714
Percent	0.6%	36.7%	28.6%	0.0%	4.8%	4.2%	19.7%	0.1%	2.4%	0.3%	2.7%	0.0%	0.0%	

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City of Menifee
Trumble Road
B/ Driveway 2 - Illinois Avenue
24 Hour Directional Classification Count

MEN003
Site Code: 999-25132

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	7	2	0	0	0	7	0	0	0	1	0	0	17
01:00	0	1	0	0	0	5	8	0	0	0	0	0	0	14
02:00	0	6	0	0	0	12	10	0	0	0	1	0	0	29
03:00	0	2	1	0	0	13	**17**	0	0	0	0	0	0	33
04:00	0	6	8	0	4	16	17	0	1	0	1	0	0	53
05:00	**1**	18	6	0	3	11	14	0	2	0	1	0	0	56
06:00	1	28	11	0	5	**20**	12	0	0	**1**	**3**	0	0	81
07:00	0	24	31	0	5	8	12	0	2	0	2	0	0	84
08:00	0	27	31	0	2	12	10	0	2	1	0	0	0	85
09:00	0	22	**32**	0	2	14	12	0	**5**	1	3	0	0	91
10:00	0	27	27	0	**7**	13	8	0	5	0	1	0	0	88
11:00	1	**49**	16	0	2	17	6	0	3	1	2	0	0	**97**
12 PM	2	38	**35**	0	**8**	**11**	**5**	0	0	0	0	0	0	**99**
13:00	1	28	26	0	2	9	0	0	2	0	0	0	0	68
14:00	0	24	29	0	4	8	4	0	**3**	0	**2**	0	0	74
15:00	0	**54**	26	0	7	5	0	0	0	0	0	0	0	92
16:00	1	38	30	0	2	3	0	0	0	0	0	0	0	74
17:00	**3**	43	16	0	1	1	0	**1**	0	0	1	0	0	66
18:00	1	12	2	0	1	0	0	0	0	0	2	0	0	18
19:00	0	9	3	0	0	0	0	0	0	0	2	0	0	14
20:00	0	3	2	0	0	0	0	0	0	0	1	0	0	6
21:00	0	3	1	0	0	0	0	0	0	0	2	0	0	6
22:00	0	1	2	0	0	0	0	0	0	0	2	0	0	5
23:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
Total	11	476	338	0	55	178	142	1	25	4	27	0	0	1257
Percent	0.9%	37.9%	26.9%	0.0%	4.4%	14.2%	11.3%	0.1%	2.0%	0.3%	2.1%	0.0%	0.0%	
AM Peak	05:00	11:00	09:00		10:00	06:00	03:00		09:00	06:00	06:00			11:00
Vol.	1	49	32		7	20	17		5	1	3			97
PM Peak	17:00	15:00	12:00		12:00	12:00	12:00	17:00	14:00		14:00			12:00
Vol.	3	54	35		8	11	5	1	3		2			99
Grand Total	11	476	338	0	55	178	142	1	25	4	27	0	0	1257
Percent	0.9%	37.9%	26.9%	0.0%	4.4%	14.2%	11.3%	0.1%	2.0%	0.3%	2.1%	0.0%	0.0%	

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City of Menifee
Trumble Road
B/ Illinois Avenue - Ethanac Avenue
24 Hour Directional Classification Count

MEN004
Site Code: 999-25132

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	4	0	0	0	0	0	0	1	0	0	0	0	5
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
04:00	0	24	2	0	0	0	0	0	0	0	0	0	0	26
05:00	0	32	3	0	0	2	0	0	0	0	0	0	0	37
06:00	1	46	20	0	2	4	0	0	0	0	0	0	0	73
07:00	0	**50**	24	**1**	3	8	0	**1**	2	0	0	0	0	89
08:00	0	36	34	0	3	16	0	0	2	0	2	0	0	**93**
09:00	0	33	33	0	0	**23**	0	0	3	0	0	0	0	92
10:00	**2**	29	22	0	2	13	0	0	**4**	0	**3**	0	0	75
11:00	0	22	**39**	0	**5**	12	0	0	0	0	2	0	0	80
12 PM	1	45	26	**1**	3	12	0	0	1	0	**2**	0	0	91
13:00	1	**55**	39	0	1	15	0	0	**3**	0	1	0	0	**115**
14:00	0	37	**45**	1	1	**17**	0	0	1	0	1	0	0	103
15:00	0	34	23	0	**5**	13	0	0	0	0	1	0	0	76
16:00	1	21	22	1	1	9	**2**	0	0	0	0	0	0	57
17:00	0	33	15	0	1	5	1	0	0	0	2	0	0	57
18:00	0	10	1	0	1	3	0	0	1	0	0	0	0	16
19:00	**2**	9	2	0	0	0	0	0	0	0	1	0	0	14
20:00	0	12	1	0	0	0	0	0	0	0	1	0	0	14
21:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
22:00	0	3	0	0	1	0	0	0	0	0	2	0	0	6
23:00	0	1	0	0	0	0	0	0	0	0	1	0	0	2
Total	8	568	352	4	29	152	3	1	18	0	19	0	0	1154
Percent	0.7%	49.2%	30.5%	0.3%	2.5%	13.2%	0.3%	0.1%	1.6%	0.0%	1.6%	0.0%	0.0%	
AM Peak	10:00	07:00	11:00	07:00	11:00	09:00		07:00	10:00		10:00			08:00
Vol.	2	50	39	1	5	23		1	4		3			93
PM Peak	19:00	13:00	14:00	12:00	15:00	14:00	16:00		13:00		12:00			13:00
Vol.	2	55	45	1	5	17	2		3		2			115
Grand Total	8	568	352	4	29	152	3	1	18	0	19	0	0	1154
Percent	0.7%	49.2%	30.5%	0.3%	2.5%	13.2%	0.3%	0.1%	1.6%	0.0%	1.6%	0.0%	0.0%	

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City of Menifee
Trumble Road
B/ Illinois Avenue - Ethanac Avenue
24 Hour Directional Classification Count

MEN004
Site Code: 999-25132

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	6	1	0	0	0	0	0	0	0	0	0	0	7
01:00	0	8	1	0	0	0	0	0	2	0	0	0	0	11
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	7	0	0	0	0	0	0	1	0	0	0	0	8
04:00	0	5	3	0	0	3	0	0	1	0	0	0	0	12
05:00	0	7	2	0	2	**11**	0	0	3	0	0	0	0	25
06:00	0	10	14	0	2	8	13	0	2	0	0	0	0	49
07:00	0	18	32	0	0	0	**20**	**2**	0	0	0	0	0	72
08:00	0	25	**38**	0	3	2	9	1	1	0	0	0	0	79
09:00	0	16	30	0	**5**	5	18	0	2	0	**4**	0	0	80
10:00	**1**	12	24	0	2	5	9	0	4	0	0	0	0	57
11:00	1	**26**	38	0	4	4	12	0	**8**	0	2	0	0	**95**
12 PM	1	54	30	**1**	**4**	**3**	10	**3**	1	0	1	0	0	108
13:00	0	39	40	0	2	1	**11**	0	**2**	0	0	0	0	95
14:00	1	38	**47**	1	1	2	6	1	1	0	0	0	0	98
15:00	2	68	43	0	1	1	7	0	0	0	2	0	0	**124**
16:00	**3**	62	47	1	1	1	0	0	0	0	0	0	0	115
17:00	0	**69**	29	0	1	0	0	0	0	0	**3**	0	0	102
18:00	0	49	7	0	1	1	0	0	1	0	0	0	0	59
19:00	0	16	1	0	0	0	0	0	1	0	0	0	0	18
20:00	2	12	1	0	1	0	0	0	1	0	0	0	0	17
21:00	0	15	0	0	0	0	0	0	0	0	0	0	0	15
22:00	0	5	2	0	0	2	0	0	0	0	0	0	0	9
23:00	0	3	0	0	0	0	0	0	0	0	2	0	0	5
Total	11	575	430	3	30	49	115	7	31	0	14	0	0	1265
Percent	0.9%	45.5%	34.0%	0.2%	2.4%	3.9%	9.1%	0.6%	2.5%	0.0%	1.1%	0.0%	0.0%	
AM Peak	10:00	11:00	08:00		09:00	05:00	07:00	07:00	11:00		09:00			11:00
Vol.	1	26	38		5	11	20	2	8		4			95
PM Peak	16:00	17:00	14:00	12:00	12:00	12:00	13:00	12:00	13:00		17:00			15:00
Vol.	3	69	47	1	4	3	11	3	2		3			124
Grand Total	11	575	430	3	30	49	115	7	31	0	14	0	0	1265
Percent	0.9%	45.5%	34.0%	0.2%	2.4%	3.9%	9.1%	0.6%	2.5%	0.0%	1.1%	0.0%	0.0%	

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B/ Illinois Avenue - Ethanac Avenue
24 Hour Directional Classification Count

MEN004
Site Code: 999-25132

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/11/25	0	10	1	0	0	0	0	0	1	0	0	0	0	12
01:00	0	9	1	0	0	0	0	0	2	0	0	0	0	12
02:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
03:00	0	21	1	0	0	0	0	0	1	0	0	0	0	23
04:00	0	29	5	0	0	3	0	0	1	0	0	0	0	38
05:00	0	39	5	0	2	13	0	0	3	0	0	0	0	62
06:00	1	56	34	0	4	12	13	0	2	0	0	0	0	122
07:00	0	**68**	56	**1**	3	8	**20**	**3**	2	0	0	0	0	161
08:00	0	61	72	0	6	18	9	1	3	0	2	0	0	172
09:00	0	49	63	0	5	**28**	18	0	5	0	**4**	0	0	172
10:00	**3**	41	46	0	4	18	9	0	**8**	0	3	0	0	132
11:00	1	48	**77**	0	**9**	16	12	0	8	0	4	0	0	**175**
12 PM	2	99	56	**2**	**7**	15	10	**3**	2	0	3	0	0	199
13:00	1	94	79	0	3	16	**11**	0	**5**	0	1	0	0	**210**
14:00	1	75	**92**	2	2	**19**	6	1	2	0	1	0	0	201
15:00	2	**102**	66	0	6	14	7	0	0	0	3	0	0	200
16:00	**4**	83	69	2	2	10	2	0	0	0	0	0	0	172
17:00	0	102	44	0	2	5	1	0	0	0	**5**	0	0	159
18:00	0	59	8	0	2	4	0	0	2	0	0	0	0	75
19:00	2	25	3	0	0	0	0	0	1	0	1	0	0	32
20:00	2	24	2	0	1	0	0	0	1	0	1	0	0	31
21:00	0	27	0	0	0	0	0	0	0	0	0	0	0	27
22:00	0	8	2	0	1	2	0	0	0	0	2	0	0	15
23:00	0	4	0	0	0	0	0	0	0	0	3	0	0	7
Total	19	1143	782	7	59	201	118	8	49	0	33	0	0	2419
Percent	0.8%	47.3%	32.3%	0.3%	2.4%	8.3%	4.9%	0.3%	2.0%	0.0%	1.4%	0.0%	0.0%	
AM Peak	10:00	07:00	11:00	07:00	11:00	09:00	07:00	07:00	10:00		09:00			11:00
Vol.	3	68	77	1	9	28	20	3	8		4			175
PM Peak	16:00	15:00	14:00	12:00	12:00	14:00	13:00	12:00	13:00		17:00			13:00
Vol.	4	102	92	2	7	19	11	3	5		5			210
Grand Total	19	1143	782	7	59	201	118	8	49	0	33	0	0	2419
Percent	0.8%	47.3%	32.3%	0.3%	2.4%	8.3%	4.9%	0.3%	2.0%	0.0%	1.4%	0.0%	0.0%	

APPENDIX E:
Volume Development Worksheets

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Table E-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour						PM Peak Hour					
	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume
1 . Trumble Road & Watson Road												
NBL	8	1	16	4	46	54	3	0	9	1	21	24
NBT	0	0	0	0	0	0	0	0	0	0	0	0
NBR	15	2	0	1	6	21	16	0	0	0	0	16
SBL	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	1	0	0	0	0	1
SBR	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0
EBT	4	1	0	6	20	24	14	1	0	7	23	37
EBR	12	3	1	10	37	49	23	0	0	1	3	26
WBL	19	1	1	1	7	26	24	1	0	0	2	26
WBT	7	4	1	10	38	45	2	0	0	6	18	20
WBR	1	0	0	0	0	1	0	0	0	0	0	0
North Leg												
Approach	0	0	0	0	0	0	1	0	0	0	0	1
Departure	1	0	0	0	0	1	0	0	0	0	0	0
Total	1	0	0	0	0	1	1	0	0	0	0	1
South Leg												
Approach	23	3	16	5	52	75	19	0	9	1	21	40
Departure	31	4	2	11	44	75	48	1	0	1	5	53
Total	54	7	18	16	96	150	67	1	9	2	26	93
East Leg												
Approach	27	5	2	11	45	72	26	1	0	6	20	46
Departure	19	3	0	7	26	45	30	1	0	7	23	53
Total	46	8	2	18	71	117	56	2	0	13	43	99
West Leg												
Approach	16	4	1	16	57	73	37	1	0	8	26	63
Departure	15	5	17	14	84	99	5	0	9	7	39	44
Total	31	9	18	30	141	172	42	1	9	15	65	107
Total Approaches												
Approach	66	12	19	32	154	220	83	2	9	15	67	150
Departure	66	12	19	32	154	220	83	2	9	15	67	150
Total	132	24	38	64	308	440	166	4	18	30	134	300

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Table E-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour						PM Peak Hour					
	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume
2 . Trumble Road & Driveway 1												
NBL	0	0	0	0	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0	0	0	0	0
North Leg												
Approach	0	0	0	0	0	0	0	0	0	0	0	0
Departure	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
South Leg												
Approach	0	0	0	0	0	0	0	0	0	0	0	0
Departure	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
East Leg												
Approach	0	0	0	0	0	0	0	0	0	0	0	0
Departure	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
West Leg												
Approach	0	0	0	0	0	0	0	0	0	0	0	0
Departure	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
Total Approaches												
Approach	0	0	0	0	0	0	0	0	0	0	0	0
Departure	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

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Table E-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour						PM Peak Hour					
	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume
3 . Trumble Road & Driveway 2												
NBL	0	0	0	0	0	0	4	0	0	0	0	4
NBT	64	0	0	0	0	64	44	0	0	0	0	44
NBR	0	0	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0	0	0	0	0
SBT	75	0	0	0	0	75	53	0	0	0	0	53
SBR	0	0	0	0	0	0	0	0	0	0	0	0
EBL	11	0	0	0	0	11	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0	0	0
EBR	9	0	0	0	0	9	5	0	0	0	0	5
WBL	0	0	0	0	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0	0	0	0	0
North Leg												
Approach	75	0	0	0	0	75	53	0	0	0	0	53
Departure	75	0	0	0	0	75	44	0	0	0	0	44
Total	150	0	0	0	0	150	97	0	0	0	0	97
South Leg												
Approach	64	0	0	0	0	64	48	0	0	0	0	48
Departure	84	0	0	0	0	84	58	0	0	0	0	58
Total	148	0	0	0	0	148	106	0	0	0	0	106
East Leg												
Approach	0	0	0	0	0	0	0	0	0	0	0	0
Departure	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
West Leg												
Approach	20	0	0	0	0	20	5	0	0	0	0	5
Departure	0	0	0	0	0	0	4	0	0	0	0	4
Total	20	0	0	0	0	20	9	0	0	0	0	9
Total Approaches												
Approach	159	0	0	0	0	159	106	0	0	0	0	106
Departure	159	0	0	0	0	159	106	0	0	0	0	106
Total	318	0	0	0	0	318	212	0	0	0	0	212

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Table E-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour						PM Peak Hour					
	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume
4 . Trumble Road & Illinois Avenue												
NBL	54	2	0	0	3	57	35	2	0	0	3	38
NBT	17	3	12	3	38	55	9	0	9	2	24	33
NBR	0	0	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0	0	0	0	0
SBT	25	2	2	13	46	71	41	1	1	0	4	45
SBR	11	1	0	0	2	13	11	1	0	0	2	13
EBL	7	1	0	0	2	9	11	0	0	0	0	11
EBT	0	0	0	0	0	0	0	0	0	0	0	0
EBR	44	1	0	1	5	49	70	1	0	0	2	72
WBL	0	0	0	0	0	0	1	0	0	0	0	1
WBT	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0	0	0	0	0
North Leg												
Approach	36	3	2	13	48	84	52	2	1	0	6	58
Departure	24	4	12	3	40	64	20	0	9	2	24	44
Total	60	7	14	16	88	148	72	2	10	2	30	102
South Leg												
Approach	71	5	12	3	41	112	44	2	9	2	27	71
Departure	69	3	2	14	51	120	112	2	1	0	6	118
Total	140	8	14	17	92	232	156	4	10	2	33	189
East Leg												
Approach	0	0	0	0	0	0	1	0	0	0	0	1
Departure	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	0	1
West Leg												
Approach	51	2	0	1	7	58	81	1	0	0	2	83
Departure	65	3	0	0	5	70	46	3	0	0	5	51
Total	116	5	0	1	12	128	127	4	0	0	7	134
Total Approaches												
Approach	158	10	14	17	96	254	178	5	10	2	35	213
Departure	158	10	14	17	96	254	178	5	10	2	35	213
Total	316	20	28	34	192	508	356	10	20	4	70	426

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Table E-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour						PM Peak Hour					
	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume
5 . Trumble Road & Ethanac Road												
NBL	66	7	0	0	11	77	67	3	0	1	8	75
NBT	11	1	1	0	4	15	1	0	2	0	4	5
NBR	24	3	0	1	8	32	41	2	0	0	3	44
SBL	5	2	0	5	18	23	20	0	0	0	0	20
SBT	6	4	0	1	9	15	8	0	0	0	0	8
SBR	51	1	2	11	39	90	98	2	1	0	5	103
EBL	53	2	7	2	23	76	41	2	8	1	22	63
EBT	516	12	2	5	37	553	662	14	2	6	43	705
EBR	23	2	1	0	5	28	19	1	1	2	10	29
WBL	25	4	0	2	12	37	23	1	0	0	2	25
WBT	507	10	1	4	29	536	377	3	0	2	11	388
WBR	12	1	1	1	7	19	10	0	1	0	2	12
North Leg												
Approach	62	7	2	17	66	128	126	2	1	0	5	131
Departure	76	4	9	3	34	110	52	2	11	1	28	80
Total	138	11	11	20	100	238	178	4	12	1	33	211
South Leg												
Approach	101	11	1	1	23	124	109	5	2	1	15	124
Departure	54	10	1	3	26	80	50	2	1	2	12	62
Total	155	21	2	4	49	204	159	7	3	3	27	186
East Leg												
Approach	544	15	2	7	48	592	410	4	1	2	15	425
Departure	545	17	2	11	63	608	723	16	2	6	46	769
Total	####	32	4	18	111	1,200	####	20	3	8	61	1,194
West Leg												
Approach	592	16	10	7	65	657	722	17	11	9	75	797
Departure	624	18	3	15	79	703	542	8	1	3	24	566
Total	####	34	13	22	144	1,360	####	25	12	12	99	1,363
Total Approaches												
Approach	####	49	15	32	202	1,501	####	28	15	12	110	1,477
Departure	####	49	15	32	202	1,501	####	28	15	12	110	1,477
Total	####	98	30	64	404	3,002	####	56	30	24	220	2,954

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Table E-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour						PM Peak Hour					
	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume	Pass. Veh.	Trucks 2 Axle	3 Axle	4 Axle	PCE	Total PCE Volume
6 . Watson Road and SR-74												
NBL	7	1	0	0	2	9	12	1	0	0	2	14
NBT	0	0	0	0	0	0	0	0	0	0	0	0
NBR	12	2	0	4	15	27	15	0	0	4	12	27
SBL	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0
EBT	641	30	8	21	124	765	####	17	2	7	51	1,172
EBR	20	0	2	0	4	24	5	0	0	1	3	8
WBL	25	2	0	5	18	43	10	0	0	4	12	22
WBT	####	18	13	24	125	1,357	880	14	7	8	59	939
WBR	0	0	0	0	0	0	0	0	0	0	0	0
North Leg												
Approach	0	0	0	0	0	0	0	0	0	0	0	0
Departure	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
South Leg												
Approach	19	3	0	4	17	36	27	1	0	4	14	41
Departure	45	2	2	5	22	67	15	0	0	5	15	30
Total	64	5	2	9	39	103	42	1	0	9	29	71
East Leg												
Approach	####	20	13	29	143	1,400	890	14	7	12	71	961
Departure	653	32	8	25	139	792	####	17	2	11	63	1,199
Total	####	52	21	54	282	2,192	####	31	9	23	134	2,160
West Leg												
Approach	661	30	10	21	128	789	####	17	2	8	54	1,180
Departure	####	19	13	24	127	1,366	892	15	7	8	61	953
Total	####	49	23	45	255	2,155	####	32	9	16	115	2,133
Total Approaches												
Approach	####	53	23	54	288	2,225	####	32	9	24	139	2,182
Departure	####	53	23	54	288	2,225	####	32	9	24	139	2,182
Total	####	106	46	108	576	4,450	####	64	18	48	278	4,364

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Table E-2: Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing NP Volumes	Project Trips	Existing WP Volumes	Existing NP Volumes	Project Trips	Existing WP Volumes
1 . Trumble Road & Watson Road						
NBL	54	0	54	24	0	24
NBT	0	0	0	0	0	0
NBR	21	3	24	16	10	26
SBL	0	0	0	0	0	0
SBT	0	0	0	1	0	1
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	24	0	24	37	0	37
EBR	49	0	49	26	0	26
WBL	26	10	36	26	3	29
WBT	45	0	45	20	0	20
WBR	1	0	1	0	0	0
North Leg						
Approach	0	0	0	1	0	1
Departure	1	0	1	0	0	0
Total	1	0	1	1	0	1
South Leg						
Approach	75	3	78	40	10	50
Departure	75	10	85	53	3	56
Total	150	13	163	93	13	106
East Leg						
Approach	72	10	82	46	3	49
Departure	45	3	48	53	10	63
Total	117	13	130	99	13	112
West Leg						
Approach	73	0	73	63	0	63
Departure	99	0	99	44	0	44
Total	172	0	172	107	0	107
Total Approaches						
Approach	220	13	233	150	13	163
Departure	220	13	233	150	13	163
Total	440	26	466	300	26	326

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Table E-2: Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing NP Volumes	Project Trips	Existing WP Volumes	Existing NP Volumes	Project Trips	Existing WP Volumes
2 . Trumble Road & Driveway 1						
NBL	0	0	0	0	0	0
NBT	75	1	76	40	4	44
NBR	0	9	9	0	8	8
SBL	0	6	6	0	2	2
SBT	75	4	79	53	1	54
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	0	0	0	0	0	0
EBR	0	0	0	0	0	0
WBL	0	7	7	0	13	13
WBT	0	0	0	0	0	0
WBR	0	2	2	0	6	6
North Leg						
Approach	75	10	85	53	3	56
Departure	75	3	78	40	10	50
Total	150	13	163	93	13	106
South Leg						
Approach	75	10	85	40	12	52
Departure	75	11	86	53	14	67
Total	150	21	171	93	26	119
East Leg						
Approach	0	9	9	0	19	19
Departure	0	15	15	0	10	10
Total	0	24	24	0	29	29
West Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
Total Approaches						
Approach	150	29	179	93	34	127
Departure	150	29	179	93	34	127
Total	300	58	358	186	68	254

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Table E-2: Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing NP Volumes	Project Trips	Existing WP Volumes	Existing NP Volumes	Project Trips	Existing WP Volumes
3 . Trumble Road & Driveway 2						
NBL	0	0	0	4	0	4
NBT	64	9	73	44	8	52
NBR	0	26	26	0	13	13
SBL	0	4	4	0	1	1
SBT	75	7	82	53	13	66
SBR	0	0	0	0	0	0
EBL	11	0	11	0	0	0
EBT	0	0	0	0	0	0
EBR	9	0	9	5	0	5
WBL	0	11	11	0	30	30
WBT	0	0	0	0	0	0
WBR	0	1	1	0	4	4
North Leg						
Approach	75	11	86	53	14	67
Departure	75	10	85	44	12	56
Total	150	21	171	97	26	123
South Leg						
Approach	64	35	99	48	21	69
Departure	84	18	102	58	43	101
Total	148	53	201	106	64	170
East Leg						
Approach	0	12	12	0	34	34
Departure	0	30	30	0	14	14
Total	0	42	42	0	48	48
West Leg						
Approach	20	0	20	5	0	5
Departure	0	0	0	4	0	4
Total	20	0	20	9	0	9
Total Approaches						
Approach	159	58	217	106	69	175
Departure	159	58	217	106	69	175
Total	318	116	434	212	138	350

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Table E-2: Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing NP Volumes	Project Trips	Existing WP Volumes	Existing NP Volumes	Project Trips	Existing WP Volumes
4 . Trumble Road & Illinois Avenue						
NBL	57	0	57	38	0	38
NBT	55	35	90	33	20	53
NBR	0	0	0	0	0	0
SBL	0	0	0	0	0	0
SBT	71	18	89	45	42	87
SBR	13	0	13	13	0	13
EBL	9	0	9	11	0	11
EBT	0	0	0	0	0	0
EBR	49	0	49	72	0	72
WBL	0	0	0	1	0	1
WBT	0	0	0	0	0	0
WBR	0	0	0	0	0	0
North Leg						
Approach	84	18	102	58	42	100
Departure	64	35	99	44	20	64
Total	148	53	201	102	62	164
South Leg						
Approach	112	35	147	71	20	91
Departure	120	18	138	118	42	160
Total	232	53	285	189	62	251
East Leg						
Approach	0	0	0	1	0	1
Departure	0	0	0	0	0	0
Total	0	0	0	1	0	1
West Leg						
Approach	58	0	58	83	0	83
Departure	70	0	70	51	0	51
Total	128	0	128	134	0	134
Total Approaches						
Approach	254	53	307	213	62	275
Departure	254	53	307	213	62	275
Total	508	106	614	426	124	550

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Table E-2: Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing NP Volumes	Project Trips	Existing WP Volumes	Existing NP Volumes	Project Trips	Existing WP Volumes
5 . Trumble Road & Ethanac Road						
NBL	77	0	77	75	0	75
NBT	15	6	21	5	2	7
NBR	32	0	32	44	0	44
SBL	23	1	24	20	4	24
SBT	15	2	17	8	6	14
SBR	90	15	105	103	32	135
EBL	76	26	102	63	18	81
EBT	553	0	553	705	0	705
EBR	28	0	28	29	0	29
WBL	37	0	37	25	0	25
WBT	536	0	536	388	0	388
WBR	19	4	23	12	1	13
North Leg						
Approach	128	18	146	131	42	173
Departure	110	36	146	80	21	101
Total	238	54	292	211	63	274
South Leg						
Approach	124	6	130	124	2	126
Departure	80	2	82	62	6	68
Total	204	8	212	186	8	194
East Leg						
Approach	592	4	596	425	1	426
Departure	608	1	609	769	4	773
Total	1,200	5	1,205	1,194	5	1,199
West Leg						
Approach	657	26	683	797	18	815
Departure	703	15	718	566	32	598
Total	1,360	41	1,401	1,363	50	1,413
Total Approaches						
Approach	1,501	54	1,555	1,477	63	1,540
Departure	1,501	54	1,555	1,477	63	1,540
Total	3,002	108	3,110	2,954	126	3,080

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Table E-2: Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing NP Volumes	Project Trips	Existing WP Volumes	Existing NP Volumes	Project Trips	Existing WP Volumes
6 . Watson Road and SR-74						
NBL	9	3	12	14	10	24
NBT	0	0	0	0	0	0
NBR	27	0	27	27	0	27
SBL	0	0	0	0	0	0
SBT	0	0	0	0	0	0
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	765	0	765	1,172	0	1,172
EBR	24	10	34	8	3	11
WBL	43	0	43	22	0	22
WBT	1,357	0	1,357	939	0	939
WBR	0	0	0	0	0	0
North Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
South Leg						
Approach	36	3	39	41	10	51
Departure	67	10	77	30	3	33
Total	103	13	116	71	13	84
East Leg						
Approach	1,400	0	1,400	961	0	961
Departure	792	0	792	1,199	0	1,199
Total	2,192	0	2,192	2,160	0	2,160
West Leg						
Approach	789	10	799	1,180	3	1,183
Departure	1,366	3	1,369	953	10	963
Total	2,155	13	2,168	2,133	13	2,146
Total Approaches						
Approach	2,225	13	2,238	2,182	13	2,195
Departure	2,225	13	2,238	2,182	13	2,195
Total	4,450	26	4,476	4,364	26	4,390

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Table E-3 - Opening Year (2026) Peak Hour Volume Summary

	AM Peak Hour					PM Peak Hour				
	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips
1 . Trumble Road & Watson Road										
NBL	54	2	56	0	56	24	1	25	0	25
NBT	0	0	0	0	0	0	0	0	0	0
NBR	21	1	22	3	25	16	0	16	10	26
SBL	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	1	0	1	0	1
SBR	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0
EBT	24	1	25	0	25	37	1	38	0	38
EBR	49	1	50	0	50	26	1	27	0	27
WBL	26	1	27	10	37	26	1	27	3	30
WBT	45	1	46	0	46	20	1	21	0	21
WBR	1	0	1	0	1	0	0	0	0	0
North Leg										
Approach	0	0	0	0	0	1	0	1	0	1
Departure	1	0	1	0	1	0	0	0	0	0
Total	1	0	1	0	1	1	0	1	0	1
South Leg										
Approach	75	3	78	3	81	40	1	41	10	51
Departure	75	2	77	10	87	53	2	55	3	58
Total	150	5	155	13	168	93	3	96	13	109
East Leg										
Approach	72	2	74	10	84	46	2	48	3	51
Departure	45	2	47	3	50	53	1	54	10	64
Total	117	4	121	13	134	99	3	102	13	115
West Leg										
Approach	73	2	75	0	75	63	2	65	0	65
Departure	99	3	102	0	102	44	2	46	0	46
Total	172	5	177	0	177	107	4	111	0	111
Total Approaches										
Approach	220	7	227	13	240	150	5	155	13	168
Departure	220	7	227	13	240	150	5	155	13	168
Total	440	14	454	26	480	300	10	310	26	336

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Table E-3 - Opening Year (2026) Peak Hour Volume Summary

	AM Peak Hour					PM Peak Hour				
	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips
2 Trumble Road & Driveway 1										
NBL	0	0	0	0	0	0	0	0	0	0
NBT	75	2	77	1	78	40	1	41	4	45
NBR	0	0	0	9	9	0	0	0	8	8
SBL	0	0	0	6	6	0	0	0	2	2
SBT	75	2	77	4	81	53	2	55	1	56
SBR	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0	0	0
WBL	0	0	0	7	7	0	0	0	13	13
WBT	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	2	2	0	0	0	6	6
North Leg										
Approach	75	2	77	10	87	53	2	55	3	58
Departure	75	2	77	3	80	40	1	41	10	51
Total	150	4	154	13	167	93	3	96	13	109
South Leg										
Approach	75	2	77	10	87	40	1	41	12	53
Departure	75	2	77	11	88	53	2	55	14	69
Total	150	4	154	21	175	93	3	96	26	122
East Leg										
Approach	0	0	0	9	9	0	0	0	19	19
Departure	0	0	0	15	15	0	0	0	10	10
Total	0	0	0	24	24	0	0	0	29	29
West Leg										
Approach	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Total Approaches										
Approach	150	4	154	29	183	93	3	96	34	130
Departure	150	4	154	29	183	93	3	96	34	130
Total	300	8	308	58	366	186	6	192	68	260

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Table E-3 - Opening Year (2026) Peak Hour Volume Summary

	AM Peak Hour					PM Peak Hour				
	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips
3 Trumble Road & Driveway 2										
NBL	0	0	0	0	0	4	0	4	0	4
NBT	64	2	66	9	75	44	1	45	8	53
NBR	0	0	0	26	26	0	0	0	13	13
SBL	0	0	0	4	4	0	0	0	1	1
SBT	75	2	77	7	84	53	2	55	13	68
SBR	0	0	0	0	0	0	0	0	0	0
EBL	11	0	11	0	11	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0
EBR	9	0	9	0	9	5	0	5	0	5
WBL	0	0	0	11	11	0	0	0	30	30
WBT	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	1	1	0	0	0	4	4
North Leg										
Approach	75	2	77	11	88	53	2	55	14	69
Departure	75	2	77	10	87	44	1	45	12	57
Total	150	4	154	21	175	97	3	100	26	126
South Leg										
Approach	64	2	66	35	101	48	1	49	21	70
Departure	84	2	86	18	104	58	2	60	43	103
Total	148	4	152	53	205	106	3	109	64	173
East Leg										
Approach	0	0	0	12	12	0	0	0	34	34
Departure	0	0	0	30	30	0	0	0	14	14
Total	0	0	0	42	42	0	0	0	48	48
West Leg										
Approach	20	0	20	0	20	5	0	5	0	5
Departure	0	0	0	0	0	4	0	4	0	4
Total	20	0	20	0	20	9	0	9	0	9
Total Approaches										
Approach	159	4	163	58	221	106	3	109	69	178
Departure	159	4	163	58	221	106	3	109	69	178
Total	318	8	326	116	442	212	6	218	138	356

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Table E-3 - Opening Year (2026) Peak Hour Volume Summary

	AM Peak Hour					PM Peak Hour				
	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips
4 Trumble Road & Illinois Avenue										
NBL	57	2	59	0	59	38	1	39	0	39
NBT	55	2	57	35	92	33	1	34	20	54
NBR	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0	0	0
SBT	71	2	73	18	91	45	1	46	42	88
SBR	13	0	13	0	13	13	0	13	0	13
EBL	9	0	9	0	9	11	0	11	0	11
EBT	0	0	0	0	0	0	0	0	0	0
EBR	49	1	50	0	50	72	2	74	0	74
WBL	0	0	0	0	0	1	0	1	0	1
WBT	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0	0	0
North Leg										
Approach	84	2	86	18	104	58	1	59	42	101
Departure	64	2	66	35	101	44	1	45	20	65
Total	148	4	152	53	205	102	2	104	62	166
South Leg										
Approach	112	4	116	35	151	71	2	73	20	93
Departure	120	3	123	18	141	118	3	121	42	163
Total	232	7	239	53	292	189	5	194	62	256
East Leg										
Approach	0	0	0	0	0	1	0	1	0	1
Departure	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	1
West Leg										
Approach	58	1	59	0	59	83	2	85	0	85
Departure	70	2	72	0	72	51	1	52	0	52
Total	128	3	131	0	131	134	3	137	0	137
Total Approaches										
Approach	254	7	261	53	314	213	5	218	62	280
Departure	254	7	261	53	314	213	5	218	62	280
Total	508	14	522	106	628	426	10	436	124	560

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Table E-3 - Opening Year (2026) Peak Hour Volume Summary

	AM Peak Hour					PM Peak Hour				
	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips
5 Trumble Road & Ethanac Road										
NBL	77	2	79	0	79	75	2	77	0	77
NBT	15	0	15	6	21	5	0	5	2	7
NBR	32	1	33	0	33	44	1	45	0	45
SBL	23	1	24	1	25	20	1	21	4	25
SBT	15	0	15	2	17	8	0	8	6	14
SBR	90	3	93	15	108	103	3	106	32	138
EBL	76	2	78	26	104	63	2	65	18	83
EBT	553	17	570	0	570	705	21	726	0	726
EBR	28	1	29	0	29	29	1	30	0	30
WBL	37	1	38	0	38	25	1	26	0	26
WBT	536	16	552	0	552	388	12	400	0	400
WBR	19	1	20	4	24	12	0	12	1	13
North Leg										
Approach	128	4	132	18	150	131	4	135	42	177
Departure	110	3	113	36	149	80	2	82	21	103
Total	238	7	245	54	299	211	6	217	63	280
South Leg										
Approach	124	3	127	6	133	124	3	127	2	129
Departure	80	2	82	2	84	62	2	64	6	70
Total	204	5	209	8	217	186	5	191	8	199
East Leg										
Approach	592	18	610	4	614	425	13	438	1	439
Departure	608	19	627	1	628	769	23	792	4	796
Total	1,200	37	1,237	5	1,242	1,194	36	1,230	5	1,235
West Leg										
Approach	657	20	677	26	703	797	24	821	18	839
Departure	703	21	724	15	739	566	17	583	32	615
Total	1,360	41	1,401	41	1,442	1,363	41	1,404	50	1,454
Total Approaches										
Approach	1,501	45	1,546	54	1,600	1,477	44	1,521	63	1,584
Departure	1,501	45	1,546	54	1,600	1,477	44	1,521	63	1,584
Total	3,002	90	3,092	108	3,200	2,954	88	3,042	126	3,168

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Table E-3 - Opening Year (2026) Peak Hour Volume Summary

	AM Peak Hour					PM Peak Hour				
	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips	Exist Volumes	Growth	OY Without Project Trips	Project Trips	OY With Project Trips
6 Watson Road and SR-74										
NBL	9	0	9	3	12	14	0	14	10	24
NBT	0	0	0	0	0	0	0	0	0	0
NBR	27	1	28	0	28	27	1	28	0	28
SBL	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0
EBT	765	23	788	0	788	1,172	35	1207	0	1,207
EBR	24	1	25	10	35	8	0	8	3	11
WBL	43	1	44	0	44	22	1	23	0	23
WBT	1,357	41	1398	0	1,398	939	28	967	0	967
WBR	0	0	0	0	0	0	0	0	0	0
North Leg										
Approach	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
South Leg										
Approach	36	1	37	3	40	41	1	42	10	52
Departure	67	2	69	10	79	30	1	31	3	34
Total	103	3	106	13	119	71	2	73	13	86
East Leg										
Approach	1,400	42	1,442	0	1,442	961	29	990	0	990
Departure	792	24	816	0	816	1,199	36	1,235	0	1,235
Total	2,192	66	2,258	0	2,258	2,160	65	2,225	0	2,225
West Leg										
Approach	789	24	813	10	823	1,180	35	1,215	3	1,218
Departure	1,366	41	1,407	3	1,410	953	28	981	10	991
Total	2,155	65	2,220	13	2,233	2,133	63	2,196	13	2,209
Total Approaches										
Approach	2,225	67	2,292	13	2,305	2,182	65	2,247	13	2,260
Departure	2,225	67	2,292	13	2,305	2,182	65	2,247	13	2,260
Total	4,450	134	4,584	26	4,610	4,364	130	4,494	26	4,520

Table E-4 - Opening Year (2026) Cumulative Peak Hour Volume Summary

	AM Peak Hour						PM Peak Hour					
	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips
1 . Trumble Road & Watson Road												
NBL	54	2	10	66	0	66	24	1	14	39	0	39
NBT	0	0	0	0	0	0	0	0	0	0	0	0
NBR	21	1	41	63	3	66	16	0	46	62	10	72
SBL	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	1	0	0	1	0	1
SBR	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0
EBT	24	1	0	25	0	25	37	1	0	38	0	38
EBR	49	1	12	62	0	62	26	1	14	41	0	41
WBL	26	1	43	70	10	80	26	1	46	73	3	76
WBT	45	1	0	46	0	46	20	1	0	21	0	21
WBR	1	0	0	1	0	1	0	0	0	0	0	0
North Leg												
Approach	0	0	0	0	0	0	1	0	0	1	0	1
Departure	1	0	0	1	0	1	0	0	0	0	0	0
Total	1	0	0	1	0	1	1	0	0	1	0	1
South Leg												
Approach	75	3	51	129	3	132	40	1	60	101	10	111
Departure	75	2	55	132	10	142	53	2	60	115	3	118
Total	150	5	106	261	13	274	93	3	120	216	13	229
East Leg												
Approach	72	2	43	117	10	127	46	2	46	94	3	97
Departure	45	2	41	88	3	91	53	1	46	100	10	110
Total	117	4	84	205	13	218	99	3	92	194	13	207
West Leg												
Approach	73	2	12	87	0	87	63	2	14	79	0	79
Departure	99	3	10	112	0	112	44	2	14	60	0	60
Total	172	5	22	199	0	199	107	4	28	139	0	139
Total Approaches												
Approach	220	7	106	333	13	346	150	5	120	275	13	288
Departure	220	7	106	333	13	346	150	5	120	275	13	288
Total	440	14	212	666	26	692	300	10	240	550	26	576

Table E-4 - Opening Year (2026) Cumulative Peak Hour Volume Summary

	AM Peak Hour						PM Peak Hour					
	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips
2 Trumble Road & Driveway 1												
NBL	0	0	0	0	0	0	0	0	0	0	0	0
NBT	75	2	51	128	1	129	40	1	60	101	4	105
NBR	0	0	0	0	9	9	0	0	0	0	8	8
SBL	0	0	0	0	6	6	0	0	0	0	2	2
SBT	75	2	54	131	4	135	53	2	60	115	1	116
SBR	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0	0	0	0	0
WBL	0	0	0	0	7	7	0	0	0	0	13	13
WBT	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	2	2	0	0	0	0	6	6
North Leg												
Approach	75	2	54	131	10	141	53	2	60	115	3	118
Departure	75	2	51	128	3	131	40	1	60	101	10	111
Total	150	4	105	259	13	272	93	3	120	216	13	229
South Leg												
Approach	75	2	51	128	10	138	40	1	60	101	12	113
Departure	75	2	54	131	11	142	53	2	60	115	14	129
Total	150	4	105	259	21	280	93	3	120	216	26	242
East Leg												
Approach	0	0	0	0	9	9	0	0	0	0	19	19
Departure	0	0	0	0	15	15	0	0	0	0	10	10
Total	0	0	0	0	24	24	0	0	0	0	29	29
West Leg												
Approach	0	0	0	0	0	0	0	0	0	0	0	0
Departure	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
Total Approaches												
Approach	150	4	105	259	29	288	93	3	120	216	34	250
Departure	150	4	105	259	29	288	93	3	120	216	34	250
Total	300	8	210	518	58	576	186	6	240	432	68	500

Table E-4 - Opening Year (2026) Cumulative Peak Hour Volume Summary

	AM Peak Hour						PM Peak Hour					
	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips
3 Trumble Road & Driveway 2												
NBL	0	0	0	0	0	0	4	0	0	4	0	4
NBT	64	2	51	117	9	126	44	1	60	105	8	113
NBR	0	0	0	0	26	26	0	0	0	0	13	13
SBL	0	0	0	0	4	4	0	0	0	0	1	1
SBT	75	2	54	131	7	138	53	2	60	115	13	128
SBR	0	0	0	0	0	0	0	0	0	0	0	0
EBL	11	0	0	11	0	11	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0	0	0
EBR	9	0	0	9	0	9	5	0	0	5	0	5
WBL	0	0	0	0	11	11	0	0	0	0	30	30
WBT	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	1	1	0	0	0	0	4	4
North Leg												
Approach	75	2	54	131	11	142	53	2	60	115	14	129
Departure	75	2	51	128	10	138	44	1	60	105	12	117
Total	150	4	105	259	21	280	97	3	120	220	26	246
South Leg												
Approach	64	2	51	117	35	152	48	1	60	109	21	130
Departure	84	2	54	140	18	158	58	2	60	120	43	163
Total	148	4	105	257	53	310	106	3	120	229	64	293
East Leg												
Approach	0	0	0	0	12	12	0	0	0	0	34	34
Departure	0	0	0	0	30	30	0	0	0	0	14	14
Total	0	0	0	0	42	42	0	0	0	0	48	48
West Leg												
Approach	20	0	0	20	0	20	5	0	0	5	0	5
Departure	0	0	0	0	0	0	4	0	0	4	0	4
Total	20	0	0	20	0	20	9	0	0	9	0	9
Total Approaches												
Approach	159	4	105	268	58	326	106	3	120	229	69	298
Departure	159	4	105	268	58	326	106	3	120	229	69	298
Total	318	8	210	536	116	652	212	6	240	458	138	596

Table E-4 - Opening Year (2026) Cumulative Peak Hour Volume Summary

	AM Peak Hour						PM Peak Hour					
	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips
4 Trumble Road & Illinois Avenue												
NBL	57	2	12	71	0	71	38	1	21	60	0	60
NBT	55	2	51	108	35	143	33	1	60	94	20	114
NBR	0	0	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0	0	0	0	0
SBT	71	2	54	127	18	145	45	1	60	106	42	148
SBR	13	0	0	13	0	13	13	0	0	13	0	13
EBL	9	0	0	9	0	9	11	0	0	11	0	11
EBT	0	0	0	0	0	0	0	0	0	0	0	0
EBR	49	1	14	64	0	64	72	2	21	95	0	95
WBL	0	0	0	0	0	0	1	0	0	1	0	1
WBT	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0	0	0	0	0
North Leg												
Approach	84	2	54	140	18	158	58	1	60	119	42	161
Departure	64	2	51	117	35	152	44	1	60	105	20	125
Total	148	4	105	257	53	310	102	2	120	224	62	286
South Leg												
Approach	112	4	63	179	35	214	71	2	81	154	20	174
Departure	120	3	68	191	18	209	118	3	81	202	42	244
Total	232	7	131	370	53	423	189	5	162	356	62	418
East Leg												
Approach	0	0	0	0	0	0	1	0	0	1	0	1
Departure	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	1
West Leg												
Approach	58	1	14	73	0	73	83	2	21	106	0	106
Departure	70	2	12	84	0	84	51	1	21	73	0	73
Total	128	3	26	157	0	157	134	3	42	179	0	179
Total Approaches												
Approach	254	7	131	392	53	445	213	5	162	380	62	442
Departure	254	7	131	392	53	445	213	5	162	380	62	442
Total	508	14	262	784	106	890	426	10	324	760	124	884

Table E-4 - Opening Year (2026) Cumulative Peak Hour Volume Summary

	AM Peak Hour						PM Peak Hour					
	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips
5 Trumble Road & Ethanac Road												
NBL	77	2	113	192	0	192	75	2	265	342	0	342
NBT	15	0	52	67	6	73	5	0	81	86	2	88
NBR	32	1	39	72	0	72	44	1	209	254	0	254
SBL	23	1	54	78	1	79	20	1	63	84	4	88
SBT	15	0	68	83	2	85	8	0	90	98	6	104
SBR	90	3	91	184	15	199	103	3	81	187	32	219
EBL	76	2	89	167	26	193	63	2	79	144	18	162
EBT	553	17	555	1125	0	1,125	705	21	392	1118	0	1,118
EBR	28	1	133	162	0	162	29	1	244	274	0	274
WBL	37	1	63	101	0	101	25	1	196	222	0	222
WBT	536	16	416	968	0	968	388	12	558	958	0	958
WBR	19	1	60	80	4	84	12	0	59	71	1	72
North Leg												
Approach	128	4	213	345	18	363	131	4	234	369	42	411
Departure	110	3	201	314	36	350	80	2	219	301	21	322
Total	238	7	414	659	54	713	211	6	453	670	63	733
South Leg												
Approach	124	3	204	331	6	337	124	3	555	682	2	684
Departure	80	2	264	346	2	348	62	2	530	594	6	600
Total	204	5	468	677	8	685	186	5	1,085	1,276	8	1,284
East Leg												
Approach	592	18	539	1,149	4	1,153	425	13	813	1,251	1	1,252
Departure	608	19	648	1,275	1	1,276	769	23	664	1,456	4	1,460
Total	1,200	37	1,187	2,424	5	2,429	1,194	36	1,477	2,707	5	2,712
West Leg												
Approach	657	20	777	1,454	26	1,480	797	24	715	1,536	18	1,554
Departure	703	21	620	1,344	15	1,359	566	17	904	1,487	32	1,519
Total	1,360	41	1,397	2,798	41	2,839	1,363	41	1,619	3,023	50	3,073
Total Approaches												
Approach	1,501	45	1,733	3,279	54	3,333	1,477	44	2,317	3,838	63	3,901
Departure	1,501	45	1,733	3,279	54	3,333	1,477	44	2,317	3,838	63	3,901
Total	3,002	90	3,466	6,558	108	6,666	2,954	88	4,634	7,676	126	7,802

Table E-4 - Opening Year (2026) Cumulative Peak Hour Volume Summary

	AM Peak Hour						PM Peak Hour					
	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips	Exist Volumes	Growth	Cumulative Project Trips	OY Cumul Without Project Trips	Project Trips	OY Cumul With Project Trips
6 Watson Road and SR-74												
NBL	9	0	20	29	3	32	14	0	23	37	10	47
NBT	0	0	0	0	0	0	0	0	0	0	0	0
NBR	27	1	20	48	0	48	27	1	23	51	0	51
SBL	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0
EBT	765	23	120	908	0	908	1,172	35	130	1337	0	1,337
EBR	24	1	21	46	10	56	8	0	22	30	3	33
WBL	43	1	21	65	0	65	22	1	22	45	0	45
WBT	1,357	41	126	1524	0	1,524	939	28	138	1105	0	1,105
WBR	0	0	0	0	0	0	0	0	0	0	0	0
North Leg												
Approach	0	0	0	0	0	0	0	0	0	0	0	0
Departure	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
South Leg												
Approach	36	1	40	77	3	80	41	1	46	88	10	98
Departure	67	2	42	111	10	121	30	1	44	75	3	78
Total	103	3	82	188	13	201	71	2	90	163	13	176
East Leg												
Approach	1,400	42	147	1,589	0	1,589	961	29	160	1,150	0	1,150
Departure	792	24	140	956	0	956	1,199	36	153	1,388	0	1,388
Total	2,192	66	287	2,545	0	2,545	2,160	65	313	2,538	0	2,538
West Leg												
Approach	789	24	141	954	10	964	1,180	35	152	1,367	3	1,370
Departure	1,366	41	146	1,553	3	1,556	953	28	161	1,142	10	1,152
Total	2,155	65	287	2,507	13	2,520	2,133	63	313	2,509	13	2,522
Total Approaches												
Approach	2,225	67	328	2,620	13	2,633	2,182	65	358	2,605	13	2,618
Departure	2,225	67	328	2,620	13	2,633	2,182	65	358	2,605	13	2,618
Total	4,450	134	656	5,240	26	5,266	4,364	130	716	5,210	26	5,236

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Table E-5: Horizon Year (2050) With Project Peak Hour Volume Summary

	2050 NP	Project Trips	2050 With Project	2050 NP	Project Trips	2050 With Project
1 . Trumble Road & Watson Road						
NBL	69	0	69	41	0	41
NBT	0	0	0	0	0	0
NBR	266	3	269	182	10	192
SBL	0	0	0	0	0	0
SBT	0	0	0	1	0	1
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	26	0	26	40	0	40
EBR	65	0	65	43	0	43
WBL	254	10	264	237	3	240
WBT	48	0	48	22	0	22
WBR	1	0	1	0	0	0
North Leg						
Approach	0	0	0	1	0	1
Departure	1	0	1	0	0	0
Total	1	0	1	1	0	1
South Leg						
Approach	335	3	338	223	10	233
Departure	319	10	329	281	3	284
Total	654	13	667	504	13	517
East Leg						
Approach	303	10	313	259	3	262
Departure	292	3	295	222	10	232
Total	596	13	609	481	13	494
West Leg						
Approach	91	0	91	83	0	83
Departure	118	0	118	63	0	63
Total	209	0	209	146	0	146
Total Approaches						
Approach	730	13	743	566	13	579
Departure	730	13	743	566	13	579
Total	1,460	26	1,486	1,132	26	1,158

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Table E-5: Horizon Year (2050) With Project Peak Hour Volume Summary

	2050 NP	Project Trips	2050 With Project	2050 NP	Project Trips	2050 With Project
2 . Trumble Road & Driveway 1						
NBL	0	0	0	0	0	0
NBT	335	1	336	223	4	227
NBR	0	9	9	0	8	8
SBL	0	6	6	0	2	2
SBT	319	4	323	281	1	282
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	0	0	0	0	0	0
EBR	0	0	0	0	0	0
WBL	0	7	7	0	13	13
WBT	0	0	0	0	0	0
WBR	0	2	2	0	6	6
North Leg						
Approach	319	10	329	281	3	284
Departure	335	3	338	223	10	233
Total	654	13	667	504	13	517
South Leg						
Approach	335	10	345	223	12	235
Departure	319	11	330	281	14	295
Total	654	21	675	504	26	530
East Leg						
Approach	0	9	9	0	19	19
Departure	0	15	15	0	10	10
Total	0	24	24	0	29	29
West Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
Total Approaches						
Approach	654	29	683	504	34	538
Departure	654	29	683	504	34	538
Total	1,309	58	1,367	1,008	68	1,076

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Table E-5: Horizon Year (2050) With Project Peak Hour Volume Summary

	2050 NP	Project Trips	2050 With Project	2050 NP	Project Trips	2050 With Project
3 . Trumble Road & Driveway 2						
NBL	0	0	0	4	0	4
NBT	292	9	301	198	8	206
NBR	0	26	26	0	13	13
SBL	0	4	4	0	1	1
SBT	288	7	295	268	13	281
SBR	0	0	0	0	0	0
EBL	12	0	12	0	0	0
EBT	0	0	0	0	0	0
EBR	9	0	9	5	0	5
WBL	0	11	11	0	30	30
WBT	0	0	0	0	0	0
WBR	0	1	1	0	4	4
North Leg						
Approach	288	11	299	268	14	282
Departure	304	10	314	198	12	210
Total	592	21	613	466	26	492
South Leg						
Approach	292	35	327	202	21	223
Departure	297	18	315	273	43	316
Total	589	53	642	475	64	539
East Leg						
Approach	0	12	12	0	34	34
Departure	0	30	30	0	14	14
Total	0	42	42	0	48	48
West Leg						
Approach	21	0	21	5	0	5
Departure	0	0	0	4	0	4
Total	21	0	21	9	0	9
Total Approaches						
Approach	601	58	659	475	69	544
Departure	601	58	659	475	69	544
Total	1,202	116	1,318	951	138	1,089

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Table E-5: Horizon Year (2050) With Project Peak Hour Volume Summary

	2050 NP	Project Trips	2050 With Project	2050 NP	Project Trips	2050 With Project
4 . Trumble Road & Illinois Avenue						
NBL	75	0	75	63	0	63
NBT	281	35	316	183	20	203
NBR	0	0	0	0	0	0
SBL	0	0	0	0	0	0
SBT	275	18	293	257	42	299
SBR	14	0	14	14	0	14
EBL	11	0	11	15	0	15
EBT	0	0	0	0	0	0
EBR	67	0	67	100	0	100
WBL	0	0	0	1	0	1
WBT	0	0	0	0	0	0
WBR	0	0	0	0	0	0
North Leg						
Approach	289	18	307	271	42	313
Departure	292	35	327	198	20	218
Total	581	53	634	469	62	531
South Leg						
Approach	356	35	391	246	20	266
Departure	342	18	360	358	42	400
Total	698	53	751	604	62	666
East Leg						
Approach	0	0	0	1	0	1
Departure	0	0	0	0	0	0
Total	0	0	0	1	0	1
West Leg						
Approach	78	0	78	115	0	115
Departure	88	0	88	77	0	77
Total	166	0	166	191	0	191
Total Approaches						
Approach	722	53	775	632	62	694
Departure	722	53	775	632	62	694
Total	1,445	106	1,551	1,265	124	1,389

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Table E-5: Horizon Year (2050) With Project Peak Hour Volume Summary

	2050 NP	Project Trips	2050 With Project	2050 NP	Project Trips	2050 With Project
5 . Trumble Road & Ethanac Road						
NBL	202	0	202	359	0	359
NBT	70	6	76	90	2	92
NBR	76	0	76	267	0	267
SBL	82	1	83	88	4	92
SBT	87	2	89	103	6	109
SBR	193	15	208	196	32	228
EBL	175	26	201	151	18	169
EBT	1,181	0	1,181	1,174	0	1,174
EBR	170	0	170	288	0	288
WBL	106	0	106	233	0	233
WBT	1,016	0	1,016	1,006	0	1,006
WBR	84	4	88	75	1	76
North Leg						
Approach	362	18	380	387	42	429
Departure	330	36	366	316	21	337
Total	692	54	746	704	63	767
South Leg						
Approach	348	6	354	716	2	718
Departure	363	2	365	624	6	630
Total	711	8	719	1,340	8	1,348
East Leg						
Approach	1,206	4	1,210	1,314	1	1,315
Departure	1,339	1	1,340	1,529	4	1,533
Total	2,545	5	2,550	2,842	5	2,847
West Leg						
Approach	1,527	26	1,553	1,613	18	1,631
Departure	1,411	15	1,426	1,561	32	1,593
Total	2,938	41	2,979	3,174	50	3,224
Total Approaches						
Approach	3,443	54	3,497	4,030	63	4,093
Departure	3,443	54	3,497	4,030	63	4,093
Total	6,886	108	6,994	8,060	126	8,186

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Table E-5: Horizon Year (2050) With Project Peak Hour Volume Summary

	2050 NP	Project Trips	2050 With Project	2050 NP	Project Trips	2050 With Project
6 . Watson Road and SR-74						
NBL	56	3	59	65	10	75
NBT	0	0	0	0	0	0
NBR	233	0	233	161	0	161
SBL	0	0	0	0	0	0
SBT	0	0	0	0	0	0
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	1,317	0	1,317	1,679	0	1,679
EBR	108	10	118	45	3	48
WBL	209	0	209	192	0	192
WBT	1,734	0	1,734	1,419	0	1,419
WBR	0	0	0	0	0	0
North Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
South Leg						
Approach	289	3	292	226	10	236
Departure	317	10	327	237	3	240
Total	606	13	619	463	13	476
East Leg						
Approach	1,943	0	1,943	1,611	0	1,611
Departure	1,550	0	1,550	1,840	0	1,840
Total	3,493	0	3,493	3,451	0	3,451
West Leg						
Approach	1,425	10	1,435	1,724	3	1,727
Departure	1,790	3	1,793	1,484	10	1,494
Total	3,215	13	3,228	3,208	13	3,221
Total Approaches						
Approach	3,657	13	3,670	3,561	13	3,574
Departure	3,657	13	3,670	3,561	13	3,574
Total	7,314	26	7,340	7,122	26	7,148

APPENDIX F:
Level of Service Worksheets

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	24	49	26	45	1	54	0	21	0	0	0
Future Vol, veh/h	0	24	49	26	45	1	54	0	21	0	0	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	24	50	27	46	1	55	0	21	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	47	0	0	74	0	0	148	149	49	124	174	46
Stage 1	-	-	-	-	-	-	49	49	-	99	99	-
Stage 2	-	-	-	-	-	-	99	100	-	24	74	-
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	1561	-	-	1525	-	-	820	742	1019	850	719	1023
Stage 1	-	-	-	-	-	-	964	854	-	907	813	-
Stage 2	-	-	-	-	-	-	907	812	-	993	833	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1561	-	-	1525	-	-	805	729	1019	818	706	1023
Mov Cap-2 Maneuver	-	-	-	-	-	-	805	729	-	818	706	-
Stage 1	-	-	-	-	-	-	964	854	-	891	798	-
Stage 2	-	-	-	-	-	-	891	798	-	972	833	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	2.67	9.62	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	855	1561	-	-	647	-	-	-
HCM Lane V/C Ratio	0.089	-	-	-	0.017	-	-	-
HCM Ctrl Dly (s/v)	9.6	0	-	-	7.4	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	9	0	0	0	0	64	0	0	75	0
Future Vol, veh/h	11	0	9	0	0	0	0	64	0	0	75	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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
Mvmt Flow	12	0	10	0	0	0	0	70	0	0	82	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	151	151	82	151	151	70	82	0	0	70	0	0
Stage 1	82	82	-	70	70	-	-	-	-	-	-	-
Stage 2	70	70	-	82	82	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	816	741	978	816	741	993	1516	-	-	1531	-	-
Stage 1	927	827	-	940	837	-	-	-	-	-	-	-
Stage 2	940	837	-	927	827	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	816	741	978	808	741	993	1516	-	-	1531	-	-
Mov Cap-2 Maneuver	849	761	-	843	761	-	-	-	-	-	-	-
Stage 1	927	827	-	940	837	-	-	-	-	-	-	-
Stage 2	940	837	-	918	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.09	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1516	-	-	902	-	1531	-	-
HCM Lane V/C Ratio	-	-	-	0.024	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	9.1	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	49	0	0	0	57	55	0	0	71	13
Future Vol, veh/h	9	0	49	0	0	0	57	55	0	0	71	13
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	52	0	0	0	61	59	0	0	76	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	262	262	82	255	269	59	89	0	0	59	0	0
Stage 1	82	82	-	180	180	-	-	-	-	-	-	-
Stage 2	180	180	-	76	89	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	691	643	977	698	637	1007	1506	-	-	1545	-	-
Stage 1	926	826	-	822	751	-	-	-	-	-	-	-
Stage 2	822	751	-	934	821	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	663	617	977	634	611	1007	1506	-	-	1545	-	-
Mov Cap-2 Maneuver	733	670	-	709	659	-	-	-	-	-	-	-
Stage 1	926	826	-	789	720	-	-	-	-	-	-	-
Stage 2	789	720	-	884	821	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.06	0	3.81	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1506	-	-	733	977	-	1545	-	-
HCM Lane V/C Ratio	0.04	-	-	0.013	0.053	-	-	-	-
HCM Ctrl Dly (s/v)	7.5	-	-	10	8.9	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.2	-	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 01 Existing AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	553	28	37	536	19	77	15	32	23	15	90
Future Volume (veh/h)	76	553	28	37	536	19	77	15	32	23	15	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	628	32	42	609	22	88	17	36	26	17	102
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	798	676	108	721	26	154	185	391	90	72	430
Arrive On Green	0.09	0.43	0.43	0.06	0.40	0.40	0.09	0.35	0.35	0.05	0.31	0.31
Sat Flow, veh/h	1781	1870	1585	1781	1794	65	1781	535	1132	1781	231	1389
Grp Volume(v), veh/h	86	628	32	42	0	631	88	0	53	26	0	119
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1859	1781	0	1667	1781	0	1620
Q Serve(g_s), s	4.0	24.7	1.0	1.9	0.0	26.2	4.1	0.0	1.8	1.2	0.0	4.7
Cycle Q Clear(g_c), s	4.0	24.7	1.0	1.9	0.0	26.2	4.1	0.0	1.8	1.2	0.0	4.7
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.68	1.00		0.86
Lane Grp Cap(c), veh/h	152	798	676	108	0	747	154	0	576	90	0	502
V/C Ratio(X)	0.57	0.79	0.05	0.39	0.00	0.84	0.57	0.00	0.09	0.29	0.00	0.24
Avail Cap(c_a), veh/h	344	1435	1216	156	0	1230	282	0	576	156	0	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	21.1	14.3	38.6	0.0	23.1	37.5	0.0	18.9	39.1	0.0	22.0
Incr Delay (d2), s/veh	3.3	1.8	0.0	2.3	0.0	3.0	3.3	0.0	0.3	1.8	0.0	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	9.9	0.3	0.9	0.0	10.8	1.9	0.0	0.7	0.5	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.8	22.9	14.4	40.9	0.0	26.1	40.8	0.0	19.2	40.8	0.0	23.1
LnGrp LOS	D	C	B	D		C	D		B	D		C
Approach Vol, veh/h		746			673			141			145	
Approach Delay, s/veh		24.6			27.0			32.7			26.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	32.0	7.7	38.9	9.9	28.9	9.8	36.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	27.5	5.5	63.5	11.5	21.5	14.5	54.5
Max Q Clear Time (g_c+I1), s	3.2	3.8	3.9	26.7	6.1	6.7	6.0	28.2
Green Ext Time (p_c), s	0.0	0.2	0.0	4.3	0.1	0.4	0.1	4.1

Intersection Summary	
HCM 7th Control Delay, s/veh	26.4
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	765	24	43	1357	9	27
Future Vol, veh/h	765	24	43	1357	9	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	860	27	48	1525	10	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	887	0	1732	443
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	859	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	759	-	79	562
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	375	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	759	-	74	562
Mov Cap-2 Maneuver	-	-	-	-	251	-
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	351	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.31	14.26
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	759	-
HCM Lane V/C Ratio	0.094	-	-	0.064	-
HCM Ctrl Dly (s/v)	14.3	-	-	10.1	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	37	26	26	20	0	24	0	16	0	1	0
Future Vol, veh/h	0	37	26	26	20	0	24	0	16	0	1	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	56	39	39	30	0	36	0	24	0	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	30	0	0	95	0	0	186	185	76	165	205	30
Stage 1	-	-	-	-	-	-	76	76	-	109	109	-
Stage 2	-	-	-	-	-	-	110	109	-	56	95	-
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	1582	-	-	1498	-	-	775	709	985	799	692	1044
Stage 1	-	-	-	-	-	-	933	832	-	896	805	-
Stage 2	-	-	-	-	-	-	895	805	-	956	816	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1582	-	-	1498	-	-	753	690	985	759	673	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	753	690	-	759	673	-
Stage 1	-	-	-	-	-	-	933	832	-	872	784	-
Stage 2	-	-	-	-	-	-	870	784	-	932	816	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	4.22	9.67	10.36
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	831	1582	-	-	1017	-	-	673
HCM Lane V/C Ratio	0.073	-	-	-	0.026	-	-	0.002
HCM Ctrl Dly (s/v)	9.7	0	-	-	7.5	0	-	10.4
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	0	0	5	0	0	0	4	44	0	0	53	0
Future Vol, veh/h	0	0	5	0	0	0	4	44	0	0	53	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	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
Mvmt Flow	0	0	5	0	0	0	4	48	0	0	58	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	114	114	58	114	114	48	58	0	0	48	0	0
Stage 1	58	58	-	57	57	-	-	-	-	-	-	-
Stage 2	57	57	-	58	58	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	863	776	1009	863	776	1021	1547	-	-	1559	-	-
Stage 1	954	847	-	955	848	-	-	-	-	-	-	-
Stage 2	955	848	-	954	847	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	860	774	1009	856	774	1021	1547	-	-	1559	-	-
Mov Cap-2 Maneuver	876	780	-	871	779	-	-	-	-	-	-	-
Stage 1	954	847	-	953	845	-	-	-	-	-	-	-
Stage 2	953	845	-	949	847	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	8.59	0	0.61	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1547	-	-	1009	-	1559	-	-
HCM Lane V/C Ratio	0.003	-	-	0.005	-	-	-	-
HCM Ctrl Dly (s/v)	7.3	-	-	8.6	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

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	11	0	72	1	0	0	38	33	0	0	45	13
Future Vol, veh/h	11	0	72	1	0	0	38	33	0	0	45	13
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	101	1	0	0	54	46	0	0	63	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	226	226	73	217	235	46	82	0	0	46	0	0
Stage 1	73	73	-	154	154	-	-	-	-	-	-	-
Stage 2	154	154	-	63	82	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	729	673	990	739	665	1023	1516	-	-	1561	-	-
Stage 1	937	835	-	849	770	-	-	-	-	-	-	-
Stage 2	849	770	-	948	827	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	704	649	990	640	642	1023	1516	-	-	1561	-	-
Mov Cap-2 Maneuver	762	692	-	713	681	-	-	-	-	-	-	-
Stage 1	937	835	-	819	743	-	-	-	-	-	-	-
Stage 2	819	743	-	850	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.16	10.06	3.99	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1516	-	-	762	990	713	1561	-	-
HCM Lane V/C Ratio	0.035	-	-	0.02	0.102	0.002	-	-	-
HCM Ctrl Dly (s/v)	7.5	-	-	9.8	9.1	10.1	0	-	-
HCM Lane LOS	A	-	-	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.3	0	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 02 Existing PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	705	29	25	388	12	75	5	44	20	8	103
Future Volume (veh/h)	63	705	29	25	388	12	75	5	44	20	8	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	775	32	27	426	13	82	5	48	22	9	113
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	899	762	90	829	25	146	46	446	83	32	403
Arrive On Green	0.07	0.48	0.48	0.05	0.46	0.46	0.08	0.31	0.31	0.05	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1805	55	1781	152	1456	1781	118	1485
Grp Volume(v), veh/h	69	775	32	27	0	439	82	0	53	22	0	122
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1860	1781	0	1608	1781	0	1603
Q Serve(g_s), s	3.2	31.8	0.9	1.3	0.0	14.5	3.8	0.0	2.0	1.0	0.0	5.2
Cycle Q Clear(g_c), s	3.2	31.8	0.9	1.3	0.0	14.5	3.8	0.0	2.0	1.0	0.0	5.2
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.91	1.00		0.93
Lane Grp Cap(c), veh/h	129	899	762	90	0	854	146	0	492	83	0	435
V/C Ratio(X)	0.53	0.86	0.04	0.30	0.00	0.51	0.56	0.00	0.11	0.26	0.00	0.28
Avail Cap(c_a), veh/h	257	1480	1255	154	0	1365	257	0	492	154	0	435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.7	19.9	11.9	39.6	0.0	16.6	38.3	0.0	21.5	39.8	0.0	24.9
Incr Delay (d2), s/veh	3.4	3.0	0.0	1.8	0.0	0.5	3.4	0.0	0.4	1.7	0.0	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.6	0.3	0.6	0.0	5.5	1.8	0.0	0.8	0.5	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.1	22.9	11.9	41.4	0.0	17.1	41.6	0.0	22.0	41.5	0.0	26.5
LnGrp LOS	D	C	B	D		B	D		C	D		C
Approach Vol, veh/h		876			466			135			144	
Approach Delay, s/veh		24.0			18.5			33.9			28.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	29.0	6.9	44.1	9.6	26.0	8.8	42.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	24.5	5.5	66.5	10.5	19.5	10.5	61.5
Max Q Clear Time (g_c+I1), s	3.0	4.0	3.3	33.8	5.8	7.2	5.2	16.5
Green Ext Time (p_c), s	0.0	0.2	0.0	5.8	0.1	0.4	0.0	2.7

Intersection Summary	
HCM 7th Control Delay, s/veh	23.7
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1172	8	22	939	14	27
Future Vol, veh/h	1172	8	22	939	14	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1234	8	23	988	15	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1242	0	1778	621
Stage 1	-	-	-	-	1238	-
Stage 2	-	-	-	-	541	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	556	-	74	430
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	548	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	556	-	70	430
Mov Cap-2 Maneuver	-	-	-	-	211	-
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	525	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.27	18.13
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	317	-	-	556	-
HCM Lane V/C Ratio	0.136	-	-	0.042	-
HCM Ctrl Dly (s/v)	18.1	-	-	11.8	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	24	49	36	45	1	54	0	24	0	0	0
Future Vol, veh/h	0	24	49	36	45	1	54	0	24	0	0	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	24	50	37	46	1	55	0	24	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	47	0	0	74	0	0	169	170	49	144	194	46
Stage 1	-	-	-	-	-	-	49	49	-	120	120	-
Stage 2	-	-	-	-	-	-	119	120	-	24	74	-
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	1561	-	-	1525	-	-	795	723	1019	825	701	1023
Stage 1	-	-	-	-	-	-	964	854	-	884	796	-
Stage 2	-	-	-	-	-	-	885	796	-	993	833	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1561	-	-	1525	-	-	775	705	1019	785	684	1023
Mov Cap-2 Maneuver	-	-	-	-	-	-	775	705	-	785	684	-
Stage 1	-	-	-	-	-	-	964	854	-	863	777	-
Stage 2	-	-	-	-	-	-	863	776	-	969	833	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	3.26	9.75	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	837	1561	-	-	787	-	-	-
HCM Lane V/C Ratio	0.095	-	-	-	0.024	-	-	-
HCM Ctrl Dly (s/v)	9.8	0	-	-	7.4	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	2	76	9	6	79
Future Vol, veh/h	7	2	76	9	6	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	2	80	9	6	83

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	181	85	0	0	89	0
Stage 1	85	-	-	-	-	-
Stage 2	96	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	809	974	-	-	1506	-
Stage 1	939	-	-	-	-	-
Stage 2	928	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	806	974	-	-	1506	-
Mov Cap-2 Maneuver	793	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	924	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.4	0	0.52
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	827	1506	-
HCM Lane V/C Ratio	-	-	0.011	0.004	-
HCM Ctrl Dly (s/v)	-	-	9.4	7.4	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Traffic Vol, veh/h	11	0	9	11	0	1	0	73	26	4	82	0
Future Vol, veh/h	11	0	9	11	0	1	0	73	26	4	82	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	9	12	0	1	0	77	27	4	86	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	172	199	86	185	185	91	86	0	0	104	0	0
Stage 1	95	95	-	91	91	-	-	-	-	-	-	-
Stage 2	77	104	-	95	95	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	792	697	972	776	709	967	1510	-	-	1487	-	-
Stage 1	912	817	-	917	820	-	-	-	-	-	-	-
Stage 2	932	809	-	912	817	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	789	695	972	766	707	967	1510	-	-	1487	-	-
Mov Cap-2 Maneuver	830	732	-	817	741	-	-	-	-	-	-	-
Stage 1	909	814	-	917	820	-	-	-	-	-	-	-
Stage 2	931	809	-	901	814	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.15	9.42	0	0.35
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1510	-	-	888	828	1487	-	-
HCM Lane V/C Ratio	-	-	-	0.024	0.015	0.003	-	-
HCM Ctrl Dly (s/v)	0	-	-	9.2	9.4	7.4	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

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	9	0	49	0	0	0	57	90	0	0	89	13
Future Vol, veh/h	9	0	49	0	0	0	57	90	0	0	89	13
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	52	0	0	0	61	96	0	0	95	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	319	319	102	312	326	96	109	0	0	96	0	0
Stage 1	102	102	-	217	217	-	-	-	-	-	-	-
Stage 2	217	217	-	95	109	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	634	598	954	641	593	961	1482	-	-	1498	-	-
Stage 1	904	811	-	785	723	-	-	-	-	-	-	-
Stage 2	785	723	-	912	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	608	573	954	581	568	961	1482	-	-	1498	-	-
Mov Cap-2 Maneuver	696	642	-	673	631	-	-	-	-	-	-	-
Stage 1	904	811	-	753	694	-	-	-	-	-	-	-
Stage 2	753	694	-	862	806	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.19	0	2.92	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1482	-	-	696	954	-	1498	-	-
HCM Lane V/C Ratio	0.041	-	-	0.014	0.055	-	-	-	-
HCM Ctrl Dly (s/v)	7.5	-	-	10.2	9	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.2	-	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 03 Existing Plus Prj AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	553	28	37	536	23	77	21	32	24	17	105
Future Volume (veh/h)	102	553	28	37	536	23	77	21	32	24	17	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	628	32	42	609	26	88	24	36	27	19	119
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	835	708	105	715	31	152	224	336	89	66	414
Arrive On Green	0.10	0.45	0.45	0.06	0.40	0.40	0.09	0.33	0.33	0.05	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1781	76	1781	675	1013	1781	223	1396
Grp Volume(v), veh/h	116	628	32	42	0	635	88	0	60	27	0	138
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1857	1781	0	1688	1781	0	1619
Q Serve(g_s), s	5.5	24.8	1.0	2.0	0.0	27.6	4.2	0.0	2.2	1.3	0.0	5.8
Cycle Q Clear(g_c), s	5.5	24.8	1.0	2.0	0.0	27.6	4.2	0.0	2.2	1.3	0.0	5.8
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.60	1.00		0.86
Lane Grp Cap(c), veh/h	185	835	708	105	0	746	152	0	560	89	0	480
V/C Ratio(X)	0.63	0.75	0.05	0.40	0.00	0.85	0.58	0.00	0.11	0.30	0.00	0.29
Avail Cap(c_a), veh/h	331	1379	1169	150	0	1181	271	0	560	150	0	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	20.5	13.9	40.3	0.0	24.2	39.1	0.0	20.6	40.7	0.0	24.0
Incr Delay (d2), s/veh	3.4	1.4	0.0	2.5	0.0	3.6	3.5	0.0	0.4	1.9	0.0	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	9.9	0.3	0.9	0.0	11.5	2.0	0.0	0.9	0.6	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.6	21.9	13.9	42.8	0.0	27.8	42.6	0.0	20.9	42.6	0.0	25.5
LnGrp LOS	D	C	B	D		C	D		C	D		C
Approach Vol, veh/h		776			677			148			165	
Approach Delay, s/veh		24.5			28.7			33.8			28.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	32.0	7.7	42.2	10.1	28.9	11.7	38.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	27.5	5.5	63.5	11.5	21.5	14.5	54.5
Max Q Clear Time (g_c+I1), s	3.3	4.2	4.0	26.8	6.2	7.8	7.5	29.6
Green Ext Time (p_c), s	0.0	0.3	0.0	4.3	0.1	0.5	0.1	4.0

Intersection Summary	
HCM 7th Control Delay, s/veh	27.3
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	765	34	43	1357	12	27
Future Vol, veh/h	765	34	43	1357	12	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	860	38	48	1525	13	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	898	0	1738	449
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	859	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	752	-	78	557
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	375	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	752	-	73	557
Mov Cap-2 Maneuver	-	-	-	-	250	-
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	351	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.31	14.98
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	404	-	-	752	-
HCM Lane V/C Ratio	0.108	-	-	0.064	-
HCM Ctrl Dly (s/v)	15	-	-	10.1	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	37	26	29	20	0	24	0	26	0	1	0
Future Vol, veh/h	0	37	26	29	20	0	24	0	26	0	1	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	56	39	44	30	0	36	0	39	0	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	30	0	0	95	0	0	195	194	76	174	214	30
Stage 1	-	-	-	-	-	-	76	76	-	118	118	-
Stage 2	-	-	-	-	-	-	119	118	-	56	95	-
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	1582	-	-	1498	-	-	765	701	985	788	684	1044
Stage 1	-	-	-	-	-	-	933	832	-	886	798	-
Stage 2	-	-	-	-	-	-	885	798	-	956	816	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1582	-	-	1498	-	-	740	680	985	734	664	1044
Mov Cap-2 Maneuver	-	-	-	-	-	-	740	680	-	734	664	-
Stage 1	-	-	-	-	-	-	933	832	-	860	774	-
Stage 2	-	-	-	-	-	-	857	774	-	918	816	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	4.42	9.65	10.44
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	850	1582	-	-	1065	-	-	664
HCM Lane V/C Ratio	0.089	-	-	-	0.029	-	-	0.002
HCM Ctrl Dly (s/v)	9.6	0	-	-	7.5	0	-	10.4
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	6	44	8	2	54
Future Vol, veh/h	13	6	44	8	2	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	6	46	8	2	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	112	51	0	0	55	0
Stage 1	51	-	-	-	-	-
Stage 2	61	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	885	1018	-	-	1550	-
Stage 1	972	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	884	1018	-	-	1550	-
Mov Cap-2 Maneuver	844	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.13	0	0.26
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	892	1550	-
HCM Lane V/C Ratio	-	-	0.022	0.001	-
HCM Ctrl Dly (s/v)	-	-	9.1	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	30	0	4	4	52	13	1	66	0
Future Vol, veh/h	0	0	5	30	0	4	4	52	13	1	66	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	32	0	4	4	55	14	1	69	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	135	148	69	142	142	62	69	0	0	68	0	0
Stage 1	72	72	-	70	70	-	-	-	-	-	-	-
Stage 2	63	77	-	72	72	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	837	743	993	828	750	1003	1531	-	-	1533	-	-
Stage 1	938	835	-	940	837	-	-	-	-	-	-	-
Stage 2	948	831	-	938	835	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	830	741	993	821	747	1003	1531	-	-	1533	-	-
Mov Cap-2 Maneuver	857	760	-	850	763	-	-	-	-	-	-	-
Stage 1	937	835	-	937	834	-	-	-	-	-	-	-
Stage 2	941	829	-	933	835	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	8.64	9.34	0.43	0.11
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1531	-	-	993	865	1533	-	-
HCM Lane V/C Ratio	0.003	-	-	0.005	0.041	0.001	-	-
HCM Ctrl Dly (s/v)	7.4	-	-	8.6	9.3	7.4	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	72	1	0	0	38	53	0	0	87	13
Future Vol, veh/h	11	0	72	1	0	0	38	53	0	0	87	13
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	101	1	0	0	54	75	0	0	123	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	313	313	132	304	323	75	141	0	0	75	0	0
Stage 1	132	132	-	182	182	-	-	-	-	-	-	-
Stage 2	182	182	-	123	141	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	639	602	918	648	595	987	1442	-	-	1525	-	-
Stage 1	872	787	-	820	749	-	-	-	-	-	-	-
Stage 2	820	749	-	882	780	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	615	580	918	555	573	987	1442	-	-	1525	-	-
Mov Cap-2 Maneuver	714	655	-	653	639	-	-	-	-	-	-	-
Stage 1	872	787	-	790	721	-	-	-	-	-	-	-
Stage 2	790	721	-	784	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.51	10.52	3.17	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1442	-	-	714	918	653	1525	-	-
HCM Lane V/C Ratio	0.037	-	-	0.022	0.111	0.002	-	-	-
HCM Ctrl Dly (s/v)	7.6	-	-	10.2	9.4	10.5	0	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 04 Existing Plus Prj PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	705	29	25	388	13	75	7	44	24	14	135
Future Volume (veh/h)	81	705	29	25	388	13	75	7	44	24	14	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	775	32	27	426	14	82	8	48	26	15	148
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	898	761	90	800	26	145	70	423	89	40	398
Arrive On Green	0.09	0.48	0.48	0.05	0.44	0.44	0.08	0.30	0.30	0.05	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1801	59	1781	231	1389	1781	148	1460
Grp Volume(v), veh/h	89	775	32	27	0	440	82	0	56	26	0	163
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1860	1781	0	1620	1781	0	1608
Q Serve(g_s), s	4.2	32.0	0.9	1.3	0.0	15.0	3.9	0.0	2.2	1.2	0.0	7.1
Cycle Q Clear(g_c), s	4.2	32.0	0.9	1.3	0.0	15.0	3.9	0.0	2.2	1.2	0.0	7.1
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.86	1.00		0.91
Lane Grp Cap(c), veh/h	154	898	761	90	0	827	145	0	493	89	0	438
V/C Ratio(X)	0.58	0.86	0.04	0.30	0.00	0.53	0.56	0.00	0.11	0.29	0.00	0.37
Avail Cap(c_a), veh/h	256	1472	1247	153	0	1357	256	0	493	153	0	438
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	20.1	12.0	39.8	0.0	17.6	38.5	0.0	21.8	39.9	0.0	25.6
Incr Delay (d2), s/veh	3.4	3.1	0.0	1.8	0.0	0.5	3.4	0.0	0.5	1.8	0.0	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	12.7	0.3	0.6	0.0	5.8	1.8	0.0	0.9	0.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.6	23.2	12.0	41.7	0.0	18.1	41.9	0.0	22.3	41.7	0.0	28.0
LnGrp LOS	D	C	B	D		B	D		C	D		C
Approach Vol, veh/h		896			467			138			189	
Approach Delay, s/veh		24.6			19.5			33.9			29.9	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	29.0	6.9	44.3	9.6	26.2	10.0	41.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	24.5	5.5	66.5	10.5	19.5	10.5	61.5
Max Q Clear Time (g_c+I1), s	3.2	4.2	3.3	34.0	5.9	9.1	6.2	17.0
Green Ext Time (p_c), s	0.0	0.2	0.0	5.8	0.1	0.5	0.1	2.7

Intersection Summary	
HCM 7th Control Delay, s/veh	24.5
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1172	11	22	939	24	27
Future Vol, veh/h	1172	11	22	939	24	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1234	12	23	988	25	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1245	0	1780	623
Stage 1	-	-	-	-	1239	-
Stage 2	-	-	-	-	541	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	555	-	73	429
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	548	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	555	-	70	429
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	525	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.27	20.34
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	288	-	-	555	-
HCM Lane V/C Ratio	0.186	-	-	0.042	-
HCM Ctrl Dly (s/v)	20.3	-	-	11.8	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	25	50	27	46	1	56	0	22	0	0	0
Future Vol, veh/h	0	25	50	27	46	1	56	0	22	0	0	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	26	51	28	47	1	57	0	22	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	48	0	0	77	0	0	153	154	51	128	179	47
Stage 1	-	-	-	-	-	-	51	51	-	103	103	-
Stage 2	-	-	-	-	-	-	102	103	-	26	77	-
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	1559	-	-	1522	-	-	814	738	1017	845	715	1022
Stage 1	-	-	-	-	-	-	962	852	-	903	810	-
Stage 2	-	-	-	-	-	-	904	810	-	992	831	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1559	-	-	1522	-	-	799	724	1017	811	701	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	799	724	-	811	701	-
Stage 1	-	-	-	-	-	-	962	852	-	887	795	-
Stage 2	-	-	-	-	-	-	887	795	-	970	831	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	2.7	9.67	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	850	1559	-	-	654	-	-	-
HCM Lane V/C Ratio	0.094	-	-	-	0.018	-	-	-
HCM Ctrl Dly (s/v)	9.7	0	-	-	7.4	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	9	0	0	0	0	66	0	0	77	0
Future Vol, veh/h	11	0	9	0	0	0	0	66	0	0	77	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	9	0	0	0	0	69	0	0	81	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	151	151	81	151	151	69	81	0	0	69	0	0
Stage 1	81	81	-	69	69	-	-	-	-	-	-	-
Stage 2	69	69	-	81	81	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	817	741	979	817	741	993	1517	-	-	1531	-	-
Stage 1	927	828	-	941	837	-	-	-	-	-	-	-
Stage 2	941	837	-	927	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	817	741	979	809	741	993	1517	-	-	1531	-	-
Mov Cap-2 Maneuver	849	761	-	843	761	-	-	-	-	-	-	-
Stage 1	927	828	-	941	837	-	-	-	-	-	-	-
Stage 2	941	837	-	918	828	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.08	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1517	-	-	903	-	1531	-	-
HCM Lane V/C Ratio	-	-	-	0.023	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	9.1	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	3.7

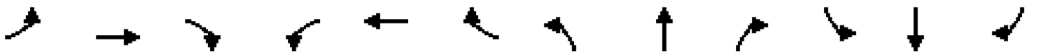
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	50	0	0	0	59	57	0	0	73	13
Future Vol, veh/h	9	0	50	0	0	0	59	57	0	0	73	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	53	0	0	0	63	61	0	0	78	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	271	271	85	264	278	61	91	0	0	61	0	0
Stage 1	85	85	-	186	186	-	-	-	-	-	-	-
Stage 2	186	186	-	78	91	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	682	636	974	689	630	1005	1503	-	-	1543	-	-
Stage 1	923	825	-	816	746	-	-	-	-	-	-	-
Stage 2	816	746	-	931	819	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	653	609	974	624	604	1005	1503	-	-	1543	-	-
Mov Cap-2 Maneuver	726	664	-	702	654	-	-	-	-	-	-	-
Stage 1	923	825	-	782	715	-	-	-	-	-	-	-
Stage 2	782	715	-	880	819	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.08	0	3.81	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1503	-	-	726	974	-	1543	-	-
HCM Lane V/C Ratio	0.042	-	-	0.013	0.055	-	-	-	-
HCM Ctrl Dly (s/v)	7.5	-	-	10	8.9	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.2	-	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 05 OY Without Prj AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	570	29	38	552	20	79	15	33	24	15	93
Future Volume (veh/h)	78	570	29	38	552	20	79	15	33	24	15	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	648	33	43	627	23	90	17	38	27	17	106
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	818	693	107	736	27	155	174	388	90	67	420
Arrive On Green	0.09	0.44	0.44	0.06	0.41	0.41	0.09	0.34	0.34	0.05	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1793	66	1781	514	1149	1781	224	1395
Grp Volume(v), veh/h	89	648	33	43	0	650	90	0	55	27	0	123
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1859	1781	0	1663	1781	0	1619
Q Serve(g_s), s	4.2	26.1	1.0	2.0	0.0	27.7	4.2	0.0	2.0	1.3	0.0	5.0
Cycle Q Clear(g_c), s	4.2	26.1	1.0	2.0	0.0	27.7	4.2	0.0	2.0	1.3	0.0	5.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.69	1.00		0.86
Lane Grp Cap(c), veh/h	154	818	693	107	0	763	155	0	562	90	0	488
V/C Ratio(X)	0.58	0.79	0.05	0.40	0.00	0.85	0.58	0.00	0.10	0.30	0.00	0.25
Avail Cap(c_a), veh/h	337	1403	1189	153	0	1203	275	0	562	153	0	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.3	21.2	14.1	39.5	0.0	23.3	38.3	0.0	19.8	40.0	0.0	23.1
Incr Delay (d2), s/veh	3.4	1.8	0.0	2.4	0.0	3.6	3.4	0.0	0.3	1.9	0.0	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.4	0.3	0.9	0.0	11.5	2.0	0.0	0.8	0.6	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.7	22.9	14.1	42.0	0.0	26.9	41.7	0.0	20.1	41.8	0.0	24.3
LnGrp LOS	D	C	B	D		C	D		C	D		C
Approach Vol, veh/h		770			693			145			150	
Approach Delay, s/veh		24.7			27.9			33.5			27.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	32.0	7.7	40.7	10.1	28.8	10.1	38.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	27.5	5.5	63.5	11.5	21.5	14.5	54.5
Max Q Clear Time (g_c+I1), s	3.3	4.0	4.0	28.1	6.2	7.0	6.2	29.7
Green Ext Time (p_c), s	0.0	0.2	0.0	4.5	0.1	0.5	0.1	4.2

Intersection Summary	
HCM 7th Control Delay, s/veh	26.9
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	788	25	44	1398	9	28
Future Vol, veh/h	788	25	44	1398	9	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	885	28	49	1571	10	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	913	0	1784	457
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	884	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	742	-	73	551
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	364	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	742	-	68	551
Mov Cap-2 Maneuver	-	-	-	-	242	-
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	340	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.31	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	420	-	-	742	-
HCM Lane V/C Ratio	0.099	-	-	0.067	-
HCM Ctrl Dly (s/v)	14.5	-	-	10.2	-
HCM Lane LOS	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	38	27	27	21	0	25	0	16	0	1	0
Future Vol, veh/h	0	38	27	27	21	0	25	0	16	0	1	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	58	41	41	32	0	38	0	24	0	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	32	0	0	98	0	0	192	192	78	171	212	32
Stage 1	-	-	-	-	-	-	78	78	-	114	114	-
Stage 2	-	-	-	-	-	-	114	114	-	58	98	-
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	1580	-	-	1495	-	-	767	703	983	792	685	1042
Stage 1	-	-	-	-	-	-	931	830	-	891	801	-
Stage 2	-	-	-	-	-	-	890	801	-	954	814	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1580	-	-	1495	-	-	744	684	983	751	666	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	744	684	-	751	666	-
Stage 1	-	-	-	-	-	-	931	830	-	866	779	-
Stage 2	-	-	-	-	-	-	864	779	-	931	814	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	4.21	9.74	10.42
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	822	1580	-	-	1013	-	-	666
HCM Lane V/C Ratio	0.076	-	-	-	0.027	-	-	0.002
HCM Ctrl Dly (s/v)	9.7	0	-	-	7.5	0	-	10.4
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	0	0	5	0	0	0	4	45	0	0	55	0
Future Vol, veh/h	0	0	5	0	0	0	4	45	0	0	55	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	0	0	0	4	47	0	0	58	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	114	114	58	114	114	47	58	0	0	47	0	0
Stage 1	58	58	-	56	56	-	-	-	-	-	-	-
Stage 2	56	56	-	58	58	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	863	776	1008	863	776	1022	1546	-	-	1560	-	-
Stage 1	954	847	-	956	848	-	-	-	-	-	-	-
Stage 2	956	848	-	954	847	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	861	774	1008	857	774	1022	1546	-	-	1560	-	-
Mov Cap-2 Maneuver	876	781	-	871	779	-	-	-	-	-	-	-
Stage 1	954	847	-	954	846	-	-	-	-	-	-	-
Stage 2	954	846	-	949	847	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	8.59	0	0.6	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	1008	-	1560	-	-
HCM Lane V/C Ratio	0.003	-	-	0.005	-	-	-	-
HCM Ctrl Dly (s/v)	7.3	-	-	8.6	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	74	1	0	0	39	34	0	0	46	13
Future Vol, veh/h	11	0	74	1	0	0	39	34	0	0	46	13
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	104	1	0	0	55	48	0	0	65	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	232	232	74	223	241	48	83	0	0	48	0	0
Stage 1	74	74	-	158	158	-	-	-	-	-	-	-
Stage 2	158	158	-	65	83	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	723	668	988	733	661	1021	1514	-	-	1559	-	-
Stage 1	935	833	-	844	767	-	-	-	-	-	-	-
Stage 2	844	767	-	946	826	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	697	644	988	632	637	1021	1514	-	-	1559	-	-
Mov Cap-2 Maneuver	757	689	-	707	677	-	-	-	-	-	-	-
Stage 1	935	833	-	814	739	-	-	-	-	-	-	-
Stage 2	814	739	-	846	826	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.18	10.1	3.99	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1514	-	-	757	988	707	1559	-	-
HCM Lane V/C Ratio	0.036	-	-	0.02	0.106	0.002	-	-	-
HCM Ctrl Dly (s/v)	7.5	-	-	9.9	9.1	10.1	0	-	-
HCM Lane LOS	A	-	-	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 06 OY Without Prj PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	726	30	26	400	12	77	5	45	21	8	106
Future Volume (veh/h)	65	726	30	26	400	12	77	5	45	21	8	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	798	33	29	440	13	85	5	49	23	9	116
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	919	779	91	848	25	148	44	435	83	30	389
Arrive On Green	0.07	0.49	0.49	0.05	0.47	0.47	0.08	0.30	0.30	0.05	0.26	0.26
Sat Flow, veh/h	1781	1870	1585	1781	1807	53	1781	149	1459	1781	115	1487
Grp Volume(v), veh/h	71	798	33	29	0	453	85	0	54	23	0	125
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1861	1781	0	1608	1781	0	1603
Q Serve(g_s), s	3.4	33.7	1.0	1.4	0.0	15.2	4.1	0.0	2.2	1.1	0.0	5.6
Cycle Q Clear(g_c), s	3.4	33.7	1.0	1.4	0.0	15.2	4.1	0.0	2.2	1.1	0.0	5.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.91	1.00		0.93
Lane Grp Cap(c), veh/h	131	919	779	91	0	873	148	0	479	83	0	420
V/C Ratio(X)	0.54	0.87	0.04	0.32	0.00	0.52	0.57	0.00	0.11	0.28	0.00	0.30
Avail Cap(c_a), veh/h	250	1441	1221	150	0	1329	250	0	479	150	0	420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.8	20.1	11.7	40.7	0.0	16.6	39.2	0.0	22.7	40.9	0.0	26.3
Incr Delay (d2), s/veh	3.5	3.7	0.0	2.0	0.0	0.5	3.5	0.0	0.5	1.8	0.0	1.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.5	0.3	0.6	0.0	5.8	1.9	0.0	0.9	0.5	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.2	23.7	11.8	42.6	0.0	17.0	42.7	0.0	23.1	42.7	0.0	28.1
LnGrp LOS	D	C	B	D		B	D		C	D		C
Approach Vol, veh/h		902			482			139			148	
Approach Delay, s/veh		24.8			18.6			35.1			30.3	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	29.0	7.1	46.2	9.9	25.8	9.0	44.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	24.5	5.5	66.5	10.5	19.5	10.5	61.5
Max Q Clear Time (g_c+I1), s	3.1	4.2	3.4	35.7	6.1	7.6	5.4	17.2
Green Ext Time (p_c), s	0.0	0.2	0.0	6.0	0.1	0.4	0.0	2.8

Intersection Summary	
HCM 7th Control Delay, s/veh	24.4
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1207	8	23	967	14	28
Future Vol, veh/h	1207	8	23	967	14	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1271	8	24	1018	15	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1279	0	1832	639
Stage 1	-	-	-	-	1275	-
Stage 2	-	-	-	-	557	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	539	-	68	418
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	537	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	539	-	65	418
Mov Cap-2 Maneuver	-	-	-	-	201	-
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	513	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.28	18.65
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	308	-	-	539	-
HCM Lane V/C Ratio	0.144	-	-	0.045	-
HCM Ctrl Dly (s/v)	18.6	-	-	12	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	25	50	37	46	1	56	0	25	0	0	0
Future Vol, veh/h	0	25	50	37	46	1	56	0	25	0	0	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	26	51	38	47	1	57	0	26	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	48	0	0	77	0	0	173	174	51	148	199	47
Stage 1	-	-	-	-	-	-	51	51	-	123	123	-
Stage 2	-	-	-	-	-	-	122	123	-	26	77	-
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	1559	-	-	1522	-	-	789	719	1017	820	696	1022
Stage 1	-	-	-	-	-	-	962	852	-	881	794	-
Stage 2	-	-	-	-	-	-	882	794	-	992	831	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1559	-	-	1522	-	-	769	701	1017	779	679	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	769	701	-	779	679	-
Stage 1	-	-	-	-	-	-	962	852	-	859	774	-
Stage 2	-	-	-	-	-	-	859	773	-	967	831	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	3.27	9.8	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	832	1559	-	-	789	-	-	-
HCM Lane V/C Ratio	0.099	-	-	-	0.025	-	-	-
HCM Ctrl Dly (s/v)	9.8	0	-	-	7.4	0	-	0
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	2	78	9	6	81
Future Vol, veh/h	7	2	78	9	6	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	2	82	9	6	85

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	185	87	0	0	92	0
Stage 1	87	-	-	-	-	-
Stage 2	98	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	805	972	-	-	1503	-
Stage 1	937	-	-	-	-	-
Stage 2	926	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	801	972	-	-	1503	-
Mov Cap-2 Maneuver	790	-	-	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	922	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.42	0	0.51
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	824	1503	-
HCM Lane V/C Ratio	-	-	0.011	0.004	-
HCM Ctrl Dly (s/v)	-	-	9.4	7.4	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	9	11	0	1	0	75	26	4	84	0
Future Vol, veh/h	11	0	9	11	0	1	0	75	26	4	84	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	9	12	0	1	0	79	27	4	88	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	176	203	88	189	189	93	88	0	0	106	0	0
Stage 1	97	97	-	93	93	-	-	-	-	-	-	-
Stage 2	79	106	-	97	97	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	787	693	970	771	705	965	1507	-	-	1485	-	-
Stage 1	910	815	-	914	818	-	-	-	-	-	-	-
Stage 2	930	807	-	910	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	784	691	970	761	703	965	1507	-	-	1485	-	-
Mov Cap-2 Maneuver	827	730	-	814	738	-	-	-	-	-	-	-
Stage 1	907	813	-	914	818	-	-	-	-	-	-	-
Stage 2	929	807	-	898	813	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.16	9.43	0	0.34
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1507	-	-	886	825	1485	-	-
HCM Lane V/C Ratio	-	-	-	0.024	0.015	0.003	-	-
HCM Ctrl Dly (s/v)	0	-	-	9.2	9.4	7.4	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.1

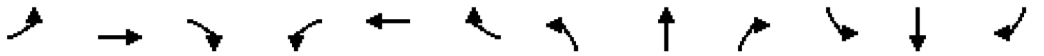
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	50	0	0	0	59	92	0	0	91	13
Future Vol, veh/h	9	0	50	0	0	0	59	92	0	0	91	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	0	53	0	0	0	63	98	0	0	97	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	327	327	104	320	334	98	111	0	0	98	0	0
Stage 1	104	104	-	223	223	-	-	-	-	-	-	-
Stage 2	223	223	-	97	111	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	626	591	951	633	586	958	1479	-	-	1495	-	-
Stage 1	902	809	-	779	719	-	-	-	-	-	-	-
Stage 2	779	719	-	910	804	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	599	566	951	572	561	958	1479	-	-	1495	-	-
Mov Cap-2 Maneuver	689	637	-	666	626	-	-	-	-	-	-	-
Stage 1	902	809	-	746	688	-	-	-	-	-	-	-
Stage 2	746	688	-	859	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.21	0	2.95	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1479	-	-	689	951	-	1495	-	-
HCM Lane V/C Ratio	0.042	-	-	0.014	0.056	-	-	-	-
HCM Ctrl Dly (s/v)	7.5	-	-	10.3	9	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.2	-	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 07 OY With Prj AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	570	29	38	552	24	79	21	33	25	17	108
Future Volume (veh/h)	104	570	29	38	552	24	79	21	33	25	17	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	648	33	43	627	27	90	24	38	28	19	123
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	854	724	104	730	31	153	212	335	89	63	405
Arrive On Green	0.10	0.46	0.46	0.06	0.41	0.41	0.09	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	1781	1870	1585	1781	1780	77	1781	652	1032	1781	217	1402
Grp Volume(v), veh/h	118	648	33	43	0	654	90	0	62	28	0	142
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1857	1781	0	1685	1781	0	1618
Q Serve(g_s), s	5.8	26.2	1.0	2.1	0.0	29.1	4.4	0.0	2.3	1.4	0.0	6.2
Cycle Q Clear(g_c), s	5.8	26.2	1.0	2.1	0.0	29.1	4.4	0.0	2.3	1.4	0.0	6.2
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.61	1.00		0.87
Lane Grp Cap(c), veh/h	186	854	724	104	0	762	153	0	547	89	0	467
V/C Ratio(X)	0.63	0.76	0.05	0.41	0.00	0.86	0.59	0.00	0.11	0.31	0.00	0.30
Avail Cap(c_a), veh/h	324	1349	1144	147	0	1155	265	0	547	147	0	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.0	20.5	13.7	41.2	0.0	24.4	39.9	0.0	21.5	41.6	0.0	25.2
Incr Delay (d2), s/veh	3.5	1.4	0.0	2.6	0.0	4.3	3.5	0.0	0.4	2.0	0.0	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	10.4	0.3	1.0	0.0	12.3	2.1	0.0	1.0	0.6	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.5	21.9	13.7	43.8	0.0	28.6	43.5	0.0	21.9	43.6	0.0	26.8
LnGrp LOS	D	C	B	D		C	D		C	D		C
Approach Vol, veh/h		799			697			152			170	
Approach Delay, s/veh		24.6			29.6			34.7			29.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	32.0	7.8	43.9	10.3	28.7	12.0	39.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	27.5	5.5	63.5	11.5	21.5	14.5	54.5
Max Q Clear Time (g_c+I1), s	3.4	4.3	4.1	28.2	6.4	8.2	7.8	31.1
Green Ext Time (p_c), s	0.0	0.3	0.0	4.5	0.1	0.5	0.1	4.1

Intersection Summary	
HCM 7th Control Delay, s/veh	27.8
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	788	35	44	1398	12	28
Future Vol, veh/h	788	35	44	1398	12	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	885	39	49	1571	13	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	925	0	1789	462
Stage 1	-	-	-	-	905	-
Stage 2	-	-	-	-	884	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	735	-	72	546
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	364	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	735	-	67	546
Mov Cap-2 Maneuver	-	-	-	-	241	-
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	339	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.31	15.26
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	396	-	-	735	-
HCM Lane V/C Ratio	0.114	-	-	0.067	-
HCM Ctrl Dly (s/v)	15.3	-	-	10.3	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

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	0	38	27	30	21	0	25	0	26	0	1	0
Future Vol, veh/h	0	38	27	30	21	0	25	0	26	0	1	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	66	66	66	66	66	66	66	66	66	66	66
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	58	41	45	32	0	38	0	39	0	2	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	32	0	0	98	0	0	202	201	78	180	221	32
Stage 1	-	-	-	-	-	-	78	78	-	123	123	-
Stage 2	-	-	-	-	-	-	123	123	-	58	98	-
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	1580	-	-	1495	-	-	757	695	983	781	677	1042
Stage 1	-	-	-	-	-	-	931	830	-	881	794	-
Stage 2	-	-	-	-	-	-	881	794	-	954	814	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1580	-	-	1495	-	-	732	674	983	727	656	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	732	674	-	727	656	-
Stage 1	-	-	-	-	-	-	931	830	-	854	770	-
Stage 2	-	-	-	-	-	-	852	770	-	916	814	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	4.4	9.71	10.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	841	1580	-	-	1059	-	-	656
HCM Lane V/C Ratio	0.092	-	-	-	0.03	-	-	0.002
HCM Ctrl Dly (s/v)	9.7	0	-	-	7.5	0	-	10.5
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	6	45	8	2	56
Future Vol, veh/h	13	6	45	8	2	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	6	47	8	2	59

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	115	52	0	0	56	0
Stage 1	52	-	-	-	-	-
Stage 2	63	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	882	1016	-	-	1549	-
Stage 1	971	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	880	1016	-	-	1549	-
Mov Cap-2 Maneuver	842	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	958	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.14	0	0.25
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	890	1549	-
HCM Lane V/C Ratio	-	-	0.022	0.001	-
HCM Ctrl Dly (s/v)	-	-	9.1	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	0	0	5	30	0	4	4	53	13	1	68	0
Future Vol, veh/h	0	0	5	30	0	4	4	53	13	1	68	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	32	0	4	4	56	14	1	72	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	138	152	72	145	145	63	72	0	0	69	0	0
Stage 1	74	74	-	71	71	-	-	-	-	-	-	-
Stage 2	64	78	-	74	74	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	833	740	991	824	747	1002	1529	-	-	1531	-	-
Stage 1	936	834	-	939	836	-	-	-	-	-	-	-
Stage 2	947	830	-	936	834	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	826	738	991	817	744	1002	1529	-	-	1531	-	-
Mov Cap-2 Maneuver	854	758	-	847	761	-	-	-	-	-	-	-
Stage 1	935	833	-	936	833	-	-	-	-	-	-	-
Stage 2	940	828	-	930	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	8.65	9.35	0.42	0.11
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1529	-	-	991	863	1531	-	-
HCM Lane V/C Ratio	0.003	-	-	0.005	0.041	0.001	-	-
HCM Ctrl Dly (s/v)	7.4	-	-	8.7	9.4	7.4	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	74	1	0	0	39	54	0	0	88	13
Future Vol, veh/h	11	0	74	1	0	0	39	54	0	0	88	13
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	104	1	0	0	55	76	0	0	124	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	319	319	133	310	328	76	142	0	0	76	0	0
Stage 1	133	133	-	186	186	-	-	-	-	-	-	-
Stage 2	186	186	-	124	142	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	634	598	916	643	591	985	1441	-	-	1523	-	-
Stage 1	870	786	-	816	746	-	-	-	-	-	-	-
Stage 2	816	746	-	880	779	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	610	575	916	548	568	985	1441	-	-	1523	-	-
Mov Cap-2 Maneuver	709	652	-	647	636	-	-	-	-	-	-	-
Stage 1	870	786	-	785	718	-	-	-	-	-	-	-
Stage 2	785	718	-	780	779	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.53	10.57	3.19	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1441	-	-	709	916	647	1523	-	-
HCM Lane V/C Ratio	0.038	-	-	0.022	0.114	0.002	-	-	-
HCM Ctrl Dly (s/v)	7.6	-	-	10.2	9.4	10.6	0	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 08 OY With Prj PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	726	30	26	400	13	77	7	45	25	14	138
Future Volume (veh/h)	83	726	30	26	400	13	77	7	45	25	14	138
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	798	33	29	440	14	85	8	49	27	15	152
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	918	778	91	820	26	148	67	413	89	38	385
Arrive On Green	0.09	0.49	0.49	0.05	0.45	0.45	0.08	0.30	0.30	0.05	0.26	0.26
Sat Flow, veh/h	1781	1870	1585	1781	1803	57	1781	227	1392	1781	144	1463
Grp Volume(v), veh/h	91	798	33	29	0	454	85	0	57	27	0	167
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1860	1781	0	1620	1781	0	1607
Q Serve(g_s), s	4.4	33.9	1.0	1.4	0.0	15.7	4.1	0.0	2.3	1.3	0.0	7.6
Cycle Q Clear(g_c), s	4.4	33.9	1.0	1.4	0.0	15.7	4.1	0.0	2.3	1.3	0.0	7.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.86	1.00		0.91
Lane Grp Cap(c), veh/h	155	918	778	91	0	846	148	0	480	89	0	423
V/C Ratio(X)	0.59	0.87	0.04	0.32	0.00	0.54	0.57	0.00	0.12	0.30	0.00	0.39
Avail Cap(c_a), veh/h	249	1433	1215	149	0	1321	249	0	480	149	0	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.3	20.2	11.8	40.9	0.0	17.6	39.5	0.0	22.9	41.0	0.0	27.1
Incr Delay (d2), s/veh	3.5	3.7	0.0	2.0	0.0	0.5	3.5	0.0	0.5	1.9	0.0	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	13.6	0.3	0.6	0.0	6.1	1.9	0.0	0.9	0.6	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.8	23.9	11.9	42.9	0.0	18.1	43.0	0.0	23.4	42.9	0.0	29.8
LnGrp LOS	D	C	B	D		B	D		C	D		C
Approach Vol, veh/h		922			483			142			194	
Approach Delay, s/veh		25.4			19.6			35.1			31.6	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	29.0	7.1	46.4	9.9	26.0	10.3	43.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	24.5	5.5	66.5	10.5	19.5	10.5	61.5
Max Q Clear Time (g_c+I1), s	3.3	4.3	3.4	35.9	6.1	9.6	6.4	17.7
Green Ext Time (p_c), s	0.0	0.2	0.0	6.0	0.1	0.5	0.1	2.8

Intersection Summary	
HCM 7th Control Delay, s/veh	25.3
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1207	11	23	967	24	28
Future Vol, veh/h	1207	11	23	967	24	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1271	12	24	1018	25	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1282	0	1834	641
Stage 1	-	-	-	-	1276	-
Stage 2	-	-	-	-	557	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	537	-	68	417
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	537	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	537	-	64	417
Mov Cap-2 Maneuver	-	-	-	-	201	-
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	513	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.28	21.04
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	279	-	-	537	-
HCM Lane V/C Ratio	0.196	-	-	0.045	-
HCM Ctrl Dly (s/v)	21	-	-	12	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

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	0	25	62	70	46	1	66	0	63	0	0	0
Future Vol, veh/h	0	25	62	70	46	1	66	0	63	0	0	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	26	63	71	47	1	67	0	64	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	48	0	0	89	0	0	247	248	57	216	279	47
Stage 1	-	-	-	-	-	-	57	57	-	190	190	-
Stage 2	-	-	-	-	-	-	190	191	-	26	89	-
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	1559	-	-	1507	-	-	707	655	1009	741	629	1022
Stage 1	-	-	-	-	-	-	955	847	-	811	743	-
Stage 2	-	-	-	-	-	-	812	742	-	992	821	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1559	-	-	1507	-	-	672	623	1009	660	598	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	672	623	-	660	598	-
Stage 1	-	-	-	-	-	-	955	847	-	772	707	-
Stage 2	-	-	-	-	-	-	772	706	-	929	821	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	4.49	10.36	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	803	1559	-	-	1072	-	-	-
HCM Lane V/C Ratio	0.164	-	-	-	0.047	-	-	-
HCM Ctrl Dly (s/v)	10.4	0	-	-	7.5	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	128	0	0	131
Future Vol, veh/h	0	0	128	0	0	131
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	135	0	0	138

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	273	135	0	0	135	0
Stage 1	135	-	-	-	-	-
Stage 2	138	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	717	914	-	-	1450	-
Stage 1	892	-	-	-	-	-
Stage 2	889	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	717	914	-	-	1450	-
Mov Cap-2 Maneuver	733	-	-	-	-	-
Stage 1	892	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1450	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	11	0	9	0	0	0	0	117	0	0	131	0
Future Vol, veh/h	11	0	9	0	0	0	0	117	0	0	131	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	9	0	0	0	0	123	0	0	138	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	261	261	138	261	261	123	138	0	0	123	0	0
Stage 1	138	138	-	123	123	-	-	-	-	-	-	-
Stage 2	123	123	-	138	138	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	692	644	910	692	644	928	1446	-	-	1464	-	-
Stage 1	865	782	-	881	794	-	-	-	-	-	-	-
Stage 2	881	794	-	865	782	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	692	644	910	685	644	928	1446	-	-	1464	-	-
Mov Cap-2 Maneuver	771	702	-	765	702	-	-	-	-	-	-	-
Stage 1	865	782	-	881	794	-	-	-	-	-	-	-
Stage 2	881	794	-	856	782	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.46	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1446	-	-	828	-	1464	-	-
HCM Lane V/C Ratio	-	-	-	0.025	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	9.5	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

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	9	0	64	0	0	0	71	108	0	0	127	13
Future Vol, veh/h	9	0	64	0	0	0	71	108	0	0	127	13
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	67	0	0	0	75	114	0	0	134	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	404	404	141	397	411	114	147	0	0	114	0	0
Stage 1	141	141	-	263	263	-	-	-	-	-	-	-
Stage 2	263	263	-	134	147	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	557	536	907	563	531	939	1434	-	-	1476	-	-
Stage 1	862	780	-	742	691	-	-	-	-	-	-	-
Stage 2	742	691	-	870	775	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	528	508	907	494	503	939	1434	-	-	1476	-	-
Mov Cap-2 Maneuver	642	599	-	609	585	-	-	-	-	-	-	-
Stage 1	862	780	-	703	655	-	-	-	-	-	-	-
Stage 2	703	655	-	805	775	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.46	0	3.03	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1434	-	-	642	907	-	1476	-	-
HCM Lane V/C Ratio	0.052	-	-	0.015	0.074	-	-	-	-
HCM Ctrl Dly (s/v)	7.6	-	-	10.7	9.3	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	0.2	-	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 09 OY Cumul Without Prj AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	1125	162	101	968	80	192	67	72	78	83	184
Future Volume (veh/h)	167	1125	162	101	968	80	192	67	72	78	83	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	1184	171	106	1019	84	202	71	76	82	87	194
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	1021	865	111	817	67	200	203	217	111	101	225
Arrive On Green	0.13	0.55	0.55	0.06	0.48	0.48	0.11	0.25	0.25	0.06	0.20	0.20
Sat Flow, veh/h	1781	1870	1585	1781	1705	141	1781	826	885	1781	515	1149
Grp Volume(v), veh/h	176	1184	171	106	0	1103	202	0	147	82	0	281
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1845	1781	0	1711	1781	0	1664
Q Serve(g_s), s	11.5	65.5	6.6	7.1	0.0	57.5	13.5	0.0	8.5	5.4	0.0	19.6
Cycle Q Clear(g_c), s	11.5	65.5	6.6	7.1	0.0	57.5	13.5	0.0	8.5	5.4	0.0	19.6
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.52	1.00		0.69
Lane Grp Cap(c), veh/h	230	1021	865	111	0	885	200	0	421	111	0	326
V/C Ratio(X)	0.77	1.16	0.20	0.95	0.00	1.25	1.01	0.00	0.35	0.74	0.00	0.86
Avail Cap(c_a), veh/h	245	1021	865	111	0	885	200	0	421	111	0	326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.5	27.3	13.9	56.1	0.0	31.2	53.2	0.0	37.3	55.3	0.0	46.7
Incr Delay (d2), s/veh	12.8	83.0	0.1	70.0	0.0	120.6	65.7	0.0	2.3	22.3	0.0	24.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	49.5	2.2	5.3	0.0	53.1	9.7	0.0	3.8	3.1	0.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.3	110.2	14.0	126.1	0.0	151.8	118.9	0.0	39.6	77.6	0.0	71.4
LnGrp LOS	E	F	B	F		F	F		D	E		E
Approach Vol, veh/h		1531			1209			349			363	
Approach Delay, s/veh		94.1			149.6			85.5			72.8	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	32.0	10.0	68.0	16.0	26.0	18.0	60.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	27.5	5.5	63.5	11.5	21.5	14.5	54.5
Max Q Clear Time (g_c+I1), s	7.4	10.5	9.1	67.5	15.5	21.6	13.5	59.5
Green Ext Time (p_c), s	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	110.4
HCM 7th LOS	F

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	908	46	65	1524	29	48
Future Vol, veh/h	908	46	65	1524	29	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	956	48	68	1604	31	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1004	0	1919	502
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	939	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	685	-	59	515
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	341	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	685	-	53	515
Mov Cap-2 Maneuver	-	-	-	-	216	-
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	307	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.44	18.94
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	339	-	-	685	-
HCM Lane V/C Ratio	0.239	-	-	0.1	-
HCM Ctrl Dly (s/v)	18.9	-	-	10.8	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.9	-	-	0.3	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	38	41	73	21	0	39	0	62	0	1	0
Future Vol, veh/h	0	38	41	73	21	0	39	0	62	0	1	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	40	43	77	22	0	41	0	65	0	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	83	0	0	238	237	62	216	259	22
Stage 1	-	-	-	-	-	-	62	62	-	176	176	-
Stage 2	-	-	-	-	-	-	176	176	-	40	83	-
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	1593	-	-	1514	-	-	716	664	1003	741	645	1055
Stage 1	-	-	-	-	-	-	950	844	-	826	754	-
Stage 2	-	-	-	-	-	-	825	754	-	975	826	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1514	-	-	679	629	1003	657	612	1055
Mov Cap-2 Maneuver	-	-	-	-	-	-	679	629	-	657	612	-
Stage 1	-	-	-	-	-	-	950	844	-	784	715	-
Stage 2	-	-	-	-	-	-	782	715	-	911	826	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	5.83	9.86	10.89
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	847	1593	-	-	1398	-	-	612
HCM Lane V/C Ratio	0.126	-	-	-	0.051	-	-	0.002
HCM Ctrl Dly (s/v)	9.9	0	-	-	7.5	0	-	10.9
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.2	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	101	0	0	115
Future Vol, veh/h	0	0	101	0	0	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	106	0	0	121

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	227	106	0	0	106	0
Stage 1	106	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	761	948	-	-	1485	-
Stage 1	918	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	761	948	-	-	1485	-
Mov Cap-2 Maneuver	763	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1485	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	0	0	5	0	0	0	4	105	0	0	115	0
Future Vol, veh/h	0	0	5	0	0	0	4	105	0	0	115	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	0	0	0	4	111	0	0	121	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	240	240	121	240	240	111	121	0	0	111	0	0
Stage 1	121	121	-	119	119	-	-	-	-	-	-	-
Stage 2	119	119	-	121	121	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	714	661	930	714	661	943	1466	-	-	1479	-	-
Stage 1	883	796	-	885	797	-	-	-	-	-	-	-
Stage 2	885	797	-	883	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	712	659	930	708	659	943	1466	-	-	1479	-	-
Mov Cap-2 Maneuver	784	712	-	780	710	-	-	-	-	-	-	-
Stage 1	883	796	-	883	795	-	-	-	-	-	-	-
Stage 2	883	795	-	878	796	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	8.89	0	0.27	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1466	-	-	930	-	1479	-	-
HCM Lane V/C Ratio	0.003	-	-	0.006	-	-	-	-
HCM Ctrl Dly (s/v)	7.5	-	-	8.9	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	95	1	0	0	60	94	0	0	106	13
Future Vol, veh/h	11	0	95	1	0	0	60	94	0	0	106	13
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	100	1	0	0	63	99	0	0	112	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	344	344	118	337	351	99	125	0	0	99	0	0
Stage 1	118	118	-	225	225	-	-	-	-	-	-	-
Stage 2	225	225	-	112	125	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	611	579	933	617	574	957	1461	-	-	1494	-	-
Stage 1	886	798	-	777	717	-	-	-	-	-	-	-
Stage 2	777	717	-	893	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	584	554	933	527	549	957	1461	-	-	1494	-	-
Mov Cap-2 Maneuver	682	631	-	634	619	-	-	-	-	-	-	-
Stage 1	886	798	-	744	686	-	-	-	-	-	-	-
Stage 2	744	686	-	798	792	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.43	10.68	2.95	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1461	-	-	682	933	634	1494	-	-
HCM Lane V/C Ratio	0.043	-	-	0.017	0.107	0.002	-	-	-
HCM Ctrl Dly (s/v)	7.6	-	-	10.4	9.3	10.7	0	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 10 OY Cumul Without Prj PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	1118	274	222	958	71	342	86	254	84	98	187
Future Volume (veh/h)	144	1118	274	222	958	71	342	86	254	84	98	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	1177	288	234	1008	75	360	91	267	88	103	197
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	1068	905	111	910	68	186	93	272	111	103	197
Arrive On Green	0.10	0.57	0.57	0.06	0.53	0.53	0.10	0.22	0.22	0.06	0.18	0.18
Sat Flow, veh/h	1781	1870	1585	1781	1719	128	1781	419	1230	1781	574	1098
Grp Volume(v), veh/h	152	1177	288	234	0	1083	360	0	358	88	0	300
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1847	1781	0	1649	1781	0	1673
Q Serve(g_s), s	10.0	68.5	11.4	7.5	0.0	63.5	12.5	0.0	25.9	5.8	0.0	21.5
Cycle Q Clear(g_c), s	10.0	68.5	11.4	7.5	0.0	63.5	12.5	0.0	25.9	5.8	0.0	21.5
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.75	1.00		0.66
Lane Grp Cap(c), veh/h	186	1068	905	111	0	978	186	0	364	111	0	300
V/C Ratio(X)	0.82	1.10	0.32	2.10	0.00	1.11	1.94	0.00	0.98	0.79	0.00	1.00
Avail Cap(c_a), veh/h	186	1068	905	111	0	978	186	0	364	111	0	300
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.6	25.8	13.5	56.3	0.0	28.3	53.7	0.0	46.5	55.5	0.0	49.3
Incr Delay (d2), s/veh	24.3	60.0	0.2	525.0	0.0	63.1	442.2	0.0	43.1	30.9	0.0	52.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	44.5	3.8	19.5	0.0	42.3	28.4	0.0	14.9	3.5	0.0	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	76.9	85.8	13.7	581.2	0.0	91.3	496.0	0.0	89.6	86.3	0.0	101.5
LnGrp LOS	E	F	B	F		F	F		F	F		F
Approach Vol, veh/h		1617			1317			718			388	
Approach Delay, s/veh		72.1			178.4			293.4			98.1	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	29.0	10.0	71.0	15.0	24.0	15.0	66.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	24.5	5.5	66.5	10.5	19.5	10.5	61.5
Max Q Clear Time (g_c+I1), s	7.8	27.9	9.5	70.5	14.5	23.5	12.0	65.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	148.6
HCM 7th LOS	F

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1337	30	45	1105	37	51
Future Vol, veh/h	1337	30	45	1105	37	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1407	32	47	1163	39	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1439	0	2099	719
Stage 1	-	-	-	-	1423	-
Stage 2	-	-	-	-	676	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	468	-	45	371
Stage 1	-	-	-	-	188	-
Stage 2	-	-	-	-	467	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	468	-	40	371
Mov Cap-2 Maneuver	-	-	-	-	165	-
Stage 1	-	-	-	-	188	-
Stage 2	-	-	-	-	419	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.53	28.66
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	243	-	-	468	-
HCM Lane V/C Ratio	0.381	-	-	0.101	-
HCM Ctrl Dly (s/v)	28.7	-	-	13.6	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	1.7	-	-	0.3	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	25	62	80	46	1	66	0	66	0	0	0
Future Vol, veh/h	0	25	62	80	46	1	66	0	66	0	0	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	26	63	82	47	1	67	0	67	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	48	0	0	89	0	0	267	268	57	236	299	47
Stage 1	-	-	-	-	-	-	57	57	-	211	211	-
Stage 2	-	-	-	-	-	-	210	211	-	26	89	-
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	1559	-	-	1507	-	-	685	638	1009	718	613	1022
Stage 1	-	-	-	-	-	-	955	847	-	791	728	-
Stage 2	-	-	-	-	-	-	792	727	-	992	821	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1559	-	-	1507	-	-	647	602	1009	633	579	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	647	602	-	633	579	-
Stage 1	-	-	-	-	-	-	955	847	-	747	687	-
Stage 2	-	-	-	-	-	-	748	687	-	926	821	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	4.74	10.5	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	789	1559	-	-	1129	-	-	-
HCM Lane V/C Ratio	0.171	-	-	-	0.054	-	-	-
HCM Ctrl Dly (s/v)	10.5	0	-	-	7.5	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	2	129	9	6	135
Future Vol, veh/h	7	2	129	9	6	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	2	136	9	6	142

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	295	141	0	0	145	0
Stage 1	141	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	696	907	-	-	1437	-
Stage 1	886	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	693	907	-	-	1437	-
Mov Cap-2 Maneuver	717	-	-	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	870	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.85	0	0.32
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	752	1437	-
HCM Lane V/C Ratio	-	-	0.013	0.004	-
HCM Ctrl Dly (s/v)	-	-	9.8	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	9	11	0	1	0	126	26	4	138	0
Future Vol, veh/h	11	0	9	11	0	1	0	126	26	4	138	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	9	12	0	1	0	133	27	4	145	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	286	314	145	300	300	146	145	0	0	160	0	0
Stage 1	154	154	-	146	146	-	-	-	-	-	-	-
Stage 2	133	160	-	154	154	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	666	602	902	652	612	901	1437	-	-	1419	-	-
Stage 1	849	770	-	856	776	-	-	-	-	-	-	-
Stage 2	871	766	-	849	770	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	663	600	902	644	611	901	1437	-	-	1419	-	-
Mov Cap-2 Maneuver	751	674	-	739	682	-	-	-	-	-	-	-
Stage 1	846	768	-	856	776	-	-	-	-	-	-	-
Stage 2	870	766	-	837	768	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.55	9.88	0	0.21
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1437	-	-	812	750	1419	-	-
HCM Lane V/C Ratio	-	-	-	0.026	0.017	0.003	-	-
HCM Ctrl Dly (s/v)	0	-	-	9.6	9.9	7.5	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.8

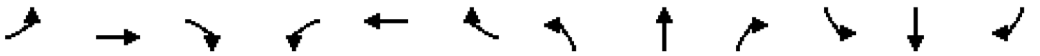
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	64	0	0	0	71	143	0	0	145	13
Future Vol, veh/h	9	0	64	0	0	0	71	143	0	0	145	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	67	0	0	0	75	151	0	0	153	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	459	459	159	453	466	151	166	0	0	151	0	0
Stage 1	159	159	-	300	300	-	-	-	-	-	-	-
Stage 2	300	300	-	153	166	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	512	498	886	517	494	896	1412	-	-	1431	-	-
Stage 1	843	766	-	709	666	-	-	-	-	-	-	-
Stage 2	709	666	-	850	761	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	485	472	886	453	468	896	1412	-	-	1431	-	-
Mov Cap-2 Maneuver	610	574	-	579	561	-	-	-	-	-	-	-
Stage 1	843	766	-	671	630	-	-	-	-	-	-	-
Stage 2	671	630	-	785	761	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.6	0	2.55	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1412	-	-	610	886	-	1431	-	-
HCM Lane V/C Ratio	0.053	-	-	0.016	0.076	-	-	-	-
HCM Ctrl Dly (s/v)	7.7	-	-	11	9.4	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	0.2	-	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 11 OY Cumul With Prj AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	1125	162	101	968	84	192	73	72	79	85	199
Future Volume (veh/h)	193	1125	162	101	968	84	192	73	72	79	85	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	1184	171	106	1019	88	202	77	76	83	89	209
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	1021	865	111	799	69	200	212	210	111	97	228
Arrive On Green	0.14	0.55	0.55	0.06	0.47	0.47	0.11	0.25	0.25	0.06	0.20	0.20
Sat Flow, veh/h	1781	1870	1585	1781	1697	147	1781	864	853	1781	496	1165
Grp Volume(v), veh/h	203	1184	171	106	0	1107	202	0	153	83	0	298
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1844	1781	0	1717	1781	0	1661
Q Serve(g_s), s	13.3	65.5	6.6	7.1	0.0	56.5	13.5	0.0	8.9	5.5	0.0	21.1
Cycle Q Clear(g_c), s	13.3	65.5	6.6	7.1	0.0	56.5	13.5	0.0	8.9	5.5	0.0	21.1
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.50	1.00		0.70
Lane Grp Cap(c), veh/h	245	1021	865	111	0	868	200	0	422	111	0	325
V/C Ratio(X)	0.83	1.16	0.20	0.95	0.00	1.28	1.01	0.00	0.36	0.75	0.00	0.92
Avail Cap(c_a), veh/h	245	1021	865	111	0	868	200	0	422	111	0	325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.4	27.3	13.9	56.1	0.0	31.8	53.2	0.0	37.5	55.3	0.0	47.3
Incr Delay (d2), s/veh	20.5	83.0	0.1	70.0	0.0	132.7	65.7	0.0	2.4	23.6	0.0	32.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	49.5	2.2	5.3	0.0	55.1	9.7	0.0	4.0	3.1	0.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	70.9	110.2	14.0	126.1	0.0	164.5	118.9	0.0	39.9	78.9	0.0	79.8
LnGrp LOS	E	F	B	F		F	F		D	E		E
Approach Vol, veh/h		1558			1213			355			381	
Approach Delay, s/veh		94.5			161.1			84.8			79.6	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	32.0	10.0	68.0	16.0	26.0	19.0	59.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	27.5	5.5	63.5	11.5	21.5	14.5	54.5
Max Q Clear Time (g_c+I1), s	7.5	10.9	9.1	67.5	15.5	23.1	15.3	58.5
Green Ext Time (p_c), s	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	115.0
HCM 7th LOS	F

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	908	56	65	1524	32	48
Future Vol, veh/h	908	56	65	1524	32	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	956	59	68	1604	34	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1015	0	1924	507
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	939	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	679	-	59	511
Stage 1	-	-	-	-	322	-
Stage 2	-	-	-	-	341	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	679	-	53	511
Mov Cap-2 Maneuver	-	-	-	-	215	-
Stage 1	-	-	-	-	322	-
Stage 2	-	-	-	-	306	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.45	19.62
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	330	-	-	679	-
HCM Lane V/C Ratio	0.255	-	-	0.101	-
HCM Ctrl Dly (s/v)	19.6	-	-	10.9	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	1	-	-	0.3	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	38	41	76	21	0	39	0	72	0	1	0
Future Vol, veh/h	0	38	41	76	21	0	39	0	72	0	1	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	40	43	80	22	0	41	0	76	0	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	83	0	0	244	244	62	222	265	22
Stage 1	-	-	-	-	-	-	62	62	-	182	182	-
Stage 2	-	-	-	-	-	-	183	182	-	40	83	-
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	1593	-	-	1514	-	-	710	658	1003	734	640	1055
Stage 1	-	-	-	-	-	-	950	844	-	820	749	-
Stage 2	-	-	-	-	-	-	819	749	-	975	826	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1514	-	-	671	623	1003	642	606	1055
Mov Cap-2 Maneuver	-	-	-	-	-	-	671	623	-	642	606	-
Stage 1	-	-	-	-	-	-	950	844	-	776	709	-
Stage 2	-	-	-	-	-	-	774	709	-	901	826	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	5.88	9.88	10.95
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	854	1593	-	-	1410	-	-	606
HCM Lane V/C Ratio	0.137	-	-	-	0.053	-	-	0.002
HCM Ctrl Dly (s/v)	9.9	0	-	-	7.5	0	-	11
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.2	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	6	105	8	2	116
Future Vol, veh/h	13	6	105	8	2	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	6	111	8	2	122

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	241	115	0	0	119	0
Stage 1	115	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	747	938	-	-	1469	-
Stage 1	910	-	-	-	-	-
Stage 2	899	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	746	938	-	-	1469	-
Mov Cap-2 Maneuver	753	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.6	0	0.13
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	803	1469	-
HCM Lane V/C Ratio	-	-	0.025	0.001	-
HCM Ctrl Dly (s/v)	-	-	9.6	7.5	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	30	0	4	4	113	13	1	128	0
Future Vol, veh/h	0	0	5	30	0	4	4	113	13	1	128	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	32	0	4	4	119	14	1	135	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	264	278	135	271	271	126	135	0	0	133	0	0
Stage 1	137	137	-	134	134	-	-	-	-	-	-	-
Stage 2	127	141	-	137	137	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	689	630	914	681	636	925	1450	-	-	1452	-	-
Stage 1	866	783	-	869	785	-	-	-	-	-	-	-
Stage 2	876	780	-	866	783	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	683	628	914	675	633	925	1450	-	-	1452	-	-
Mov Cap-2 Maneuver	765	692	-	759	694	-	-	-	-	-	-	-
Stage 1	866	783	-	867	783	-	-	-	-	-	-	-
Stage 2	870	778	-	861	783	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	8.96	9.87	0.23	0.06
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1450	-	-	914	775	1452	-	-
HCM Lane V/C Ratio	0.003	-	-	0.006	0.046	0.001	-	-
HCM Ctrl Dly (s/v)	7.5	-	-	9	9.9	7.5	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.4

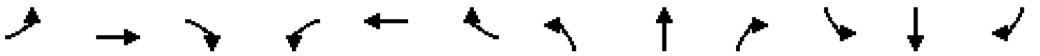
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	95	1	0	0	60	114	0	0	148	13
Future Vol, veh/h	11	0	95	1	0	0	60	114	0	0	148	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	100	1	0	0	63	120	0	0	156	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	409	409	163	402	416	120	169	0	0	120	0	0
Stage 1	163	163	-	246	246	-	-	-	-	-	-	-
Stage 2	246	246	-	156	169	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	553	532	882	559	527	931	1408	-	-	1468	-	-
Stage 1	839	764	-	757	702	-	-	-	-	-	-	-
Stage 2	757	702	-	846	758	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	528	508	882	473	504	931	1408	-	-	1468	-	-
Mov Cap-2 Maneuver	651	606	-	595	591	-	-	-	-	-	-	-
Stage 1	839	764	-	724	671	-	-	-	-	-	-	-
Stage 2	724	671	-	751	758	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.71	11.06	2.65	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1408	-	-	651	882	595	1468	-	-
HCM Lane V/C Ratio	0.045	-	-	0.018	0.113	0.002	-	-	-
HCM Ctrl Dly (s/v)	7.7	-	-	10.6	9.6	11.1	0	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 12 OY Cumul With Prj PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	1118	274	222	958	72	342	88	254	88	104	219
Future Volume (veh/h)	162	1118	274	222	958	72	342	88	254	88	104	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	1177	288	234	1008	76	360	93	267	93	109	231
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	1068	905	111	909	69	186	94	270	111	96	203
Arrive On Green	0.10	0.57	0.57	0.06	0.53	0.53	0.10	0.22	0.22	0.06	0.18	0.18
Sat Flow, veh/h	1781	1870	1585	1781	1718	129	1781	426	1224	1781	534	1132
Grp Volume(v), veh/h	171	1177	288	234	0	1084	360	0	360	93	0	340
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1847	1781	0	1650	1781	0	1667
Q Serve(g_s), s	11.4	68.5	11.4	7.5	0.0	63.5	12.5	0.0	26.1	6.2	0.0	21.5
Cycle Q Clear(g_c), s	11.4	68.5	11.4	7.5	0.0	63.5	12.5	0.0	26.1	6.2	0.0	21.5
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.74	1.00		0.68
Lane Grp Cap(c), veh/h	186	1068	905	111	0	977	186	0	364	111	0	299
V/C Ratio(X)	0.92	1.10	0.32	2.10	0.00	1.11	1.94	0.00	0.99	0.84	0.00	1.14
Avail Cap(c_a), veh/h	186	1068	905	111	0	977	186	0	364	111	0	299
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.3	25.8	13.5	56.3	0.0	28.3	53.7	0.0	46.6	55.6	0.0	49.3
Incr Delay (d2), s/veh	44.3	60.0	0.2	525.0	0.0	63.5	442.2	0.0	44.2	39.6	0.0	94.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	44.5	3.8	19.5	0.0	42.4	28.4	0.0	15.1	3.9	0.0	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	97.6	85.8	13.7	581.2	0.0	91.8	496.0	0.0	90.8	95.3	0.0	144.2
LnGrp LOS	F	F	B	F		F	F		F	F		F
Approach Vol, veh/h		1636			1318			720			433	
Approach Delay, s/veh		74.3			178.7			293.4			133.7	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	29.0	10.0	71.0	15.0	24.0	15.0	66.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	24.5	5.5	66.5	10.5	19.5	10.5	61.5
Max Q Clear Time (g_c+I1), s	8.2	28.1	9.5	70.5	14.5	23.5	13.4	65.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	152.5
HCM 7th LOS	F

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1337	33	45	1105	47	51
Future Vol, veh/h	1337	33	45	1105	47	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1407	35	47	1163	49	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1442	0	2101	721
Stage 1	-	-	-	-	1425	-
Stage 2	-	-	-	-	676	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	466	-	~ 44	370
Stage 1	-	-	-	-	188	-
Stage 2	-	-	-	-	467	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	466	-	~ 40	370
Mov Cap-2 Maneuver	-	-	-	-	164	-
Stage 1	-	-	-	-	188	-
Stage 2	-	-	-	-	419	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.53	32.52
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	231	-	-	466	-
HCM Lane V/C Ratio	0.446	-	-	0.102	-
HCM Ctrl Dly (s/v)	32.5	-	-	13.6	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	2.1	-	-	0.3	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	26	65	254	48	1	69	0	266	0	0	0
Future Vol, veh/h	0	26	65	254	48	1	69	0	266	0	0	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	27	66	259	49	1	70	0	271	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	93	0	0	627	628	60	594	661	49
Stage 1	-	-	-	-	-	-	60	60	-	568	568	-
Stage 2	-	-	-	-	-	-	567	568	-	27	93	-
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	1557	-	-	1502	-	-	396	400	1006	416	383	1019
Stage 1	-	-	-	-	-	-	952	845	-	508	506	-
Stage 2	-	-	-	-	-	-	508	506	-	991	818	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1557	-	-	1502	-	-	326	329	1006	250	315	1019
Mov Cap-2 Maneuver	-	-	-	-	-	-	326	329	-	250	315	-
Stage 1	-	-	-	-	-	-	952	845	-	418	417	-
Stage 2	-	-	-	-	-	-	418	416	-	724	818	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	6.62	14.86	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	703	1557	-	-	1460	-	-	-
HCM Lane V/C Ratio	0.486	-	-	-	0.173	-	-	-
HCM Ctrl Dly (s/v)	14.9	0	-	-	7.9	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	2.7	0	-	-	0.6	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	335	0	0	319
Future Vol, veh/h	0	0	335	0	0	319
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	353	0	0	336

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	688	353	0	0	353	0
Stage 1	353	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	412	691	-	-	1206	-
Stage 1	711	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	412	691	-	-	1206	-
Mov Cap-2 Maneuver	515	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	724	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1206	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Traffic Vol, veh/h	12	0	9	0	0	0	0	292	0	0	288	0
Future Vol, veh/h	12	0	9	0	0	0	0	292	0	0	288	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	9	0	0	0	0	307	0	0	303	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	611	611	303	611	611	307	303	0	0	307	0	0
Stage 1	303	303	-	307	307	-	-	-	-	-	-	-
Stage 2	307	307	-	303	303	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	406	409	737	406	409	733	1258	-	-	1253	-	-
Stage 1	706	663	-	703	661	-	-	-	-	-	-	-
Stage 2	703	661	-	706	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	406	409	737	401	409	733	1258	-	-	1253	-	-
Mov Cap-2 Maneuver	574	548	-	570	548	-	-	-	-	-	-	-
Stage 1	706	663	-	703	661	-	-	-	-	-	-	-
Stage 2	703	661	-	697	663	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.88	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1258	-	-	634	-	1253	-	-
HCM Lane V/C Ratio	-	-	-	0.035	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	-	10.9	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	67	0	0	0	75	281	0	0	275	14
Future Vol, veh/h	11	0	67	0	0	0	75	281	0	0	275	14
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	71	0	0	0	79	296	0	0	289	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	751	751	297	743	758	296	304	0	0	296	0	0
Stage 1	297	297	-	454	454	-	-	-	-	-	-	-
Stage 2	454	454	-	289	304	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	327	340	743	331	336	744	1257	-	-	1266	-	-
Stage 1	712	668	-	586	570	-	-	-	-	-	-	-
Stage 2	586	570	-	718	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	307	318	743	281	315	744	1257	-	-	1266	-	-
Mov Cap-2 Maneuver	479	468	-	443	451	-	-	-	-	-	-	-
Stage 1	712	668	-	549	534	-	-	-	-	-	-	-
Stage 2	549	534	-	650	663	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.69	0	1.7	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1257	-	-	479	743	-	1266	-	-
HCM Lane V/C Ratio	0.063	-	-	0.024	0.095	-	-	-	-
HCM Ctrl Dly (s/v)	8.1	-	-	12.7	10.4	0	0	-	-
HCM Lane LOS	A	-	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.3	-	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 13 2050 Without Prj AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	1181	170	106	1016	84	202	70	76	82	87	193
Future Volume (veh/h)	175	1181	170	106	1016	84	202	70	76	82	87	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	1243	179	112	1069	88	213	74	80	86	92	203
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	1021	865	111	810	67	200	202	218	111	102	224
Arrive On Green	0.13	0.55	0.55	0.06	0.48	0.48	0.11	0.25	0.25	0.06	0.20	0.20
Sat Flow, veh/h	1781	1870	1585	1781	1705	140	1781	822	889	1781	519	1145
Grp Volume(v), veh/h	184	1243	179	112	0	1157	213	0	154	86	0	295
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1845	1781	0	1710	1781	0	1664
Q Serve(g_s), s	12.0	65.5	6.9	7.5	0.0	57.0	13.5	0.0	9.0	5.7	0.0	20.8
Cycle Q Clear(g_c), s	12.0	65.5	6.9	7.5	0.0	57.0	13.5	0.0	9.0	5.7	0.0	20.8
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.52	1.00		0.69
Lane Grp Cap(c), veh/h	237	1021	865	111	0	877	200	0	420	111	0	326
V/C Ratio(X)	0.78	1.22	0.21	1.01	0.00	1.32	1.06	0.00	0.37	0.77	0.00	0.91
Avail Cap(c_a), veh/h	245	1021	865	111	0	877	200	0	420	111	0	326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.3	27.3	14.0	56.3	0.0	31.5	53.2	0.0	37.5	55.4	0.0	47.2
Incr Delay (d2), s/veh	14.1	106.9	0.1	86.9	0.0	151.9	81.2	0.0	2.5	27.8	0.0	30.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	56.3	2.4	6.0	0.0	60.3	10.5	0.0	4.1	3.4	0.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.3	134.2	14.1	143.2	0.0	183.3	134.5	0.0	40.0	83.2	0.0	77.8
LnGrp LOS	E	F	B	F		F	F		D	F		E
Approach Vol, veh/h		1606			1269			367			381	
Approach Delay, s/veh		112.8			179.8			94.8			79.0	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	32.0	10.0	68.0	16.0	26.0	18.5	59.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	27.5	5.5	63.5	11.5	21.5	14.5	54.5
Max Q Clear Time (g_c+I1), s	7.7	11.0	9.5	67.5	15.5	22.8	14.0	59.0
Green Ext Time (p_c), s	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	130.9
HCM 7th LOS	F

Intersection	
Int Delay, s/veh	20.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1317	108	209	1734	56	233
Future Vol, veh/h	1317	108	209	1734	56	233
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1386	114	220	1825	59	245

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1500	0	2796	750
Stage 1	-	-	-	-	1443	-
Stage 2	-	-	-	-	1353	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	443	-	~ 15	354
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	205	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	443	-	~ 7	354
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	103	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.25	247.43
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	217	-	-	443	-
HCM Lane V/C Ratio	1.399	-	-	0.497	-
HCM Ctrl Dly (s/v)	247.4	-	-	20.9	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	17.4	-	-	2.7	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	40	43	237	22	0	41	0	182	0	1	0
Future Vol, veh/h	0	40	43	237	22	0	41	0	182	0	1	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	42	45	249	23	0	43	0	192	0	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	23	0	0	87	0	0	587	587	65	564	609	23
Stage 1	-	-	-	-	-	-	65	65	-	522	522	-
Stage 2	-	-	-	-	-	-	523	522	-	42	87	-
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	1592	-	-	1509	-	-	421	422	999	436	410	1054
Stage 1	-	-	-	-	-	-	946	841	-	538	531	-
Stage 2	-	-	-	-	-	-	537	531	-	972	822	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1592	-	-	1509	-	-	349	351	999	293	341	1054
Mov Cap-2 Maneuver	-	-	-	-	-	-	349	351	-	293	341	-
Stage 1	-	-	-	-	-	-	946	841	-	448	442	-
Stage 2	-	-	-	-	-	-	446	442	-	786	822	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.19	12.04	15.59
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	745	1592	-	-	1489	-	-	341
HCM Lane V/C Ratio	0.315	-	-	-	0.165	-	-	0.003
HCM Ctrl Dly (s/v)	12	0	-	-	7.9	0	-	15.6
HCM Lane LOS	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	1.4	0	-	-	0.6	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	223	0	0	281
Future Vol, veh/h	0	0	223	0	0	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	235	0	0	296

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	531	235	0	0	235	0
Stage 1	235	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	509	804	-	-	1333	-
Stage 1	804	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	509	804	-	-	1333	-
Mov Cap-2 Maneuver	587	-	-	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	755	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1333	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱		↰	↱	
Traffic Vol, veh/h	0	0	5	0	0	0	4	198	0	0	268	0
Future Vol, veh/h	0	0	5	0	0	0	4	198	0	0	268	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	0	0	0	4	208	0	0	282	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	499	499	282	499	499	208	282	0	0	208	0	0
Stage 1	282	282	-	217	217	-	-	-	-	-	-	-
Stage 2	217	217	-	282	282	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	482	473	757	482	473	832	1280	-	-	1362	-	-
Stage 1	725	678	-	785	723	-	-	-	-	-	-	-
Stage 2	785	723	-	725	678	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	480	472	757	477	472	832	1280	-	-	1362	-	-
Mov Cap-2 Maneuver	626	590	-	621	588	-	-	-	-	-	-	-
Stage 1	725	678	-	783	721	-	-	-	-	-	-	-
Stage 2	783	721	-	720	678	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.79	0	0.15	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1280	-	-	757	-	1362	-	-
HCM Lane V/C Ratio	0.003	-	-	0.007	-	-	-	-
HCM Ctrl Dly (s/v)	7.8	-	-	9.8	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	100	1	0	0	63	183	0	0	257	14
Future Vol, veh/h	15	0	100	1	0	0	63	183	0	0	257	14
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	105	1	0	0	66	193	0	0	271	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	603	603	278	596	611	193	285	0	0	193	0	0
Stage 1	278	278	-	325	325	-	-	-	-	-	-	-
Stage 2	325	325	-	271	285	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	411	413	761	415	409	849	1277	-	-	1381	-	-
Stage 1	729	681	-	687	649	-	-	-	-	-	-	-
Stage 2	687	649	-	735	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	389	391	761	339	388	849	1277	-	-	1381	-	-
Mov Cap-2 Maneuver	556	530	-	487	510	-	-	-	-	-	-	-
Stage 1	729	681	-	651	615	-	-	-	-	-	-	-
Stage 2	651	615	-	634	676	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.64	12.4	2.04	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1277	-	-	556	761	487	1381	-	-
HCM Lane V/C Ratio	0.052	-	-	0.028	0.138	0.002	-	-	-
HCM Ctrl Dly (s/v)	8	-	-	11.7	10.5	12.4	0	-	-
HCM Lane LOS	A	-	-	B	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.5	0	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 14 2050 Without Prj PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	1174	288	233	1006	75	359	90	267	88	103	196
Future Volume (veh/h)	151	1174	288	233	1006	75	359	90	267	88	103	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	159	1236	303	245	1059	79	378	95	281	93	108	206
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	1068	905	111	910	68	186	92	272	111	103	197
Arrive On Green	0.10	0.57	0.57	0.06	0.53	0.53	0.10	0.22	0.22	0.06	0.18	0.18
Sat Flow, veh/h	1781	1870	1585	1781	1719	128	1781	417	1232	1781	575	1097
Grp Volume(v), veh/h	159	1236	303	245	0	1138	378	0	376	93	0	314
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1847	1781	0	1649	1781	0	1673
Q Serve(g_s), s	10.5	68.5	12.2	7.5	0.0	63.5	12.5	0.0	26.5	6.2	0.0	21.5
Cycle Q Clear(g_c), s	10.5	68.5	12.2	7.5	0.0	63.5	12.5	0.0	26.5	6.2	0.0	21.5
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.75	1.00		0.66
Lane Grp Cap(c), veh/h	186	1068	905	111	0	978	186	0	364	111	0	300
V/C Ratio(X)	0.86	1.16	0.33	2.20	0.00	1.16	2.04	0.00	1.03	0.84	0.00	1.05
Avail Cap(c_a), veh/h	186	1068	905	111	0	978	186	0	364	111	0	300
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.9	25.8	13.7	56.3	0.0	28.3	53.7	0.0	46.8	55.6	0.0	49.3
Incr Delay (d2), s/veh	30.6	81.7	0.2	568.5	0.0	85.2	485.1	0.0	55.9	39.6	0.0	65.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	50.9	4.1	20.9	0.0	48.3	30.6	0.0	16.4	3.9	0.0	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	83.4	107.5	13.9	624.7	0.0	113.5	538.8	0.0	102.6	95.3	0.0	114.3
LnGrp LOS	F	F	B	F		F	F		F	F		F
Approach Vol, veh/h		1698			1383			754			407	
Approach Delay, s/veh		88.5			204.0			321.3			109.9	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	29.0	10.0	71.0	15.0	24.0	15.0	66.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	24.5	5.5	66.5	10.5	19.5	10.5	61.5
Max Q Clear Time (g_c+I1), s	8.2	28.5	9.5	70.5	14.5	23.5	12.5	65.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	169.6
HCM 7th LOS	F

Intersection	
Int Delay, s/veh	23.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1679	45	192	1419	65	161
Future Vol, veh/h	1679	45	192	1419	65	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1767	47	202	1494	68	169

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1815	0	2942	907
Stage 1	-	-	-	-	1791	-
Stage 2	-	-	-	-	1151	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	334	-	~ 12	278
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	263	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	334	-	~ 5	278
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	104	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.69	$ 337.29
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	152	-	-	334	-
HCM Lane V/C Ratio	1.566	-	-	0.605	-
HCM Ctrl Dly (s/v)	$ 337.3	-	-	30.9	-
HCM Lane LOS	F	-	-	D	-
HCM 95th %tile Q(veh)	16.2	-	-	3.7	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	26	65	264	48	1	69	0	269	0	0	0
Future Vol, veh/h	0	26	65	264	48	1	69	0	269	0	0	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	27	66	269	49	1	70	0	274	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	93	0	0	647	648	60	615	681	49
Stage 1	-	-	-	-	-	-	60	60	-	588	588	-
Stage 2	-	-	-	-	-	-	588	589	-	27	93	-
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	1557	-	-	1502	-	-	384	389	1006	404	373	1019
Stage 1	-	-	-	-	-	-	952	845	-	495	496	-
Stage 2	-	-	-	-	-	-	495	496	-	991	818	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1557	-	-	1502	-	-	313	317	1006	239	304	1019
Mov Cap-2 Maneuver	-	-	-	-	-	-	313	317	-	239	304	-
Stage 1	-	-	-	-	-	-	952	845	-	404	404	-
Stage 2	-	-	-	-	-	-	404	404	-	720	818	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	6.68	15.24	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	693	1557	-	-	1460	-	-	-
HCM Lane V/C Ratio	0.498	-	-	-	0.179	-	-	-
HCM Ctrl Dly (s/v)	15.2	0	-	-	7.9	0	-	0
HCM Lane LOS	C	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	2.8	0	-	-	0.7	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	2	336	9	6	323
Future Vol, veh/h	7	2	336	9	6	323
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	2	354	9	6	340

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	711	358	0	0	363	0
Stage 1	358	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	399	686	-	-	1195	-
Stage 1	707	-	-	-	-	-
Stage 2	711	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	397	686	-	-	1195	-
Mov Cap-2 Maneuver	504	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	708	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.84	0	0.15
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	536	1195	-
HCM Lane V/C Ratio	-	-	0.018	0.005	-
HCM Ctrl Dly (s/v)	-	-	11.8	8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	0	9	11	0	1	0	301	26	4	295	0
Future Vol, veh/h	12	0	9	11	0	1	0	301	26	4	295	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	9	12	0	1	0	317	27	4	311	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	636	663	311	649	649	331	311	0	0	344	0	0
Stage 1	319	319	-	331	331	-	-	-	-	-	-	-
Stage 2	317	344	-	319	319	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	391	382	730	383	388	711	1250	-	-	1215	-	-
Stage 1	693	653	-	683	645	-	-	-	-	-	-	-
Stage 2	694	637	-	693	653	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	389	380	730	376	387	711	1250	-	-	1215	-	-
Mov Cap-2 Maneuver	559	526	-	551	533	-	-	-	-	-	-	-
Stage 1	690	651	-	683	645	-	-	-	-	-	-	-
Stage 2	693	637	-	681	651	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.01	11.56	0	0.11
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1250	-	-	622	561	1215	-	-
HCM Lane V/C Ratio	-	-	-	0.036	0.023	0.003	-	-
HCM Ctrl Dly (s/v)	0	-	-	11	11.6	8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	67	0	0	0	75	316	0	0	293	14
Future Vol, veh/h	11	0	67	0	0	0	75	316	0	0	293	14
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	71	0	0	0	79	333	0	0	308	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	806	806	316	799	814	333	323	0	0	333	0	0
Stage 1	316	316	-	491	491	-	-	-	-	-	-	-
Stage 2	491	491	-	308	323	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	300	315	725	304	312	709	1237	-	-	1227	-	-
Stage 1	695	655	-	559	548	-	-	-	-	-	-	-
Stage 2	559	548	-	702	650	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	281	295	725	257	292	709	1237	-	-	1227	-	-
Mov Cap-2 Maneuver	456	449	-	422	433	-	-	-	-	-	-	-
Stage 1	695	655	-	524	513	-	-	-	-	-	-	-
Stage 2	524	513	-	633	650	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.87	0	1.56	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1237	-	-	456	725	-	1227	-	-
HCM Lane V/C Ratio	0.064	-	-	0.025	0.097	-	-	-	-
HCM Ctrl Dly (s/v)	8.1	-	-	13.1	10.5	0	0	-	-
HCM Lane LOS	A	-	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.3	-	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 15 2050 With Prj AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	1181	170	106	1016	88	202	76	76	83	89	208
Future Volume (veh/h)	201	1181	170	106	1016	88	202	76	76	83	89	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	1243	179	112	1069	93	213	80	80	87	94	219
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	1021	865	111	799	69	200	211	211	111	98	228
Arrive On Green	0.14	0.55	0.55	0.06	0.47	0.47	0.11	0.25	0.25	0.06	0.20	0.20
Sat Flow, veh/h	1781	1870	1585	1781	1696	148	1781	858	858	1781	499	1162
Grp Volume(v), veh/h	212	1243	179	112	0	1162	213	0	160	87	0	313
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1844	1781	0	1716	1781	0	1661
Q Serve(g_s), s	14.0	65.5	6.9	7.5	0.0	56.5	13.5	0.0	9.3	5.8	0.0	22.4
Cycle Q Clear(g_c), s	14.0	65.5	6.9	7.5	0.0	56.5	13.5	0.0	9.3	5.8	0.0	22.4
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.50	1.00		0.70
Lane Grp Cap(c), veh/h	245	1021	865	111	0	868	200	0	422	111	0	325
V/C Ratio(X)	0.87	1.22	0.21	1.01	0.00	1.34	1.06	0.00	0.38	0.78	0.00	0.96
Avail Cap(c_a), veh/h	245	1021	865	111	0	868	200	0	422	111	0	325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.7	27.3	14.0	56.3	0.0	31.8	53.2	0.0	37.6	55.4	0.0	47.8
Incr Delay (d2), s/veh	26.1	106.9	0.1	86.9	0.0	160.1	81.2	0.0	2.6	29.3	0.0	41.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	56.3	2.4	6.0	0.0	61.7	10.5	0.0	4.2	3.4	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	76.8	134.2	14.1	143.2	0.0	191.9	134.5	0.0	40.2	84.7	0.0	89.0
LnGrp LOS	E	F	B	F		F	F		D	F		F
Approach Vol, veh/h		1634			1274			373			400	
Approach Delay, s/veh		113.6			187.6			94.0			88.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	32.0	10.0	68.0	16.0	26.0	19.0	59.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	27.5	5.5	63.5	11.5	21.5	14.5	54.5
Max Q Clear Time (g_c+I1), s	7.8	11.3	9.5	67.5	15.5	24.4	16.0	58.5
Green Ext Time (p_c), s	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	134.4
HCM 7th LOS	F

Intersection	
Int Delay, s/veh	22.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1317	118	209	1734	59	233
Future Vol, veh/h	1317	118	209	1734	59	233
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1386	124	220	1825	62	245

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1511	0	2801	755
Stage 1	-	-	-	-	1448	-
Stage 2	-	-	-	-	1353	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	439	-	~ 15	351
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	205	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	439	-	~ 7	351
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	102	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.28	268.99
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	212	-	-	439	-
HCM Lane V/C Ratio	1.449	-	-	0.501	-
HCM Ctrl Dly (s/v)	269	-	-	21.2	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	18.2	-	-	2.7	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	40	43	240	22	0	41	0	192	0	1	0
Future Vol, veh/h	0	40	43	240	22	0	41	0	192	0	1	0
Conflicting Peds, #/hr	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	42	45	253	23	0	43	0	202	0	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	23	0	0	87	0	0	594	593	65	571	616	23
Stage 1	-	-	-	-	-	-	65	65	-	528	528	-
Stage 2	-	-	-	-	-	-	529	528	-	42	87	-
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	1592	-	-	1509	-	-	417	418	999	432	406	1054
Stage 1	-	-	-	-	-	-	946	841	-	534	527	-
Stage 2	-	-	-	-	-	-	533	527	-	972	822	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1592	-	-	1509	-	-	345	347	999	286	337	1054
Mov Cap-2 Maneuver	-	-	-	-	-	-	345	347	-	286	337	-
Stage 1	-	-	-	-	-	-	946	841	-	443	438	-
Stage 2	-	-	-	-	-	-	442	438	-	776	822	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	7.21	12.12	15.71
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	749	1592	-	-	1489	-	-	337
HCM Lane V/C Ratio	0.327	-	-	-	0.167	-	-	0.003
HCM Ctrl Dly (s/v)	12.1	0	-	-	7.9	0	-	15.7
HCM Lane LOS	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	1.4	0	-	-	0.6	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	6	227	8	2	282
Future Vol, veh/h	13	6	227	8	2	282
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	6	239	8	2	297

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	544	243	0	0	247	0
Stage 1	243	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	500	796	-	-	1318	-
Stage 1	797	-	-	-	-	-
Stage 2	751	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	499	796	-	-	1318	-
Mov Cap-2 Maneuver	580	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.86	0	0.05
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	634	1318	-
HCM Lane V/C Ratio	-	-	0.032	0.002	-
HCM Ctrl Dly (s/v)	-	-	10.9	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	30	0	4	4	206	13	1	281	0
Future Vol, veh/h	0	0	5	30	0	4	4	206	13	1	281	0
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	-	-	-	-	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	32	0	4	4	217	14	1	296	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	523	537	296	530	530	224	296	0	0	231	0	0
Stage 1	298	298	-	232	232	-	-	-	-	-	-	-
Stage 2	225	239	-	298	298	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	464	450	744	460	455	816	1266	-	-	1337	-	-
Stage 1	711	667	-	771	712	-	-	-	-	-	-	-
Stage 2	777	708	-	711	667	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	460	449	744	454	453	816	1266	-	-	1337	-	-
Mov Cap-2 Maneuver	611	574	-	605	575	-	-	-	-	-	-	-
Stage 1	710	666	-	768	710	-	-	-	-	-	-	-
Stage 2	771	705	-	705	666	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.88	11.12	0.14	0.03
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1266	-	-	744	624	1337	-	-
HCM Lane V/C Ratio	0.003	-	-	0.007	0.057	0.001	-	-
HCM Ctrl Dly (s/v)	7.9	-	-	9.9	11.1	7.7	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	100	1	0	0	63	203	0	0	299	14
Future Vol, veh/h	15	0	100	1	0	0	63	203	0	0	299	14
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	98	-	-	-	-	-	99	-	-	0	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	105	1	0	0	66	214	0	0	315	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	668	668	322	661	676	214	329	0	0	214	0	0
Stage 1	322	322	-	346	346	-	-	-	-	-	-	-
Stage 2	346	346	-	315	329	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	372	379	719	376	375	826	1230	-	-	1356	-	-
Stage 1	690	651	-	669	635	-	-	-	-	-	-	-
Stage 2	669	635	-	696	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	352	358	719	303	355	826	1230	-	-	1356	-	-
Mov Cap-2 Maneuver	528	507	-	455	485	-	-	-	-	-	-	-
Stage 1	690	651	-	633	601	-	-	-	-	-	-	-
Stage 2	633	601	-	594	646	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.02	12.93	1.92	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1230	-	-	528	719	455	1356	-	-
HCM Lane V/C Ratio	0.054	-	-	0.03	0.146	0.002	-	-	-
HCM Ctrl Dly (s/v)	8.1	-	-	12	10.9	12.9	0	-	-
HCM Lane LOS	A	-	-	B	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.5	0	0	-	-

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 16 2050 With Prj PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	1174	288	233	1006	76	359	92	267	92	109	228
Future Volume (veh/h)	169	1174	288	233	1006	76	359	92	267	92	109	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	1236	303	245	1059	80	378	97	281	97	115	240
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	1068	905	111	909	69	186	93	271	111	97	202
Arrive On Green	0.10	0.57	0.57	0.06	0.53	0.53	0.10	0.22	0.22	0.06	0.18	0.18
Sat Flow, veh/h	1781	1870	1585	1781	1717	130	1781	423	1226	1781	540	1127
Grp Volume(v), veh/h	178	1236	303	245	0	1139	378	0	378	97	0	355
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1847	1781	0	1650	1781	0	1667
Q Serve(g_s), s	11.9	68.5	12.2	7.5	0.0	63.5	12.5	0.0	26.5	6.5	0.0	21.5
Cycle Q Clear(g_c), s	11.9	68.5	12.2	7.5	0.0	63.5	12.5	0.0	26.5	6.5	0.0	21.5
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.74	1.00		0.68
Lane Grp Cap(c), veh/h	186	1068	905	111	0	977	186	0	364	111	0	299
V/C Ratio(X)	0.96	1.16	0.33	2.20	0.00	1.17	2.04	0.00	1.04	0.87	0.00	1.19
Avail Cap(c_a), veh/h	186	1068	905	111	0	977	186	0	364	111	0	299
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.5	25.8	13.7	56.3	0.0	28.3	53.7	0.0	46.8	55.8	0.0	49.3
Incr Delay (d2), s/veh	54.1	81.7	0.2	568.5	0.0	85.7	485.1	0.0	57.2	47.8	0.0	113.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	50.9	4.1	20.9	0.0	48.4	30.6	0.0	16.6	4.3	0.0	18.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	107.6	107.5	13.9	624.7	0.0	113.9	538.8	0.0	104.0	103.6	0.0	162.4
LnGrp LOS	F	F	B	F		F	F		F	F		F
Approach Vol, veh/h		1717			1384			756			452	
Approach Delay, s/veh		91.0			204.4			321.4			149.8	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	29.0	10.0	71.0	15.0	24.0	15.0	66.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	24.5	5.5	66.5	10.5	19.5	10.5	61.5
Max Q Clear Time (g_c+I1), s	8.5	28.5	9.5	70.5	14.5	23.5	13.9	65.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	174.0
HCM 7th LOS	F

Intersection	
Int Delay, s/veh	28.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1679	48	192	1419	75	161
Future Vol, veh/h	1679	48	192	1419	75	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	147	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1767	51	202	1494	79	169

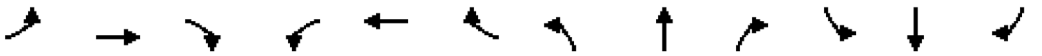
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1818	0	2944	909
Stage 1	-	-	-	-	1793	-
Stage 2	-	-	-	-	1151	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	333	-	~ 12	278
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	263	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	333	-	~ 5	278
Mov Cap-2 Maneuver	-	-	-	-	~ 71	-
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	104	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.71	$ 404.38
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	145	-	-	333	-
HCM Lane V/C Ratio	1.718	-	-	0.606	-
HCM Ctrl Dly (s/v)	$ 404.4	-	-	31.1	-
HCM Lane LOS	F	-	-	D	-
HCM 95th %tile Q(veh)	18.1	-	-	3.8	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 11 OY Cumul With Prj AM - Circulation Imp

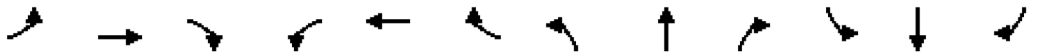


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	1125	162	101	968	84	192	73	72	79	85	199
Future Volume (veh/h)	193	1125	162	101	968	84	192	73	72	79	85	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	1184	171	106	1019	88	202	77	76	83	89	209
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	1422	634	159	1223	545	315	658	558	134	628	532
Arrive On Green	0.15	0.40	0.40	0.09	0.34	0.34	0.09	0.35	0.35	0.08	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	203	1184	171	106	1019	88	202	77	76	83	89	209
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	13.2	36.0	8.7	6.9	31.6	4.6	6.8	3.3	3.9	5.4	4.0	12.1
Cycle Q Clear(g_c), s	13.2	36.0	8.7	6.9	31.6	4.6	6.8	3.3	3.9	5.4	4.0	12.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1422	634	159	1223	545	315	658	558	134	628	532
V/C Ratio(X)	0.78	0.83	0.27	0.67	0.83	0.16	0.64	0.12	0.14	0.62	0.14	0.39
Avail Cap(c_a), veh/h	364	1703	760	230	1436	641	389	658	558	200	628	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	32.4	24.2	52.9	36.2	27.3	52.6	26.3	26.5	53.8	27.8	30.5
Incr Delay (d2), s/veh	7.2	3.2	0.2	4.7	3.8	0.1	2.5	0.4	0.5	4.6	0.5	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	15.2	3.2	3.2	13.7	1.7	3.0	1.6	1.5	2.5	1.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.6	35.5	24.4	57.6	40.0	27.5	55.1	26.6	27.0	58.5	28.3	32.6
LnGrp LOS	E	D	C	E	D	C	E	C	C	E	C	C
Approach Vol, veh/h		1558			1213			355			381	
Approach Delay, s/veh		37.0			40.6			42.9			37.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	44.7	13.2	50.5	13.4	42.8	20.0	43.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	21.5	13.5	55.5	11.5	21.5	22.5	46.5
Max Q Clear Time (g_c+I1), s	7.4	5.9	8.9	38.0	8.8	14.1	15.2	33.6
Green Ext Time (p_c), s	0.1	0.5	0.1	8.1	0.2	0.6	0.3	5.6

Intersection Summary	
HCM 7th Control Delay, s/veh	38.9
HCM 7th LOS	D

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 12 OY Cumul With Prj PM - Circulation Imp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	1118	274	222	958	72	342	88	254	88	104	219
Future Volume (veh/h)	162	1118	274	222	958	72	342	88	254	88	104	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	1177	288	234	1008	76	360	93	267	93	109	231
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	1340	598	289	1464	653	469	554	470	145	453	384
Arrive On Green	0.13	0.38	0.38	0.16	0.41	0.41	0.14	0.30	0.30	0.08	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	171	1177	288	234	1008	76	360	93	267	93	109	231
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	11.1	37.0	16.6	15.2	27.9	3.6	12.1	4.4	17.1	6.1	5.6	15.5
Cycle Q Clear(g_c), s	11.1	37.0	16.6	15.2	27.9	3.6	12.1	4.4	17.1	6.1	5.6	15.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	227	1340	598	289	1464	653	469	554	470	145	453	384
V/C Ratio(X)	0.75	0.88	0.48	0.81	0.69	0.12	0.77	0.17	0.57	0.64	0.24	0.60
Avail Cap(c_a), veh/h	303	1407	627	349	1498	668	504	554	470	191	453	384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	34.8	28.5	48.5	29.0	21.8	50.0	31.3	35.7	53.4	36.6	40.4
Incr Delay (d2), s/veh	7.3	6.5	0.6	11.4	1.3	0.1	6.6	0.7	4.9	4.7	1.3	6.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	16.4	6.2	7.5	11.5	1.3	5.6	2.1	7.0	2.8	2.7	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.8	41.3	29.1	59.9	30.3	21.9	56.7	31.9	40.7	58.1	37.9	47.2
LnGrp LOS	E	D	C	E	C	C	E	C	D	E	D	D
Approach Vol, veh/h		1636			1318			720			433	
Approach Delay, s/veh		40.9			35.1			47.5			47.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	38.1	21.9	47.7	18.8	31.5	17.8	51.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.9	24.1	21.5	45.5	15.5	19.5	18.4	48.6
Max Q Clear Time (g_c+I1), s	8.1	19.1	17.2	39.0	14.1	17.5	13.1	29.9
Green Ext Time (p_c), s	0.0	0.7	0.2	4.2	0.2	0.3	0.2	6.6

Intersection Summary	
HCM 7th Control Delay, s/veh	40.8
HCM 7th LOS	D

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 15 2050 With Prj AM - Cir Imp

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	1181	170	106	1016	88	202	76	76	83	89	208
Future Volume (veh/h)	201	1181	170	106	1016	88	202	76	76	83	89	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	1243	179	112	1069	93	213	80	80	87	94	219
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	1599	713	178	1385	618	359	487	413	148	449	380
Arrive On Green	0.16	0.45	0.45	0.10	0.39	0.39	0.10	0.26	0.26	0.08	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	212	1243	179	112	1069	93	213	80	80	87	94	219
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	10.6	27.8	6.6	5.7	24.6	3.6	5.5	3.1	3.7	4.4	3.8	11.4
Cycle Q Clear(g_c), s	10.6	27.8	6.6	5.7	24.6	3.6	5.5	3.1	3.7	4.4	3.8	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	285	1599	713	178	1385	618	359	487	413	148	449	380
V/C Ratio(X)	0.75	0.78	0.25	0.63	0.77	0.15	0.59	0.16	0.19	0.59	0.21	0.58
Avail Cap(c_a), veh/h	465	2217	989	294	1876	837	498	487	413	237	449	380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	21.8	16.0	40.6	25.0	18.5	40.1	26.8	27.0	41.4	28.5	31.4
Incr Delay (d2), s/veh	3.9	1.2	0.2	3.7	1.4	0.1	1.6	0.7	1.0	3.7	1.1	6.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	10.6	2.2	2.6	9.7	1.2	2.4	1.5	1.4	2.0	1.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.4	23.0	16.2	44.2	26.4	18.7	41.7	27.5	28.0	45.1	29.6	37.6
LnGrp LOS	D	C	B	D	C	B	D	C	C	D	C	D
Approach Vol, veh/h		1634			1274			373			400	
Approach Delay, s/veh		24.7			27.4			35.7			37.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	26.9	11.9	44.7	12.2	25.0	17.5	39.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	21.5	13.5	56.5	11.5	20.5	22.5	47.5
Max Q Clear Time (g_c+I1), s	6.4	5.7	7.7	29.8	7.5	13.4	12.6	26.6
Green Ext Time (p_c), s	0.1	0.5	0.1	10.4	0.2	0.7	0.4	7.5

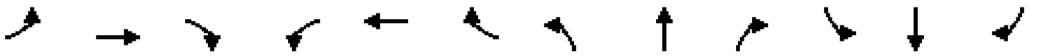
Intersection Summary	
HCM 7th Control Delay, s/veh	28.1
HCM 7th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1317	118	209	1734	59	233
Future Volume (veh/h)	1317	118	209	1734	59	233
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1386	124	220	1825	62	245
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1911	170	275	2680	67	263
Arrive On Green	0.58	0.58	0.15	0.75	0.20	0.20
Sat Flow, veh/h	3394	294	1781	3647	326	1290
Grp Volume(v), veh/h	743	767	220	1825	308	0
Grp Sat Flow(s),veh/h/ln	1777	1817	1781	1777	1622	0
Q Serve(g_s), s	36.3	36.9	14.3	31.1	22.4	0.0
Cycle Q Clear(g_c), s	36.3	36.9	14.3	31.1	22.4	0.0
Prop In Lane		0.16	1.00		0.20	0.80
Lane Grp Cap(c), veh/h	1029	1052	275	2680	331	0
V/C Ratio(X)	0.72	0.73	0.80	0.68	0.93	0.00
Avail Cap(c_a), veh/h	1029	1052	334	2680	331	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.3	18.4	49.0	7.5	46.9	0.0
Incr Delay (d2), s/veh	4.4	4.4	10.9	1.4	34.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	15.2	7.0	9.2	12.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	22.7	22.8	59.9	8.9	81.4	0.0
LnGrp LOS	C	C	E	A	F	
Approach Vol, veh/h	1510			2045	308	
Approach Delay, s/veh	22.7			14.4	81.4	
Approach LOS	C			B	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	21.0	72.0				93.0	27.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	20.5	63.5				88.5	22.5
Max Q Clear Time (g_c+I1), s	16.3	38.9				33.1	24.4
Green Ext Time (p_c), s	0.2	11.2				23.0	0.0

Intersection Summary			
HCM 7th Control Delay, s/veh		23.0	
HCM 7th LOS		C	

5: Trumble Road & Ethanac Road
HCM 7th Signalized Intersection Summary 16 2050 With Prj PM - Cir Imp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	1174	288	233	1006	76	359	92	267	92	109	228
Future Volume (veh/h)	169	1174	288	233	1006	76	359	92	267	92	109	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	178	1236	303	245	1059	80	378	97	281	97	115	240
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	1632	728	140	1446	645	453	520	441	140	422	358
Arrive On Green	0.13	0.46	0.46	0.08	0.41	0.41	0.13	0.28	0.28	0.08	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	178	1236	303	245	1059	80	378	97	281	97	115	240
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	9.2	27.5	12.2	7.5	24.0	3.0	10.2	3.8	14.8	5.1	4.8	13.2
Cycle Q Clear(g_c), s	9.2	27.5	12.2	7.5	24.0	3.0	10.2	3.8	14.8	5.1	4.8	13.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	1632	728	140	1446	645	453	520	441	140	422	358
V/C Ratio(X)	0.76	0.76	0.42	1.75	0.73	0.12	0.83	0.19	0.64	0.69	0.27	0.67
Avail Cap(c_a), veh/h	234	2555	1140	140	2369	1057	453	520	441	140	422	358
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	21.3	17.2	43.9	23.9	17.6	40.4	26.2	30.2	42.8	30.4	33.7
Incr Delay (d2), s/veh	13.7	0.7	0.4	363.9	0.7	0.1	12.6	0.8	6.9	13.5	1.6	9.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	10.3	4.1	17.3	9.3	1.0	5.1	1.8	6.1	2.7	2.3	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.6	22.1	17.6	407.7	24.6	17.7	52.9	27.0	37.0	56.3	32.0	43.3
LnGrp LOS	D	C	B	F	C	B	D	C	D	E	C	D
Approach Vol, veh/h		1717			1384			756			452	
Approach Delay, s/veh		24.6			92.0			43.7			43.2	
Approach LOS		C			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	29.0	10.0	46.3	15.0	24.0	15.0	41.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	24.5	5.5	66.5	10.5	19.5	10.5	61.5
Max Q Clear Time (g_c+I1), s	7.1	16.8	9.5	29.5	12.2	15.2	11.2	26.0
Green Ext Time (p_c), s	0.0	0.9	0.0	12.3	0.0	0.6	0.0	8.7

Intersection Summary	
HCM 7th Control Delay, s/veh	51.5
HCM 7th LOS	D



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1679	48	192	1419	75	161
Future Volume (veh/h)	1679	48	192	1419	75	161
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1767	51	202	1494	79	169
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2168	62	256	2769	93	200
Arrive On Green	0.61	0.61	0.14	0.78	0.18	0.18
Sat Flow, veh/h	3621	101	1781	3647	521	1115
Grp Volume(v), veh/h	887	931	202	1494	249	0
Grp Sat Flow(s),veh/h/ln	1777	1852	1781	1777	1644	0
Q Serve(g_s), s	46.1	46.8	13.1	19.2	17.6	0.0
Cycle Q Clear(g_c), s	46.1	46.8	13.1	19.2	17.6	0.0
Prop In Lane		0.05	1.00		0.32	0.68
Lane Grp Cap(c), veh/h	1092	1138	256	2769	294	0
V/C Ratio(X)	0.81	0.82	0.79	0.54	0.85	0.00
Avail Cap(c_a), veh/h	1092	1138	289	2769	294	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.8	17.9	49.6	5.0	47.6	0.0
Incr Delay (d2), s/veh	6.6	6.6	12.3	0.8	24.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.5	19.5	6.6	5.2	9.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	24.4	24.5	61.9	5.8	72.3	0.0
LnGrp LOS	C	C	E	A	E	
Approach Vol, veh/h	1818			1696	249	
Approach Delay, s/veh	24.4			12.5	72.3	
Approach LOS	C			B	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	19.7	76.3				96.0	24.0
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	17.5	69.5				91.5	19.5
Max Q Clear Time (g_c+I1), s	15.1	48.8				21.2	19.6
Green Ext Time (p_c), s	0.1	13.1				16.3	0.0

Intersection Summary		
HCM 7th Control Delay, s/veh		22.2
HCM 7th LOS		C

Appendix I

VMT Memorandum

memorandum

DATE: May 9, 2025

TO: **Christopher Heron, City of Menifee**
Ryan Luckert, Environmental Planner, Rincon Consultants, Inc.

FROM: **Deepali Chausalkar**
Sandipan Bhattacharjee

SUBJECT: Trumble Road and Watson Road Warehouse – VMT Screening

Translutions, Inc. (Translutions) is pleased to provide this memorandum discussing the vehicle miles traveled (VMT) screening for the proposed project in the City of Menifee in the Riverside County. The proposed project site is located at the southeast corner of the intersection of Trumble Road and Watson Road in the City of Menifee. The proposed project includes construction of a 328,205 square foot warehouse. Figure 1 shows the site plan for the project.

NEED FOR VMT ANALYSIS

The City of Menifee has adopted CEQA thresholds under Vehicle Miles Traveled (VMT) pursuant to Senate Bill – 743 (SB-743). Based on the City of Menifee's *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (Updated January, 2022)*, the following three screening criteria are applied to effectively screen projects from project-level assessment:

1. **Transit Priority Area (TPA) Screening.** Projects located within a TPA may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may NOT be appropriate if the project:

   - Has a Floor Area Ratio (FAR) of less than 0.75;
   - Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
   - Is inconsistent with the applicable Sustainable Communities Strategy(as decided by the City of Menifee, with input from the Metropolitan Planning Organization); or
   - Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

   Based on the evaluation conducted using the WRCOG VMT tool, the proposed project is not located within a TPA. Therefore, TPA screening criterion does not apply for the proposed project.

2. **Low VMT Area Screening.** Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area.

   For this screening in the City of Menifee, the RIVCOM travel forecasting model is used to measure VMT performance for individual jurisdictions and for individual traffic analysis zones (TAZs). Total daily VMT per service population (population plus employment) is the metric used by the City. This presumption may not be appropriate if the project land uses would alter the existing built environment in such a way as to increase the rate or length of vehicle trips.

   To identify if the project falls withing the low VMT – generating areas, the WRCOG screening tool was used. Based on the guidelines, a project would result in a significant project-generated VMT impact if the following condition is satisfied:

   - The baseline project-generated VMT per service population exceeds the County of Riverside General Plan Buildout VMT per service population.

   As mentioned in the City's Guidelines, the County VMT/service population threshold is 33.6 which is based on Origin Destination OD/VMT per service population methodology for County General Plan Buildout and RIVCOM.

   Based on the evaluation done using WRCOG VMT Tool, the proposed project is located within TAZ 1098 and the baseline (2018) project generated VMT per service population (32.96) does not exceed the threshold Jurisdiction VMT

per service population (33.6). Figure 2 illustrates the location of the project with respect to the Low VMT area. Therefore, the project screens out of a VMT analysis and impacts are considered less than significant.

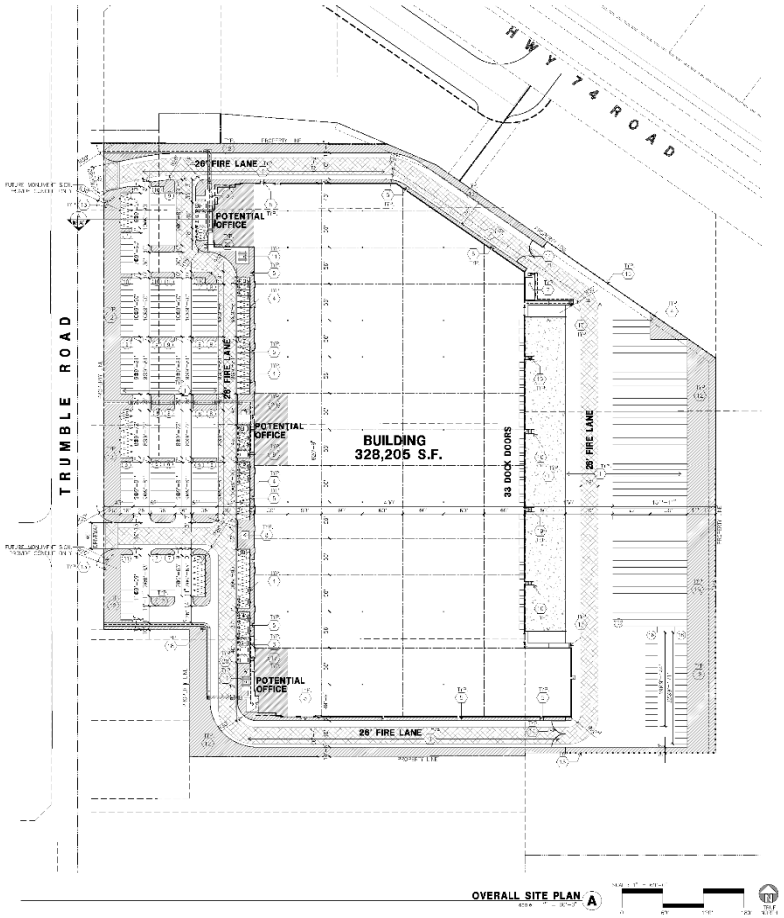
3. **Project Type Screening.** Local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary. Local serving retail generally improves the convenience of shopping close to home and has the effect of reducing vehicle travel. In addition to local serving retail, the following uses can also be presumed to have a less than significant impact absent substantial evidence of the contrary as their uses are local serving in nature:

    - Local-serving K-12 schools
    - Local parks
    - Day care centers
    - Local-serving gas stations, banks, restaurants, shopping center
    - Local-serving hotels (e.g. non-destination hotels)
    - Student housing projects on or adjacent to college campuses
    - Community institutions (Public libraries, fire stations, local government)
    - Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
    - Affordable or supportive housing
    - Assisted Living facilities
    - Senior housing as defined by the U.S. Department of Housing and urban Development (HUD)
    - Projects generating less than 110 daily vehicle trips
        - This generally corresponds to the following “typical” development potentials:
        - 11 single family housing units
        - 16 multi-family, condominiums, or townhouse housing units
        - 10,000 sq.ft of office
        - 15,000 sq.ft of light industrial
        - 63,000 sq.ft. of warehousing
        - 79,000 sq.ft. of high cube transload and short-term storage warehouse

    The proposed project includes construction of a 328,205 square foot warehouse which is more than the screening criterion of 63,000 square feet of warehousing space. Therefore, the proposed project does not screen out of a VMT analysis based on this criterion.

CONCLUSION

Based on the above analysis, the project screens out of a VMT analysis as it is located in a low VMT area, and the VMT impacts under CEQA are considered to be less than significant.



PROJECT INFORMATION

VICINITY MAP



TABULATION

Area	
In s.f.	748,812 s.f.
In acres	17.190 ac
BUILDING AREA	
Office	15,000 s.f.
Warehouse	313,205 s.f.
TOTAL	328,205 s.f.
COVERAGE	43.8%
AUTO PARKING REQUIRED	
Office: 1/300 s.f.	50 stalls
Whse: 1/1000 s.f. (first 100k s.f.)	100 stalls
Whse: 1/1500 s.f. (100k-500k s.f.)	143 stalls
TOTAL	293 stalls
AUTO PARKING PROVIDED	
Standard (9' x 18')	257 stalls
Accessible (9' x 18')	6 stalls
Van Accessible (12' x 18')	2 stalls
EVCS (9' x 18')	13 stalls
EVCS ADA (9' x 18')	1 stalls
EVCS Van ADA (12' x 18')	1 stalls
EVCS Future Aumulatory (10' x 18')	2 stalls
EV Capable (9' x 18')	51 stalls
Total	333 stalls
TRAILER PARKING PROVIDED	
Trailer (10' x 55')	92 stalls
ZONING ORDINANCE FOR CITY	
Zoning Designation - Economic Development Corridor - Northern Gateway (EDC-NG)	
MAXIMUM BUILDING HEIGHT ALLOWED	
Height - 100'	
MAXIMUM FLOOR AREA RATIO	
FAR - 1.0	
ACTUAL FLOOR AREA RATIO	
FAR - 0.44	
LANDSCAPE REQUIREMENT	
Percentage - 10%	
LANDSCAPE PROVIDED	
Percentage - 11.4%	
SETBACKS	
Front - 25'	
Street side - 15'	
Rear - 10'	
STATEMENT OF OPERATION	
Speculative Development - Occupancy / Operations TBD (Potential Uses: General warehouse, distribution centers and storage; Manufacturing, Light or Medium-Intensity.)	

SITE PLAN KEYNOTES

SITE PLAN GENERAL NOTES

SITE LEGEND

OFFICIAL USE ONLY

Figure 1

Trumble Road and Watson Road Warehouse
Project Site Plan

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the transportation solutions company...

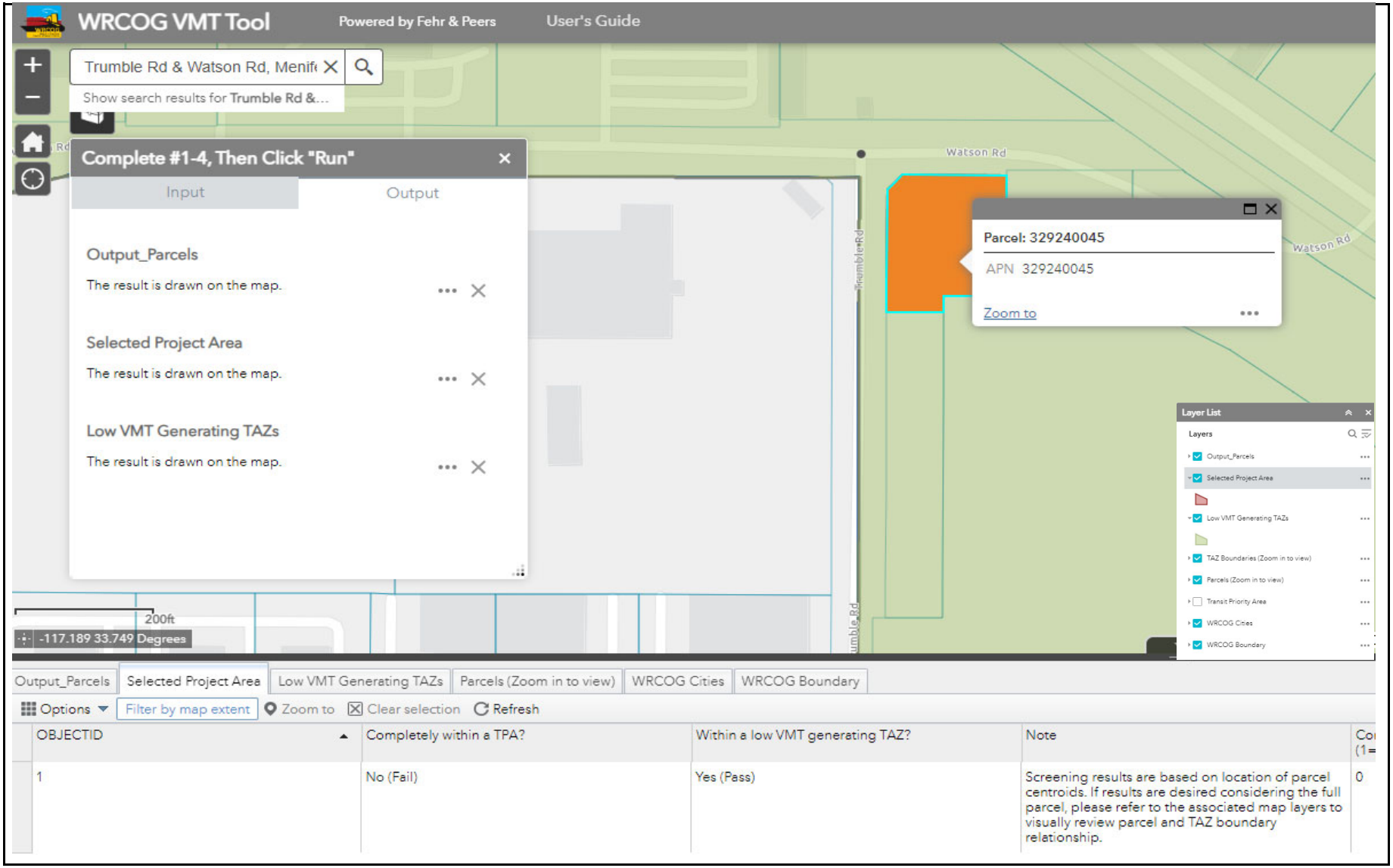


Figure 2

Trumble Road and Watson Road Warehouse
Low VMT Area Screening