LINSCOTT LAW & GREENSPAN engineers

TRAFFIC IMPACT ANALYSIS REPORT

FRENCH VALLEY TOMMY'S EXPRESS WASH

Riverside County, California

March 11, 2022

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EXECUTIVE SUMMARY

Project Description

- The project site is located on the southwest corner of Penfield Lane and Benton Road in Riverside County, California. The proposed French Valley Tommy's Express Wash Project consists of an express car wash with 130-foot wash tunnel, a 729 SF fast-food restaurant with drive-through window, and a 2,535 SF fast-food restaurant with drive-through window. The proposed Project is expected to be completed and fully occupied by the Year 2024. Access to the proposed Project will be provided via one (1) right-in/right-out stop-controlled driveway along Benton Road and one (1) full-access stop-controlled driveway located along Penfield Lane.

- The net traffic generation potential of the proposed project totals 1,989 weekday net daily trips (one half arriving, one half departing), with 62 net trips (35 inbound, 27 outbound) produced in the AM peak hour and 108 net trips (55 inbound, 53 outbound) produced in the PM peak hour.

Study Area

- The key study intersections listed below provide both local and regional access to the study area and defines the extent of the boundaries for this traffic impact investigation:

    1. Winchester Road at Benton Road
    2. Temeku Street at Benton Road
    3. Penfield Lane at Benton Road
    4. Leon Road at Benton Road
    5. Van Gaale Lane/Cognac Street at Benton Road
    6. Pourroy Road at Benton Road

Cumulative Projects Description

- The thirty (30) cumulative projects are forecast to generate a combined total of 96,839 weekday daily trips, with 4,822 trips forecast during the AM peak hour and 7,698 trips forecast during the PM peak hour.

Traffic Impact Analysis

- Under Existing traffic conditions, all six (6) key study intersections currently operate at acceptable levels of service during the AM and PM peak hours.

- For Existing With Ambient Growth With Project traffic conditions, all six (6) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours.

- For Existing With Ambient Growth With Project With Cumulative Projects traffic conditions, two (2) of the six (6) key study intersection are forecast to operate at an adverse level of service during the PM peak hour when compared to the target LOS defined in this report. The remaining four (4) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
1. Winchester Road at Benton Road	--	--	89.5	F
4. Leon Road at Benton Road	--	--	78.1	F

Two (2) of the six (6) key study intersections will operate at deficient levels of service and exceed the target LOS under Existing With Ambient Growth With Project With Cumulative Projects traffic conditions when compared to the target LOS defined in this report. However, the implementation of recommended improvements at the deficient locations improves these intersections to either acceptable service levels or better than "with Project" conditions.

Project-Specific Access Improvements

- The following project-specific improvements are to be constructed by the proposed Project along the Project frontage and at the intersection of Penfield Lane and Benton Road.
  - Intersection 3. Penfield Lane at Benton Road: Widen Benton Road along the Project frontage and restripe the west leg to provide an exclusive eastbound right-turn lane. Modify the existing traffic signal.

Planned Improvements

- The following planned improvements are associated with the construction of cumulative projects and are included in the Existing With Ambient Growth With Project With Cumulative traffic conditions:
  - Intersection 1. Winchester Road at Benton Road: Widen and restripe the south leg to provide dual exclusive northbound left-turn lanes and a third southbound departure lane. Widen and restripe the north leg to provide a second exclusive southbound left-turn lane, a third southbound through lane, and an exclusive southbound right-turn lane. Construct the west leg and provide dual exclusive eastbound left-turn lanes, three eastbound through lanes, an exclusive eastbound right-turn lane, and three westbound departure lanes. Widen and restripe the east leg to provide two westbound through lanes and a third westbound departure lane. Stripe crosswalks on the south and west legs. Modify the existing traffic signal for eight-phase operation.
  - Intersection 6. Pourroy Road at Benton Road: Widen and restripe the south leg to provide a second southbound departure lane. Widen and restripe the north leg to

provide an exclusive southbound left-turn lane and a second southbound through lane. Widen and restripe the west leg to provide two additional westbound departure lanes. Restripe the east leg to provide a second westbound through lane and convert the exclusive westbound right-turn lane to a shared westbound through/right-turn lane. Modify the existing traffic signal.

Recommended Improvements

Existing With Ambient Growth With Project With Cumulative Projects Traffic Conditions

- The results of Existing With Ambient Growth With Project With Cumulative Projects traffic conditions indicate that two (2) of the six (6) key study intersection are forecast to operate at an adverse level of service during the PM peak hour when compared to the target LOS defined in this report. The remaining four (4) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours. The improvements listed below have been identified at the deficient locations to improve these intersections to pre-Project service levels:

    - Intersection 1. Winchester Road at Benton Road: Widen and restripe the south leg to provide an exclusive northbound right-turn lane. Modify the existing traffic signal, accordingly, and provide northbound overlap phasing.

    - Intersection 4. Leon Road at Benton Road: Install a traffic signal and design for three-phase operation. Stripe a crosswalk on the west leg.

Traffic Signal Warrant Analysis

- The results of the peak-hour traffic signal warrant analysis for Existing With Ambient Growth With Project With Cumulative Projects traffic conditions indicate that the one (1) key unsignalized deficient intersection has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part B for the AM and PM peak hours. The analysis and the recommended improvement show that the intersection of Winchester Road at Benton Road in Existing With Ambient Growth With Project With Cumulative Projects traffic conditions is recommended to be signalized. With signalization of this intersection, which is warranted, this intersection is forecast to operate at acceptable service levels during the AM and PM peak hours. Thus, it is concluded that traffic signal is justified at this location.

Project Fair Share Analysis

- The Project fair share percentages (worse time period impacted) for the two (2) adverse intersections for Existing With Ambient Growth With Project With Cumulative Projects traffic conditions that require physical improvements are shown below:

    - 1. Winchester Road at Benton Road 1.26%
    - 4. Leon Road at Benton Road 7.84%

State of California (Caltrans) Analysis

- The existing storage is not adequate to accommodate the forecast 95th percentile queues for the southbound left-turn lane at the intersection of Winchester Road and Benton Road under Existing and Existing With Ambient Growth With Project traffic conditions. Therefore, it is recommended that the southbound left turn pocket be restriped to address the queuing deficiencies.

- The estimated storage is not adequate to accommodate the forecast 95th percentile queues for the dual southbound left-turn lanes at the intersection of Winchester Road and Benton Road under Existing With Ambient Growth With Project With Cumulative Projects traffic conditions. Therefore, it is recommended that the design of the future dual southbound left-turn lanes include a minimum storage of 400 feet per lane to accommodate the forecast deficiencies.

Site Access and Internal Circulation Evaluation

- The proposed project driveways are forecast to operate at acceptable LOS B or better during the AM and PM peak hours for all scenarios.

- The on-site circulation layout of the proposed Project on an overall basis is adequate. Curb return radii appear adequate for passenger cars, service/delivery trucks, and trash trucks. Based on our review of the site plan, the overall layout does not create significant vehicle-pedestrian conflict points such that access for the Project is impacted by internal vehicle queuing/stacking. Project traffic is not anticipated to cause significant internal queuing/stacking at the Project driveways. The on-site circulation is acceptable based on our review of the proposed site plan. The alignment and spacing of the Project driveways are also deemed adequate. As such, motorists entering and exiting the Project site from the driveways will be able to do so comfortably, safely, and without undue congestion.

Vehicle Miles Traveled (VMT) Assessment

- The *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled* state that small projects with low trip generation per existing CEQA exemptions or based on the County Greenhouse Gas Emissions Screening Tables are presumed to cause a less than significant impact and should not be required to complete a VMT assessment. These projects are noted below:

  - Single Family Housing projects less than or equal to 110 dwelling units
  - Multifamily (Low-Rise) Housing projects less than or equal to 147 dwelling units
  - Multifamily (Mid-Rise) Housing projects less than or equal to 194 dwelling units
  - General Office Building with area less than or equal to 165,000 SF
  - Retail buildings with area less than or equal to 60,000 SF
  - Warehouse (unrefrigerated) buildings with area less than or equal to 208,000 SF
  - General Light Industrial buildings with area less than or equal to 179,000 SF

- Project GHG emissions less than 3,000 Metric tons of Carbon Dioxide Equivalent (MTCO2e)
- Unless specified above, project trip generation with less than 110 trips per day

➢ The proposed Project will consist of an express car wash with 130-foot wash tunnel, a 729 SF fast-food restaurant with drive-through, and a 2,535 SF fast-food restaurant with drive-through. Therefore, based on the aforementioned criteria (i.e. retail with area less than 60,000 SF), this Project would screen out from a VMT analysis and be presumed to have a less than significant impact on VMT, per the County's guidelines.

TRAFFIC IMPACT ANALYSIS REPORT

FRENCH VALLEY TOMMY'S EXPRESS WASH

Riverside County, California

March 11, 2022

1.0 INTRODUCTION

This traffic impact study addresses the potential traffic impacts and circulation needs associated with the proposed French Valley Tommy's Express Wash Project, which consists of an express car wash with 130-foot wash tunnel, a 729 SF fast-food restaurant with drive-through window, and a 2,535 SF fast-food restaurant with drive-through window. The project site is located on the southwest corner of Penfield Lane and Benton Road in Riverside County, California.

This report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential traffic impacts associated with the proposed French Valley Tommy's Express Wash (hereinafter referred to as Project).

1.1 Scope of Work

The traffic analysis evaluates the existing operating conditions at six (6) key study intersections within the project vicinity, estimates the trip generation potential of the proposed Project, superimposes the project-related traffic volumes on the circulation system as it currently exists, and forecasts future operating conditions without and with the proposed Project. Where necessary, intersection improvement measures are identified.

This traffic report satisfies the traffic impact requirements of Riverside County. The Scope of Work for this traffic study was developed in conjunction with County of Riverside Transportation Department staff.

The project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing peak hour traffic information has been collected at the key study location on a "typical" weekday for use in the preparation of intersection level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the proposed Project has been researched at Riverside County and the City of Murrieta. Based on our research, there are twenty (20) cumulative projects in Riverside County and ten (10) cumulative projects in Murrieta. These thirty (30) planned and/or approved cumulative projects were considered in the cumulative traffic analysis for this project.

This traffic report analyzes existing and future AM peak hour and PM peak hour traffic conditions for a near-term (Year 2024) traffic setting upon completion of the proposed Project. Peak hour traffic forecasts for the Year 2024 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of two percent (2.0%) per year and adding traffic volumes generated by thirty (30) cumulative projects.

The work program for this traffic study was developed in conjunction with Riverside County staff. ***Appendix A*** contains a copy of the approved Riverside County Traffic Impact Study Scoping Agreement.

1.2 Study Area

The six (6) key study intersections selected for evaluation were determined based on the approved Traffic Study Scope of Work and discussions with County of Riverside Transportation Department staff. The key study intersections listed below provide both local and regional access to the study area and defines the extent of the boundaries for this traffic impact investigation.

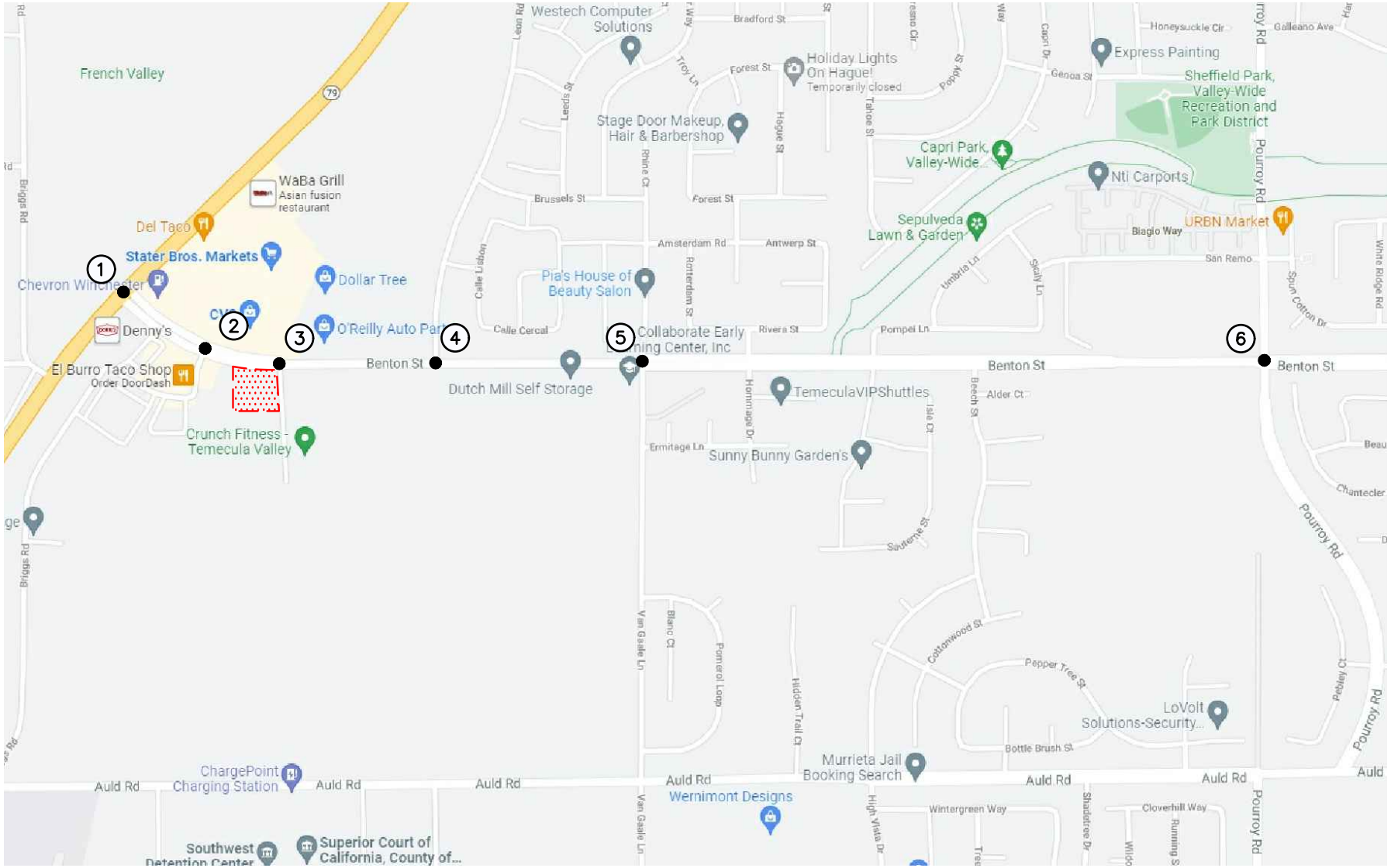
Key Study Intersections:

1. Winchester Road at Benton Road
2. Temeku Street at Benton Road
3. Penfield Lane at Benton Road
4. Leon Road at Benton Road
5. Van Gaale Lane/Cognac Street at Benton Road
6. Pourroy Road at Benton Road

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the project and depicts the study location and surrounding street system. The Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects and the proposed Project. When necessary, this report recommends intersection improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service.

Included in this Traffic Impact Analysis are:

- Existing traffic counts,
- Estimated project traffic generation/distribution/assignment,
- Estimated cumulative projects traffic generation/distribution/assignment,
- AM and PM peak hour capacity analyses for existing conditions,
- AM and PM peak hour capacity analyses for existing with ambient growth to the Year 2024 with project traffic conditions,
- AM and PM peak hour capacity analyses for existing with ambient growth to the Year 2024 with project with cumulative projects traffic conditions (i.e., cumulative traffic conditions),
- Area-Wide Traffic Improvements,
- Traffic Signal Warrant Analysis,
- Project Fair Share Analysis,
- State of California (Caltrans) Analysis,
- Site Access and Internal Circulation Evaluation, and
- Vehicle Miles Traveled (VMT) Assessment.



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 1-1

VICINITY MAP

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY

2.0 PROJECT DESCRIPTION AND LOCATION

The project site is located on the southwest corner of Penfield Lane at Benton Road in Riverside County, California. ***Figure 2-1*** presents an aerial depiction of the existing site. As presented in *Figure 2-1,* the site is currently vacant.

Figure 2-2 presents the proposed site plan for the proposed Project, prepared by Select Engineering Services. Review of the proposed site plan indicates that the proposed Project will consist of an express car wash with 130-foot wash tunnel, a 729 SF fast-food restaurant with drive-through window, and a 2,535 SF fast-food restaurant with drive-through window. The proposed Project is expected to be completed and fully occupied by the Year 2024.

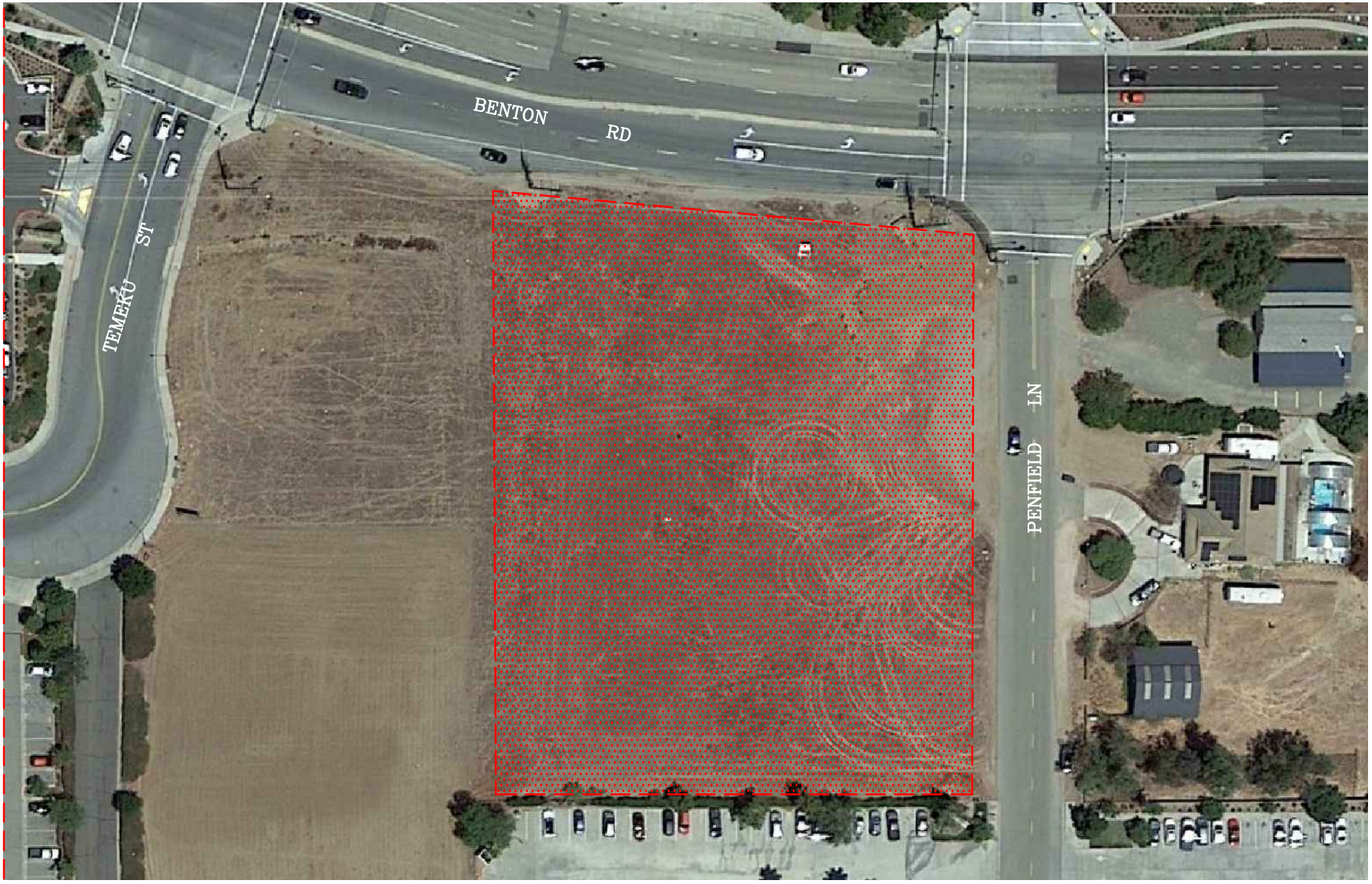
2.1 Site Access

As shown in *Figure 2-2,* access to the proposed Project will be provided via one (1) right-in/right-out stop-controlled driveway along Benton Road and one (1) full-access stop-controlled driveway located along Penfield Lane.

2.2 Project-Specific Access Improvements

The following project-specific improvements are to be constructed by the proposed Project along the Project frontage and at the intersection of Penfield Lane and Benton Road.

- Intersection 3. Penfield Lane at Benton Road: Widen Benton Road along the Project frontage and restripe the west leg to provide an exclusive eastbound right-turn lane. Modify the existing traffic signal.



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SOURCE: GOOGLE

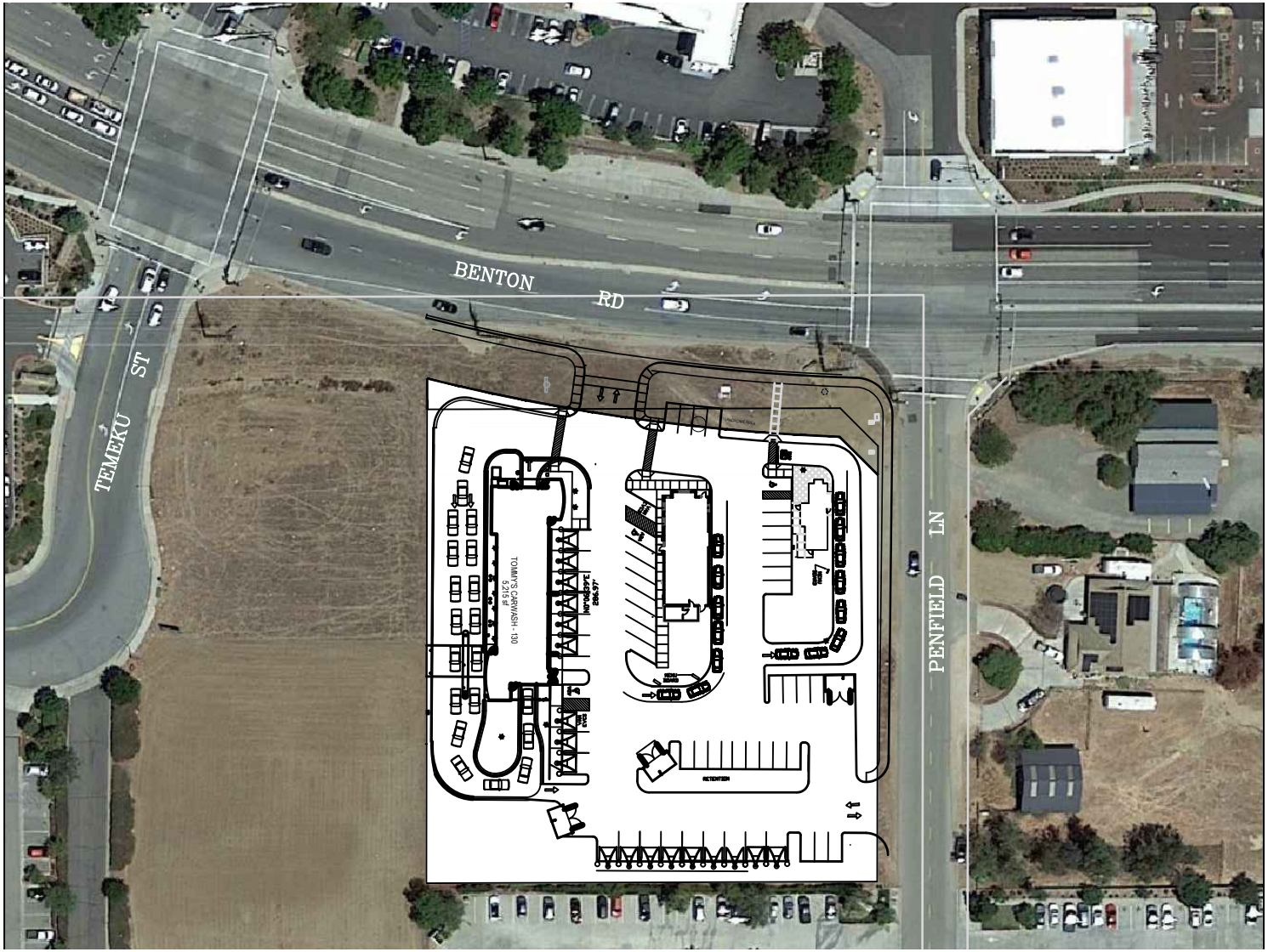
KEY

= PROJECT SITE

FIGURE 2-1

EXISTING SITE AERIAL

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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SOURCE: SELECT ENGINEERING SERVICES

FIGURE 2-2

PROPOSED SITE PLAN

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY

3.0 EXISTING CONDITIONS

3.1 Existing Street Network

Winchester Road (State Route 79) provides regional access to the Project site. Benton Road provides local access to the project site. The following discussion provides a brief synopsis of these key streets. The descriptions are based on an inventory of existing roadway conditions.

Winchester Road (State Route 79) is a four-lane, divided roadway, generally oriented in the north-south direction. On-street parking is not permitted on either side of the roadway within the vicinity of the Project. The posted speed limit on Winchester Road is 45 miles per hour (mph). A traffic signal controls the key study intersection of Winchester Road at Benton Road.

Benton Road is a four-lane, divided roadway between Winchester Road and Van Gaale Lane/Cognac Street, a six-lane, divided roadway east of Van Gaale Lane/Cognac Street, a two-lane, undivided roadway west of Pourroy Road, and a six-lane, divided roadway east of Pourroy Road. Benton Road is oriented in the east-west direction, located north of the Project site. On-street parking is not permitted on either side of the roadway within the vicinity of the Project. The posted speed limit on Benton Road is 45 mph. A traffic signal controls the key study intersection of Benton Road at Winchester Road, Temeku Street, Penfield Lane, and Pourroy Road. The key study intersections at Leon Road and Van Gaale Lane/Cognac Street are stop-controlled.

Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. The number of travel lanes and intersection controls for the key area intersections are identified.

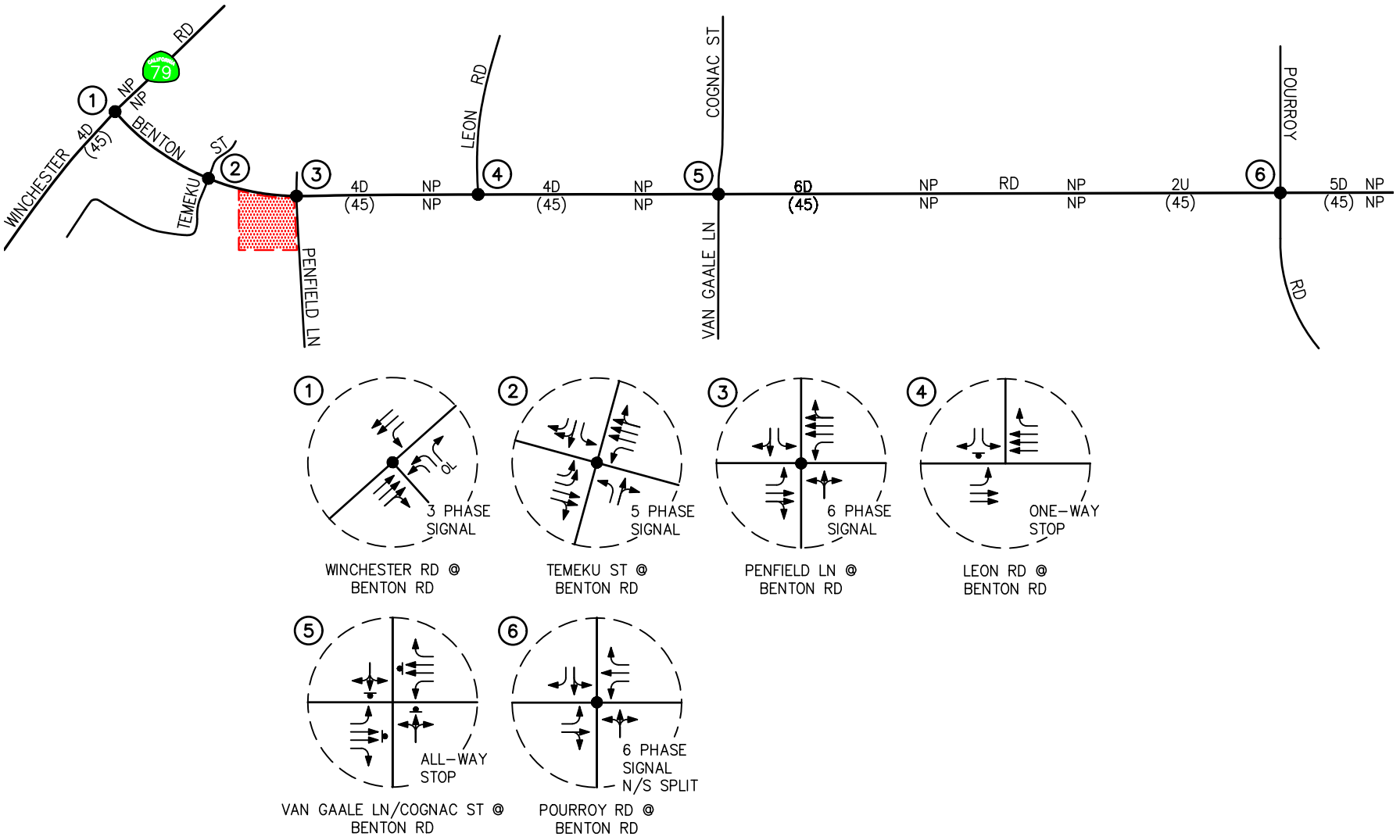
3.2 Existing Traffic Volumes

The six (6) key study intersections have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential project-related traffic will pass through these intersections and their analysis will reveal the expected relative impacts of the project. These key study intersections were selected for evaluation based on discussions with County of Riverside Transportation Department staff.

Existing AM and PM peak hour traffic volumes for the six (6) key study intersections evaluated in this report were obtained from manual peak hour turning movement counts conducted by *Counts Unlimited, Inc.* in January 2022. ***Figures 3-2*** and ***3-3*** illustrate the existing AM and PM peak hour traffic volumes at the six (6) key study intersections evaluated in this report, respectively. ***Appendix B*** contains the detailed peak hour count sheets for the key intersections evaluated in this report.

3.3 Level of Service (LOS) Analysis Methodologies

In conformance with County of Riverside requirements, existing AM and PM peak hour operating conditions for the signalized and unsignalized intersections and unsignalized driveways were evaluated using the *Highway Capacity Manual 6* (HCM 6) methodology.



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N NO SCALE

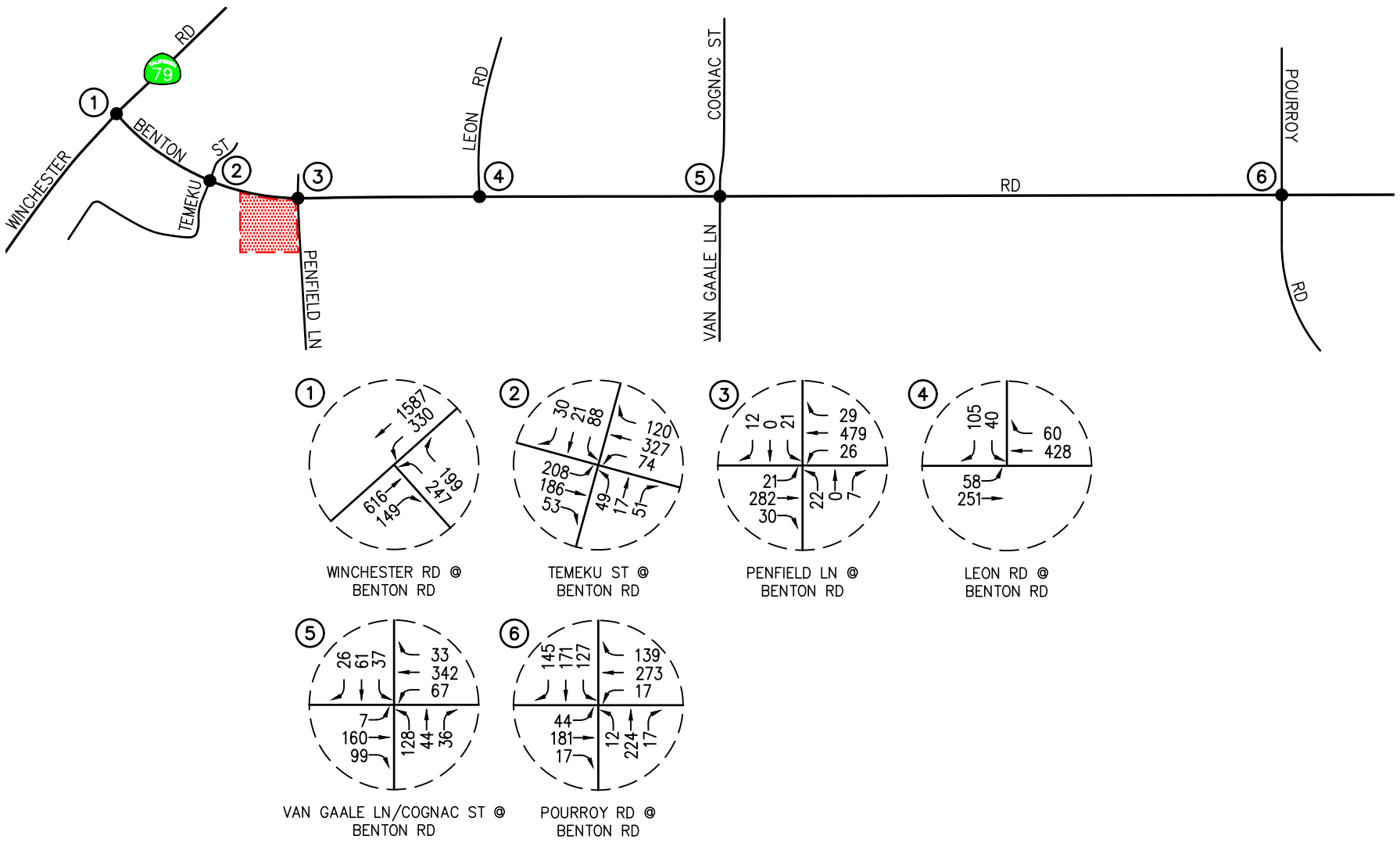
KEY

← = APPROACH LANE ASSIGNMENT
● = TRAFFIC SIGNAL, ▼ = STOP SIGN
P = PARKING, NP = NO PARKING
U = UNDIVIDED, D = DIVIDED
2 = NUMBER OF TRAVEL LANES
(XX)= POSTED SPEED LIMIT (MPH)
OL = OVERLAP
▭ = PROJECT SITE

FIGURE 3-1

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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N NO SCALE

KEY

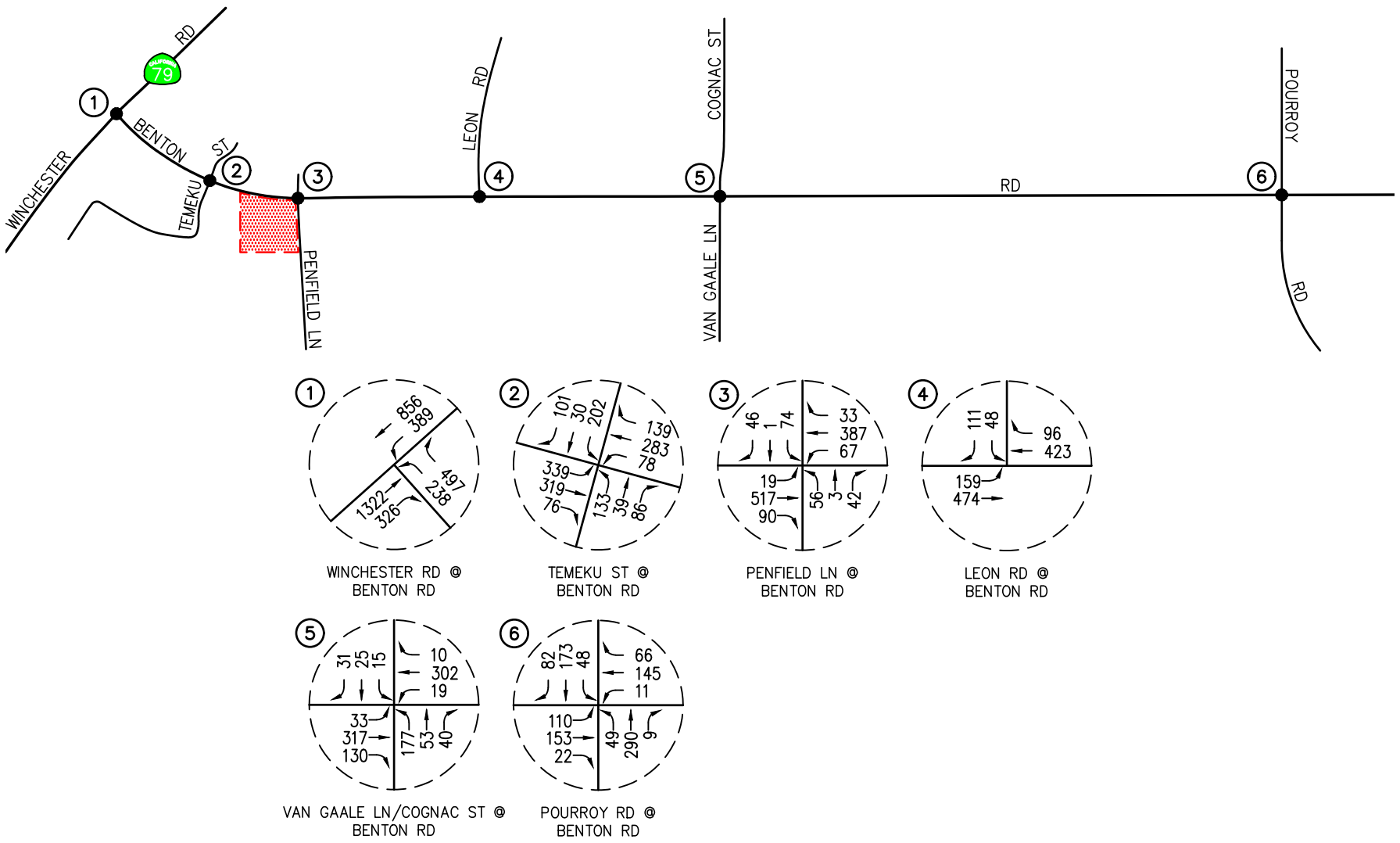
(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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N NO SCALE

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 3-3

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY

Per the Riverside County traffic impact analysis guidelines, the existing peak hour factor has been utilized for the Existing analysis scenario. In addition, the existing peak hour factor has also been utilized for the Existing With Ambient Growth With Project and Existing With Ambient Growth With Cumulative Projects analysis scenarios.

3.3.1 *Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)*

AM peak hour and PM peak hour operating conditions for the key study intersections were evaluated using the HCM operations method of analysis. Based on the HCM operations method of analysis, level of service for signalized intersections and approaches is defined in terms of control delay, which is a measure of the increase in travel time due to traffic signal control, driver discomfort, and fuel consumption. Control delay includes the delay associated with vehicles slowing in advance of an intersection, the time spent stopped on an intersection approach, the time spent as vehicles move up in the queue, and the time needed for vehicles to accelerate to their desired speed. LOS criteria for traffic signals are stated in terms of the control delay in seconds per vehicle. The LOS thresholds established for the automobile mode at a signalized intersection are shown in ***Table 3-1***.

3.3.2 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)*

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable, which can reduce users' delay tolerance.

Two-way stop-controlled intersections are comprised of a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street through vehicles experience zero delay. The HCM control delay value range for two-way stop-controlled intersections is shown in ***Table 3-2***.

All-way stop-controlled intersections require every vehicle to stop at the intersection before proceeding. Because each driver must stop, the decision to proceed into the intersection is a function of traffic conditions on the other approaches. The time between subsequent vehicle departures depends on the degree of conflict that results between the vehicles and vehicles on the other approaches. This methodology determines the control delay for each lane on the approach, computes a weighted average for the whole approach, and computes a weighted average for the intersection as a whole. Level of service (LOS) at the approach and intersection levels is based solely on control delay. The HCM control delay value range for all-way stop-controlled intersections is shown in *Table 3-2*.

3.4 Impact Criteria and Thresholds

According to the Riverside County General Plan, *Section C 2.1*, the following countywide target Levels of Service shall be maintained:

- LOS "C" shall apply to all development proposals in any area of the Riverside County not located within the boundaries of an Area Plan, as well those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non-Community Development areas of the Elsinore, Lake Mathews/ Woodcrest, Mead Valley and Temescal Canyon Area Plans.
- LOS "D" shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.
- LOS "E" may be allowed by the Board of Supervisors within designated areas where transit-oriented development and walkable communities are proposed.

Based on the above-mentioned level of service and impact criteria, LOS "D" is the minimum acceptable LOS at the key study intersections.

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM METHODOLOGY)[1]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and ≤ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and ≤ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	Long traffic delays At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Very long traffic delays This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high *v/c* ratios. Individual cycle failures are frequent occurrences.
F	≥ 80.0	Severe congestion This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

[1] Source: *Highway Capacity Manual 6*, Chapter 19: Signalized Intersections.

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM METHODOLOGY) [2,3]

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

2 Source: *Highway Capacity Manual 6*, Chapter 20: Two-Way Stop-Controlled Intersections. The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

3 Source: *Highway Capacity Manual 6*, Chapter 21: All-Way Stop-Controlled Intersections. For approaches and intersection-wide assessment, LOS is defined solely by control delay.

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations and/or rates to the Project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway segments and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the Project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast project traffic. If necessary, the need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the project's impacts identified.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the 11th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2021]. In addition, the express wash trip generation was based on empirical data collected at an existing express wash facility.

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project and also presents the project's forecast peak hour and daily traffic volumes. As shown, the trip generation potential of the proposed Project was estimated using ITE Land Use 934: Fast Food Restaurant with Drive-Through Window trip rates. In addition, the express wash trip rates are based on driveway traffic counts conducted on Friday (2/7/2014) at Victorville Speedwash (12147 Industrial Boulevard, Victorville).

As shown in *Table 5-1*, the proposed Project is expected to generate 1,989 weekday net daily trips (one half arriving, one half departing), with 62 net trips (35 inbound, 27 outbound) produced in the AM peak hour and 108 net trips (55 inbound, 53 outbound) produced in the PM peak hour.

It should be also noted that the aforementioned overall Project trip generation includes adjustments for pass-by based on the 11th Edition of *Trip Generation* as a reference, to account for trips that are already in the everyday traffic stream on the adjoining streets (i.e. Benton Road) and will stop as they pass by the Project site as a matter of convenience on their path to another destination. Per *Trip Generation,* a pass-by reduction factor of 50% and 55% is assumed for the AM and PM peak hours, respectively, for the proposed fast-food restaurant with drive through window land use with a daily pass-by percentage of 25%. In addition, based on input provided from the Victorville Express Wash and the significant volume of traffic along Benton Road, a pass-by reduction factor of 25% and 50% is assumed for the AM and PM peak hours, respectively, for the proposed express wash with a daily pass-by percentage of 25%.

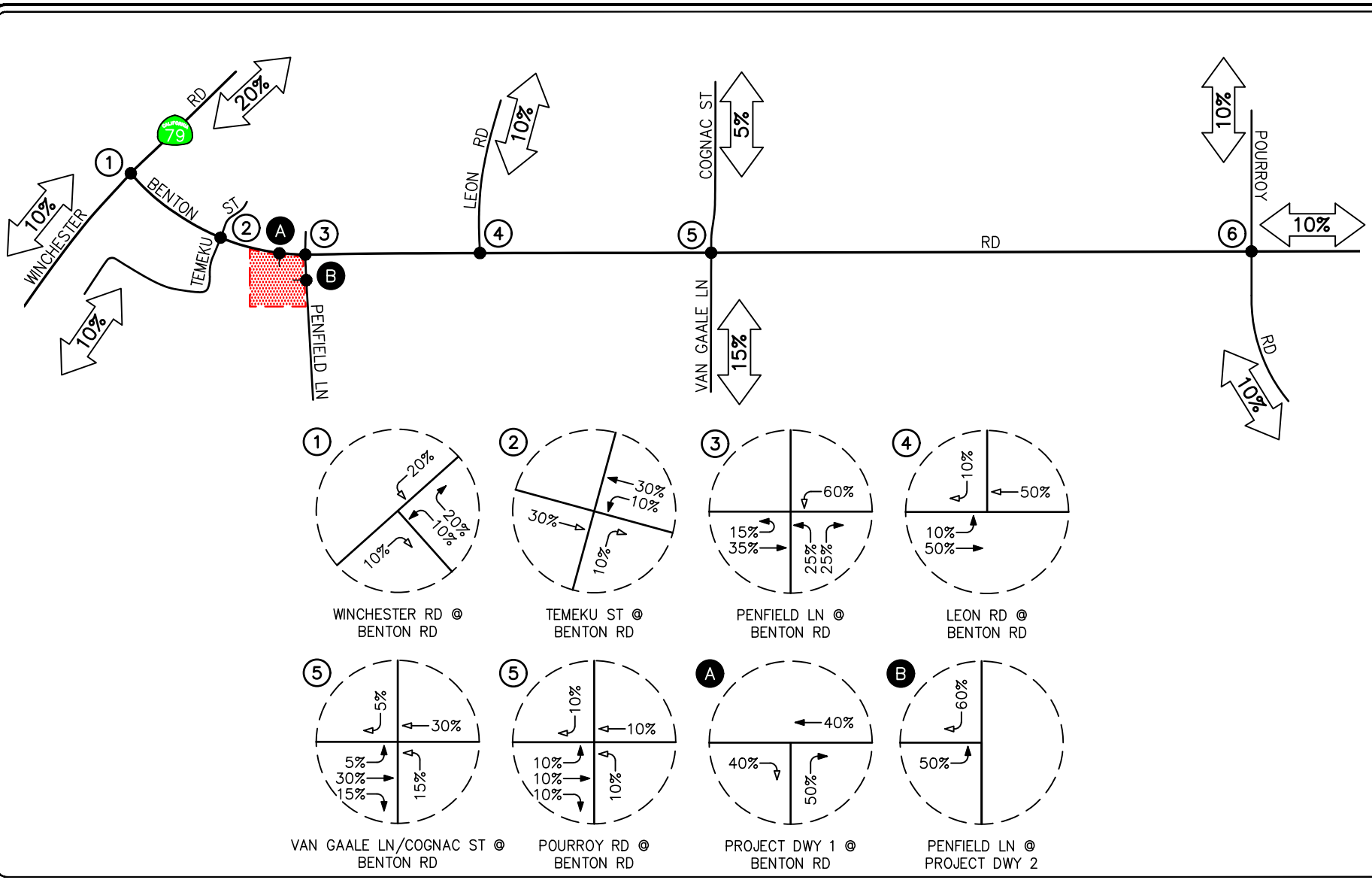
5.2 Project Traffic Distribution and Assignment

Figure 5-1 presents the traffic distribution pattern for the proposed Project. Project traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the following considerations:

- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- existing intersection traffic volumes,
- ingress/egress availability at the project site, and
- input from County staff.

Figure 5-2 presents the Project pass-by distribution pattern.

The anticipated AM and PM peak hour traffic volumes associated with the proposed Project are presented in ***Figures 5-3*** and ***5-4***, respectively. The traffic volume assignments presented in *Figures 5-3* and *5-4* reflect the traffic distribution characteristics shown in *Figures 5-1* and *5-2* and the traffic generation forecast presented in *Table 5-1*.



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTERSECTION

⇦ = INBOUND PERCENTAGE

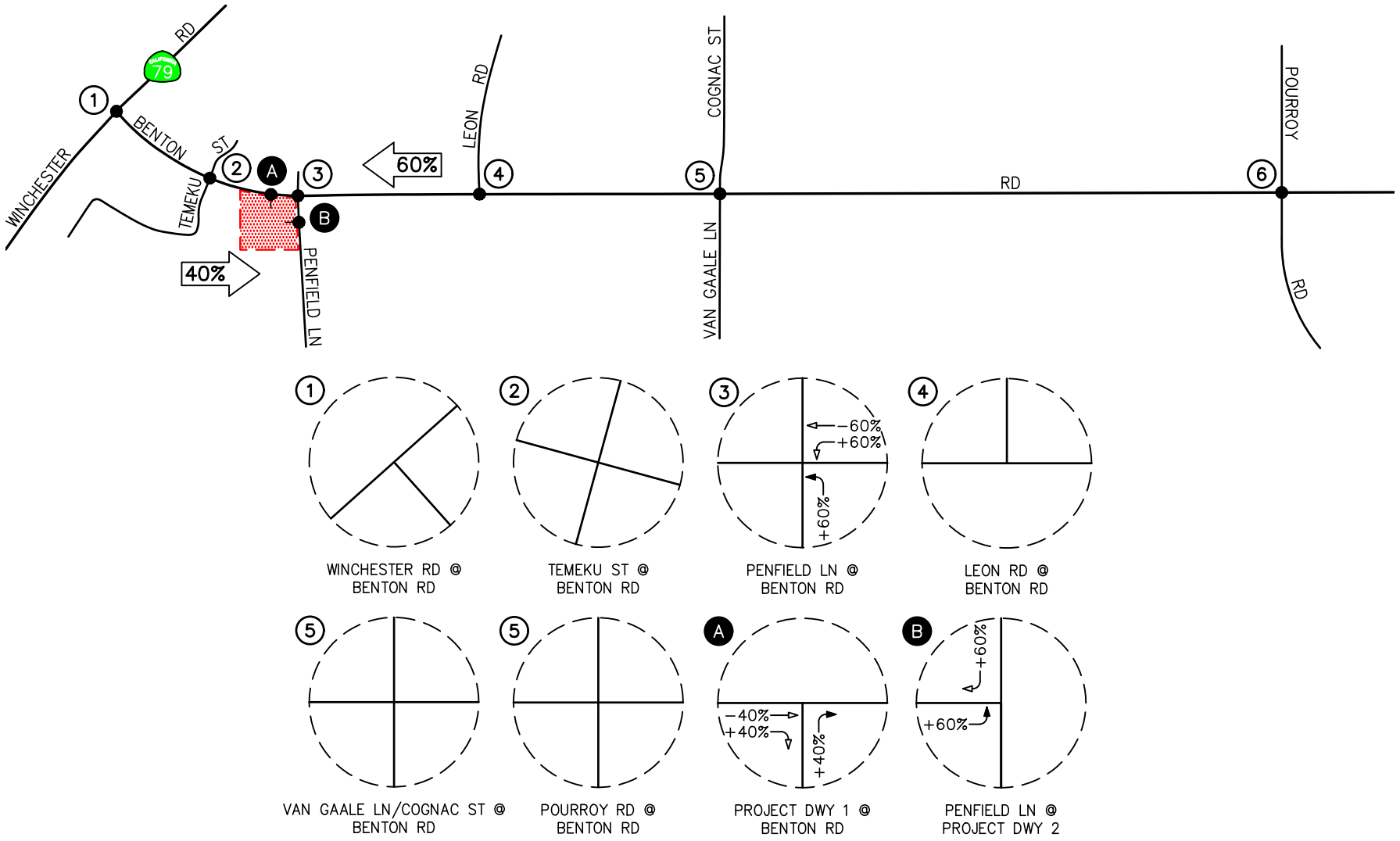
⇦ = OUTBOUND PERCENTAGE

▭ = PROJECT SITE

FIGURE 5-1

PROJECT TRIP DISTRIBUTION PATTERN

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTERSECTION

= INBOUND PERCENTAGE

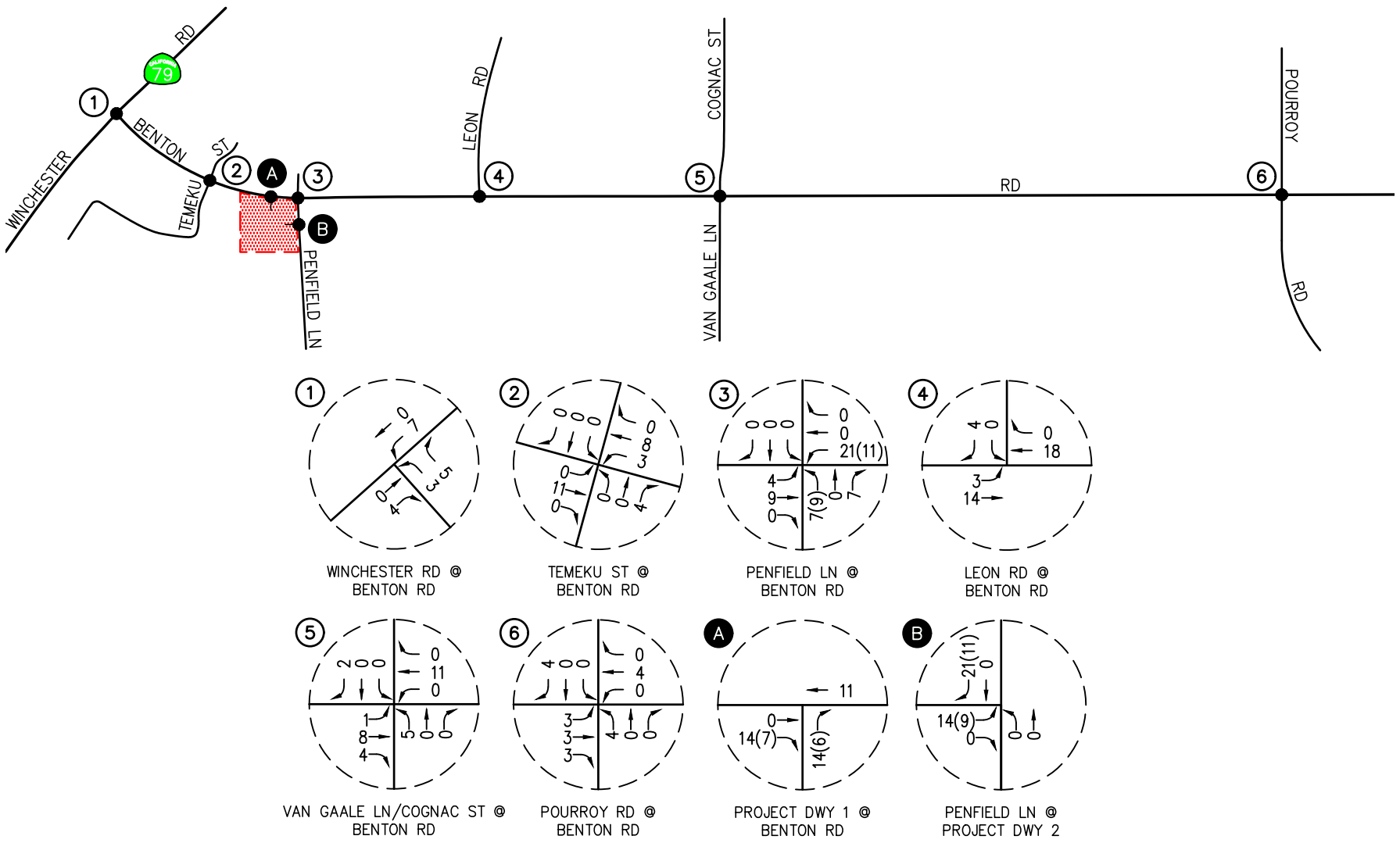
= OUTBOUND PERCENTAGE

= PROJECT SITE

FIGURE 5-2

PASS-BY DISTRIBUTION PATTERN

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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N NO SCALE

KEY

(#) = STUDY INTERSECTION

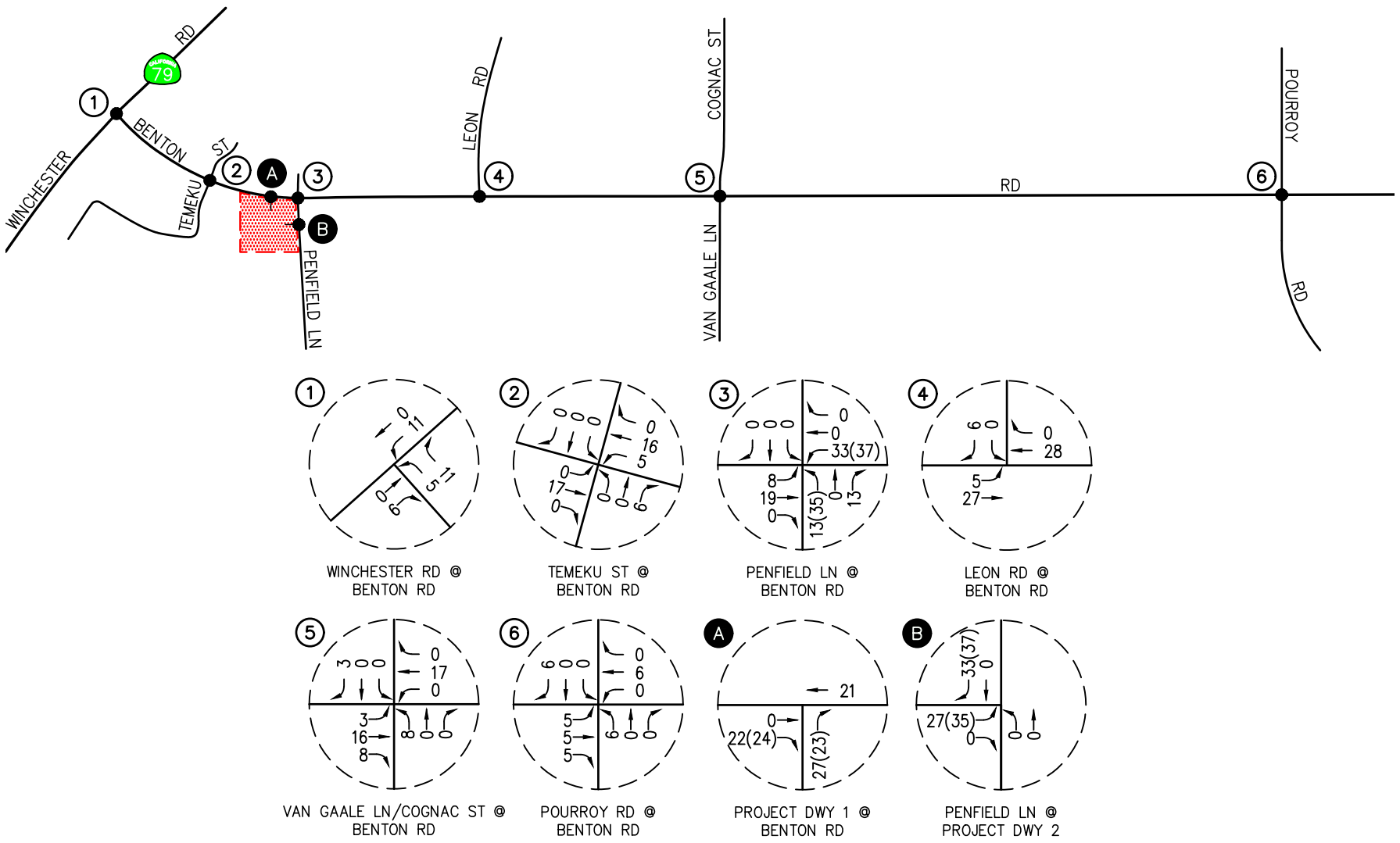
(XX) = PASS-BY TRIPS

= PROJECT SITE

FIGURE 5-3

AM PEAK HOUR PROJECT TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTERSECTION

(XX) = PASS-BY TRIPS

= PROJECT SITE

FIGURE 5-4

PM PEAK HOUR PROJECT TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY

TABLE 5-1

PROJECT TRAFFIC GENERATION FORECAST[4]

Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Rates:							
▪ Empirical Trip Generation Estimation for Speed Wash (TE/LFWT)[5]	8.663	0.275	0.204	0.479	0.450	0.463	0.913
▪ 934: Fast Food Restaurant with Drive Through Window (TE/TSF)	467.48	51%	49%	44.61	52%	48%	33.03
Trip Generation Forecasts:							
▪ Tommy's Express Wash (130 Feet of Tunnel)	1,126	36	26	62	59	60	119
Pass-by Trips[6]	-282	-9	-7	-16	-30	-30	-60
Tommy's Express Wash Subtotal	***844***	***27***	***19***	***46***	***29***	***30***	***59***
▪ Arby's (2,535 SF)[7]	1,185	0	0	0	44	40	84
Pass-by Trips[6]	-296	0	0	0	-24	-22	-46
Arby's Subtotal	***889***	***0***	***0***	***0***	***20***	***18***	***38***
▪ Wienerschnitzel (729 SF)	341	17	16	33	13	11	24
Pass-by Trips[6]	-85	-9	-8	-17	-7	-6	-13
Wienerschnitzel Subtotal	***256***	***8***	***8***	***16***	***6***	***5***	***11***
Total Net Project Trip Generation	**1,989**	**35**	**27**	**62**	**55**	**53**	**108**

Notes:
- TE/LFWT = Trip end per Linear Feet Wash Tunnel
- TE/TSF = Trip end per 1,000 SF

4 Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

5 Based on driveway traffic counts conducted on Friday (2/7/2014) at Victorville Speedwash (12147 Industrial Boulevard, Victorville).

6 Pass-By Trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used (Source: *Trip Generation, 11th Edition*, ITE 2021):
- Express Wash: Daily/AM peak hour/PM peak hour – Assume 25%/25%/50%
- 934: Fast-Food Restaurant with Drive-Through Window: AM Peak Hour – 50%, PM Peak Hour – 55%, Daily – Assume 25%

7 The proposed Arby's restaurant will not operate in the AM peak hour.

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Ambient Traffic Growth

For future traffic conditions, background traffic growth estimates have been calculated using an ambient growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. Consistent with prior traffic studies conducted in Riverside County, the future growth in traffic volumes has been calculated at two percent (2.0%) per year. Applied to existing Year 2022 traffic volumes results in a four percent (4.0%) increase growth in existing volumes to horizon Year 2024.

6.2 Cumulative Projects Traffic Characteristics

In order to make a realistic estimate of future on-street conditions prior to implementation of the Project, the status of other known development projects (cumulative projects) has been researched at Riverside County and the City of Murrieta. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development.

Based on our research, there are twenty (20) cumulative projects in Riverside County and ten (10) cumulative projects in the City of Murrieta and that have either been built, but not yet fully occupied, or are being processed for approval. These thirty (30) cumulative projects have been included as part of the cumulative background setting.

Table 6-1 provides the location and a brief description for each of the thirty (30) cumulative projects. ***Figure 6-1*** graphically illustrates the location of the cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

Table 6-2 presents the development totals and resultant trip generation for the thirty (30) cumulative projects. As shown in *Table 6-2*, the thirty (30) cumulative projects are forecast to generate a combined total of 96,839 weekday daily trips, with 4,822 trips forecast during the AM peak hour and 7,698 trips forecast during the PM peak hour.

The anticipated AM peak hour and PM peak hour cumulative projects traffic volumes at the key study intersections are presented in ***Figures 6-2*** and ***6-3***, respectively. The traffic volume assignments presented in the above-mentioned figures reflect the traffic generation forecast presented in *Table 6-2*.

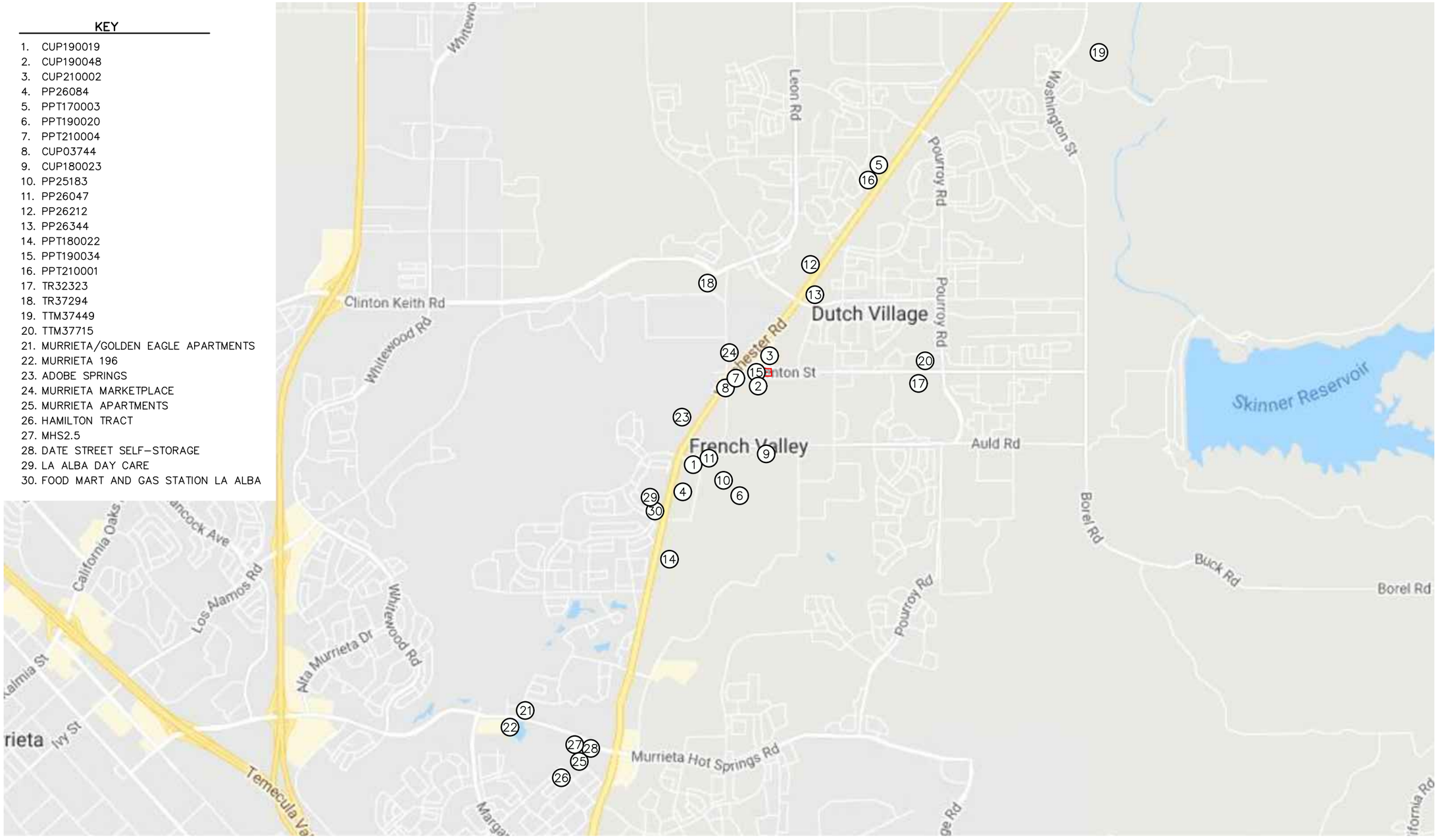
6.3 Year 2024 Traffic Volumes

Figures 6-4 and ***6-5*** present the AM and PM peak hour Existing With Ambient Growth With Project traffic volumes at the six (6) key study intersections and two (2) Project driveways, respectively.

Figures 6-6 and ***6-7*** present the AM and PM peak hour Existing With Ambient Growth With Project With Cumulative Projects traffic volumes at the six (6) key study intersections and two (2) Project driveways, respectively.

KEY

1. CUP190019
2. CUP190048
3. CUP210002
4. PP26084
5. PPT170003
6. PPT190020
7. PPT210004
8. CUP03744
9. CUP180023
10. PP25183
11. PP26047
12. PP26212
13. PP26344
14. PPT180022
15. PPT190034
16. PPT210001
17. TR32323
18. TR37294
19. TTM37449
20. TTM37715
21. MURRIETA/GOLDEN EAGLE APARTMENTS
22. MURRIETA 196
23. ADOBE SPRINGS
24. MURRIETA MARKETPLACE
25. MURRIETA APARTMENTS
26. HAMILTON TRACT
27. MHS2.5
28. DATE STREET SELF-STORAGE
29. LA ALBA DAY CARE
30. FOOD MART AND GAS STATION LA ALBA



SOURCE: GOOGLE

KEY

(#) = CUMULATIVE PROJECT LOCATION

= PROJECT SITE

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N NO SCALE

FIGURE 6-1

CUMULATIVE PROJECT LOCATION MAP

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY

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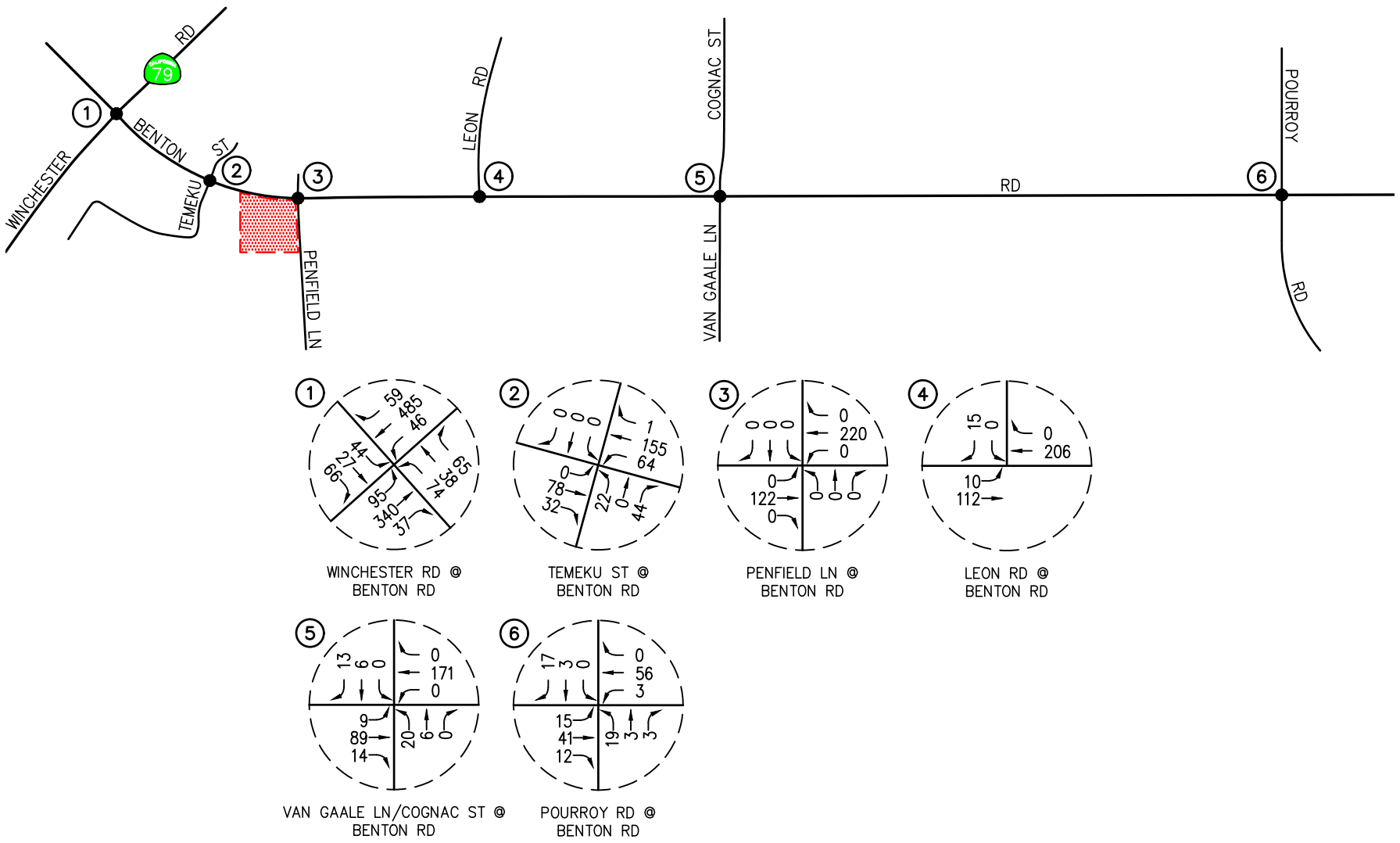

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

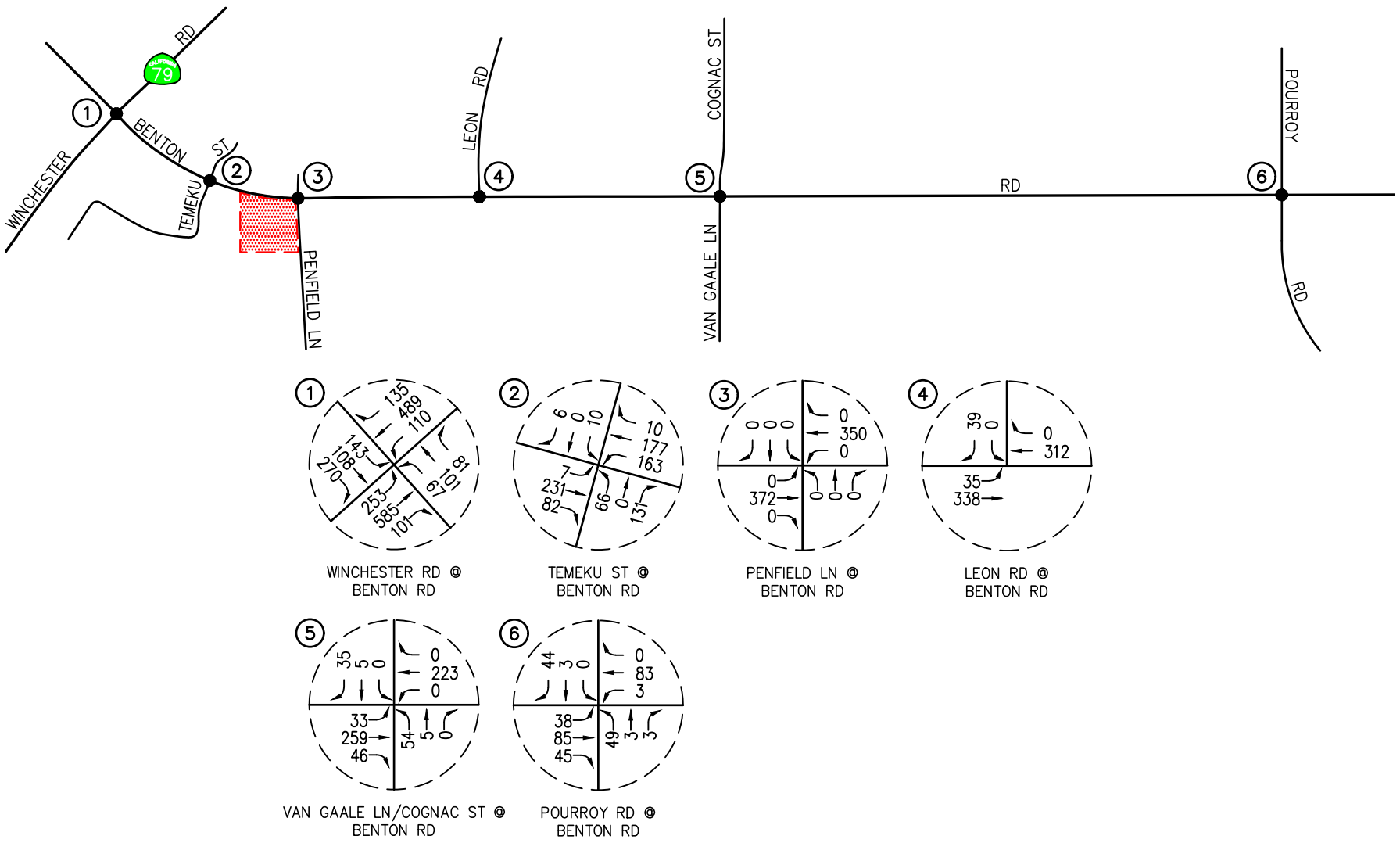
(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 6-2

AM PEAK HOUR CUMULATIVE PROJECT TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

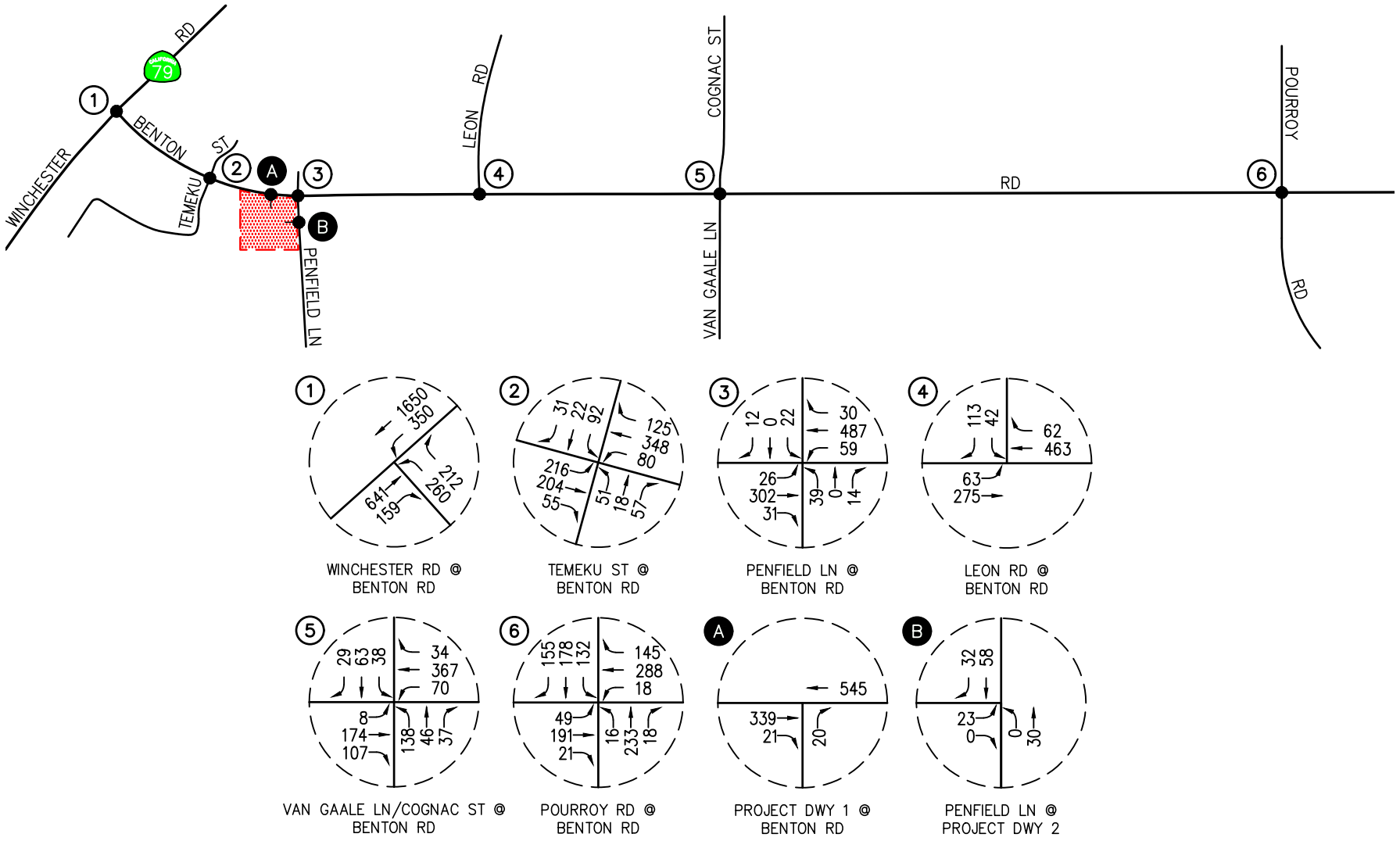
(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 6-3

PM PEAK HOUR CUMULATIVE PROJECTS TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

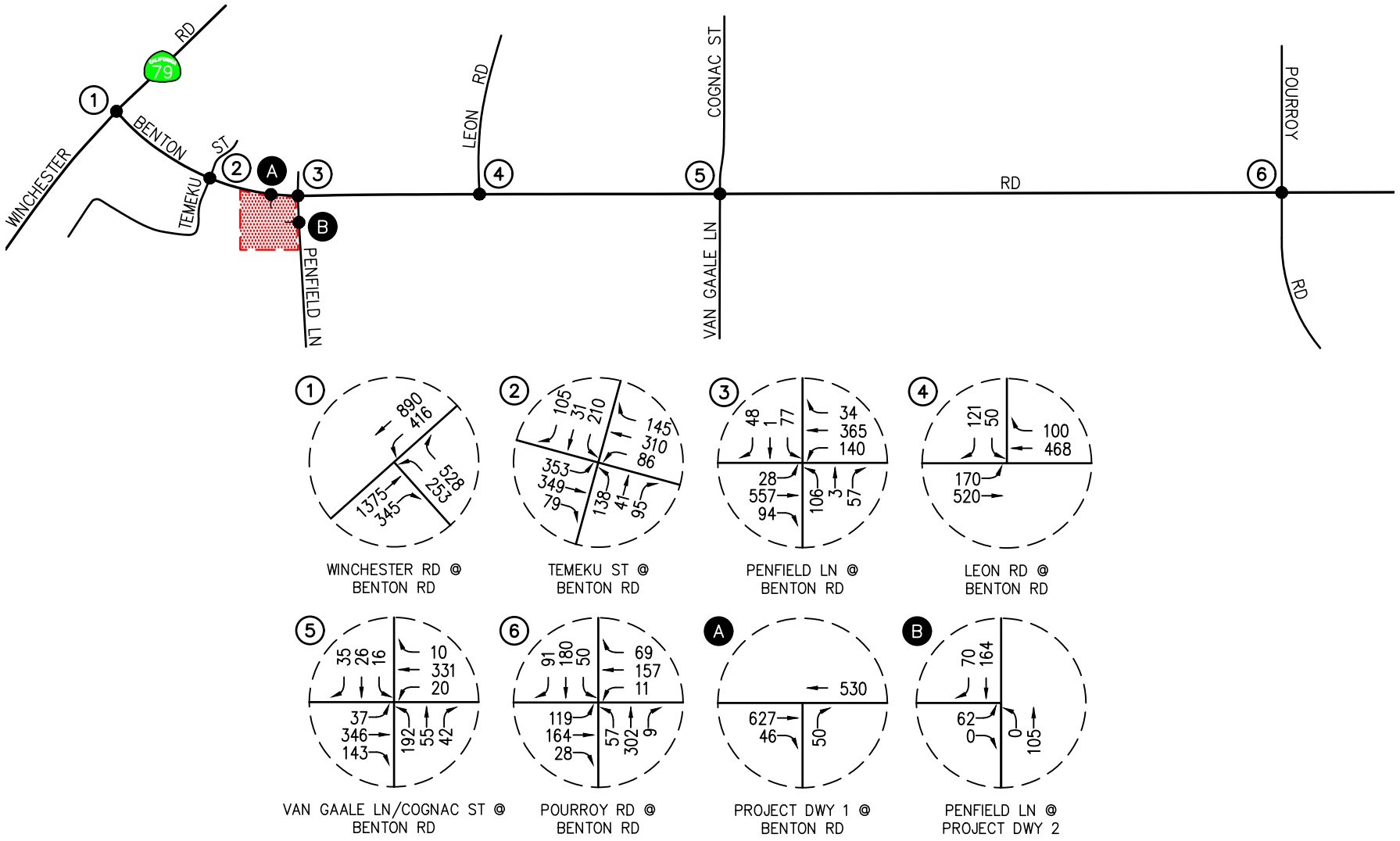
(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 6-4

EXISTING WITH AMBIENT GROWTH WITH PROJECT AM PEAK HOUR TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

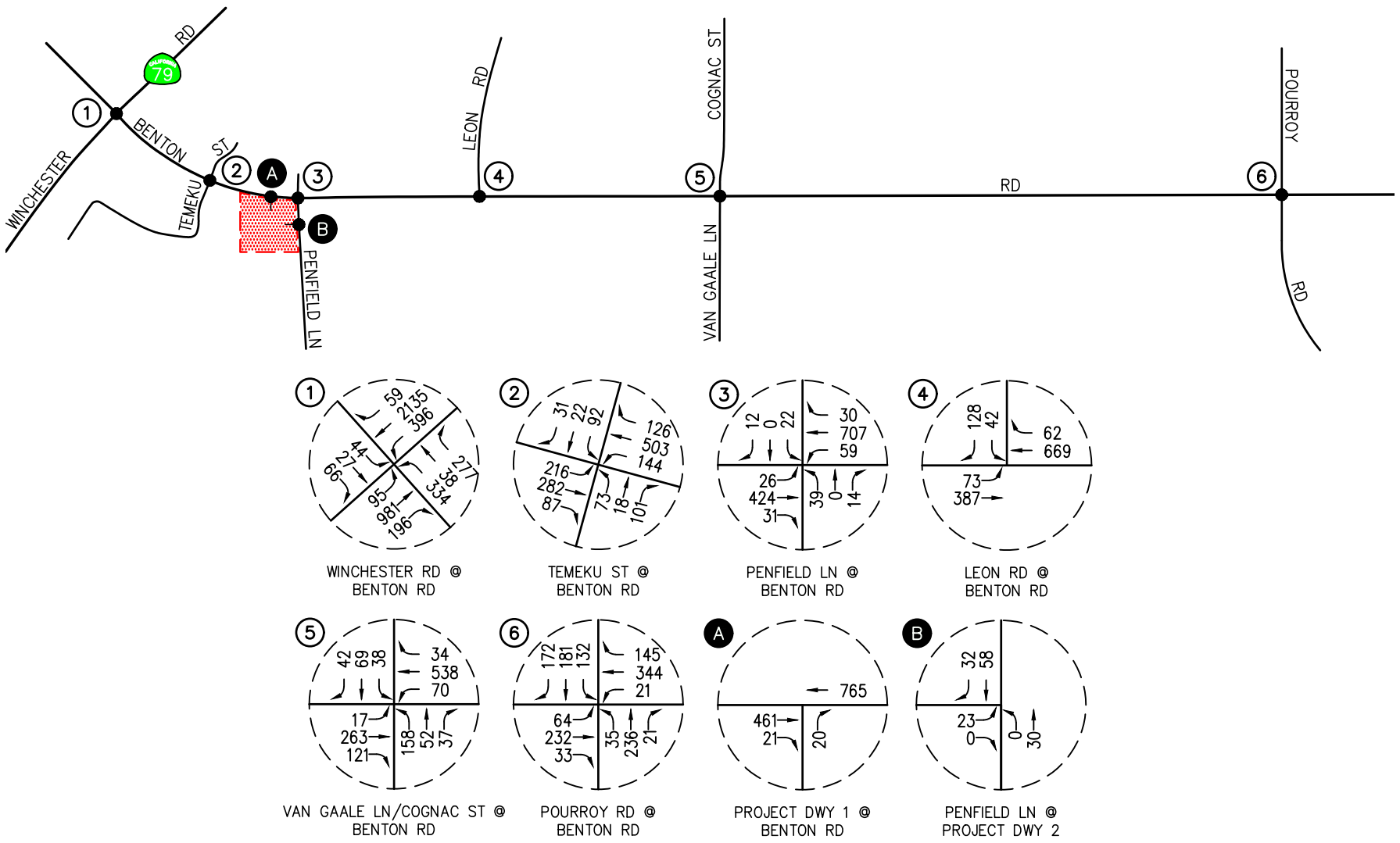
(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 6-5

EXISTING WITH AMBIENT GROWTH WITH PROJECT PM PEAK HOUR TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

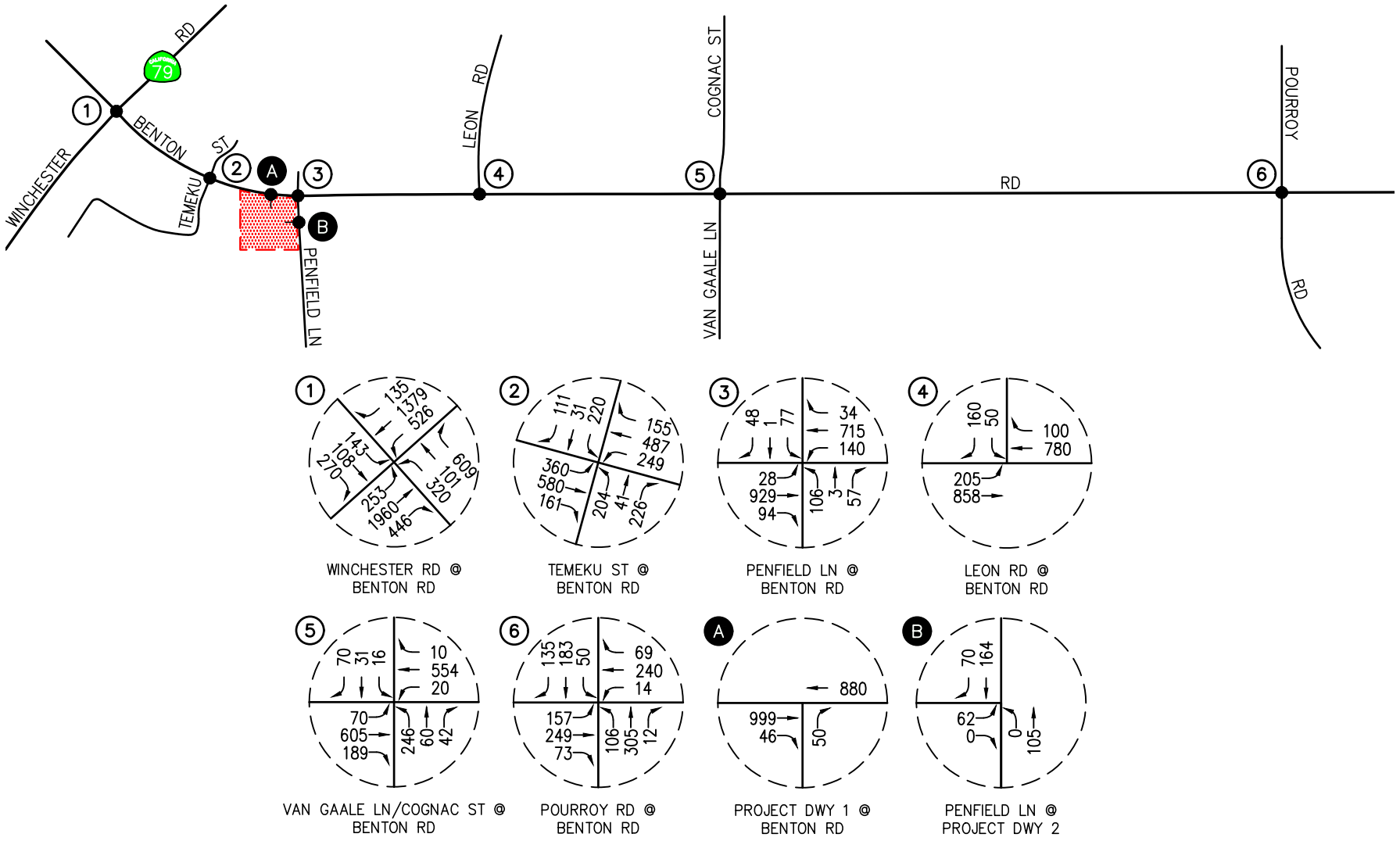
(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 6-6

EXISTING WITH AMBIENT GROWTH WITH PROJECT WITH CUMULATIVE PROJECTS AM PEAK HOUR TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

FIGURE 6-7

EXISTING WITH AMBIENT GROWTH WITH PROJECT WITH CUMULATIVE PROJECTS PM PEAK HOUR TRAFFIC VOLUMES

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY

TABLE 6-1
DESCRIPTION OF CUMULATIVE PROJECTS[8]

No.	Cumulative Project	Location/Address	Description
Riverside County			
1.	CUP190019	SWC of Sky Canyon Drive at Auld Road	1,709 SF Cannabis Dispensary
2.	CUP190048	South of Magdas Coloradas Drive	2,550 SF Cannabis Dispensary
3.	CUP210002	French Valley Commons Shopping Center	2,000 SF Liquor Store
4.	PP26084	East of Winchester Road at Sparkman Way	196,078 SF Walmart, 127,340 SF Retail, 18,000 SF High Turnover Sit Down Restaurant, 16,000 SF Office
5.	PPT170003	NWC of Winchester Road at Jean Nicholas Road	154 DU Single Family Detached
6.	PPT190020	NEC of Industrial Way at Wealth Street	404,325 SF Industrial Park
7.	PPT210004	Between Winchester Road and Briggs Road	2,743 SF Fast Food Restaurant with Drive Through, 2,104 SF Fast Food Restaurant with Drive Through
8.	CUP03744	Between Winchester Road and Briggs Road	33,025 SF Brewery Tap Room
9.	CUP180023	SEC of Leon Road at Auld Road	16 VFP Gas Station with Convenience Store
10.	PP25183	South of Auld Road, West of Industrial Way	331,003 SF Industrial Park
11.	PP26047	SWC of Sky Canyon Drive at Auld Road	2,880 SF Small Office Building
12.	PP26212	North of Max Gilliss Boulevard, West of Winchester Road	970 Unit Mini Warehouse, 4,795 SF Automated Car Wash
13.	PP26344	NEC of Winchester Road at Thompson Road	133,877 SF Shopping Center
14.	PPT180022	North of Hunter Road, East of Winchester Road	126,402 SF Corporate Headquarters
15.	PPT190034	SEC of Temeku Street at Benton Street	3,540 SF Dental Office, 3,225 SF Medical Office
16.	PPT210001[9]	NWC of Winchester Road at Jean Nicholas Road	16 VFP Gas Station with Convenience Store, 2,226 SF Coffee Shop With Drive Through Window
17.	TR32323	South of Benton Road, West of Pourroy Road	38 DU Single Family Detached

Notes:

- SF = Square-Feet
- DU = Dwelling Unit
- VFP = Vehicle Fueling Position

[8] Source: Riverside County, City of Murrieta.

[9] Source: *Winchester at Jean Nicholas Commercial Retail Center Traffic Impact Analysis*, prepared by Gandini Group, Inc., dated September 8, 2020.

TABLE 6-1 (CONTINUED)
DESCRIPTION OF CUMULATIVE PROJECTS[10]

No.	Cumulative Project	Location/Address	Description
Riverside County			
18.	TR37294	North of Los Alamos Road, West of Briggs Road	48 DU Single Family Detached
19.	TTM37449	South of Keller Road, East of Washington Street	372 DU Single Family Detached
20.	TTM37715	NWC of Pourroy Road at Benton Road	145 DU Single Family Detached
City of Murrieta			
21.	Murrieta Apartments/Golden Eagle Apartments[11]	North of Murrieta Hot Springs Road, East of Via Princesa	112 DU Apartments
22.	Murrieta 196[12]	South of Murrieta Hot Springs Road, East of Via Princesa	196 DU Apartments
23.	Adobe Springs[13]	West of Winchester Road, between Auld Road and Benton Road	287 DU Single Family Detached, 208,500 SF Business Park
24.	Murrieta Marketplace[14]	NWC of Winchester Road at Benton Road	584,309 SF Shopping Center
25.	Murrieta Apartments[15]	SEC of Delhaven Street at Date Street	238 DU Apartments
26.	Hamilton Tract	Hamilton Court	8 DU Single Family Detached
27.	MHS2.5[16]	SWC of Delhaven Street at Murrieta Hot Springs Road	12 VFP Gas Station with Convenience Store, 2 Space Quick Lubrication Vehicle Shop, 130 Foot Car Wash
28.	Date Street Self-Storage	SWC of Old Date Street at Delhaven Street	135,800 SF Mini-Warehouse
29.	La Alba Day Care[17]	SEC of Galileo Lane at Ascella Lane	9,990 SF Day Care Center
30.	Food Mart and Gas Station La Alba[18]	NWC of Winchester Road at La Alba Drive	16 VFP Gas Station With Convenience Market

Notes:

- SF = Square-Feet
- DU = Dwelling Unit
- VFP = Vehicle Fueling Position

[10] Source: Riverside County, City of Murrieta.
[11] Source: *Murrieta Apartments Traffic Impact Analysis*, prepared by Trames Solutions Inc., dated October 22, 2013.
[12] Source: *Murrieta 180 Traffic Impact Analysis*, prepared by Kunzman Associates, Inc., dated May 21, 2013.
[13] Source: *Adobe Springs Traffic Impact Analysis*, prepared by Trames Solutions Inc., dated May 18, 2015.
[14] Source: *Murrieta Marketplace Traffic Impact Analysis*, prepared by Trames Solutions Inc., dated December 26, 2017.
[15] Source: *MHSR Apartments Traffic Impact Analysis*, prepared by TJW Engineering, Inc., dated November 22, 2019.
[16] Source: *MHS 2.5 Traffic Impact Analysis*, prepared by Trames Solutions Inc., dated October 17, 2019.
[17] Source: *Focused Traffic Impact Analysis for the Proposed Day Care Center in the City of Murrieta*, prepared by Kimley Horn, dated October 20, 2020.
[18] Source: *Murrieta Gas Station Project in the City of Murrieta Traffic Impact Study*, prepared by Kimley Horn, dated October 2019.

TABLE 6-2
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[19]

Cumulative Project		Weekday				Saturday		
		Daily	PM Peak Hour			Midday Peak Hour		
		2-Way	Enter	Exit	Total	Enter	Exit	Total
1.	CUP190019	361	9	9	18	16	16	32
2.	CUP190048	538	14	13	27	24	24	48
3.	CUP210002	214	1	0	1	17	16	33
4.	PP26084	21,654	541	371	912	686	723	1,409
5.	PPT170003	1,452	28	80	108	91	54	145
6.	PPT190020	1,363	111	26	137	30	107	137
7.	PPT210004	1,699	55	53	108	37	35	72
8.	CUP03744	2,161	21	3	24	203	141	344
9.	CUP180023	4,149	61	60	121	54	53	107
10.	PP25183	1,115	91	22	113	25	88	113
11.	PP26047	41	4	1	5	2	4	6
12.	PP26212	11,385	264	162	426	348	377	725
13.	PP26344	446	20	19	39	40	40	80
14.	PPT180022	1,005	170	13	183	15	149	164
15.	PPT190034	243	17	4	21	8	19	27
16.	PPT210001[20]	5,185	146	144	290	109	109	218
17.	TR32323	358	7	20	27	23	13	36
18.	TR37294	453	9	25	34	28	17	45
19.	TTM37449	3,508	68	192	260	220	130	350
20.	TTM37715	1,367	26	76	102	86	50	136
21.	Murrieta Apartments/Golden Eagle Apartments[21]	745	11	46	57	45	25	70
22.	Murrieta 196[22]	1,303	20	80	100	78	43	121
23.	Adobe Springs[23]	5,196	303	205	508	244	293	537

[19] Source: *Trip Generation, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012).* Where applicable, pass-by adjustment factors were utilized and are reflected in the cumulative projects trip generation potential.

[20] Source: *Winchester at Jean Nicholas Commercial Retail Center Traffic Impact Analysis*, prepared by Gandini Group, Inc., dated September 8, 2020.

[21] Source: *Murrieta Apartments Traffic Impact Analysis*, prepared by Trames Solutions Inc., dated October 22, 2013.

[22] Source: *Murrieta 180 Traffic Impact Analysis*, prepared by Kunzman Associates, Inc., dated May 21, 2013.

[23] Source: *Adobe Springs Traffic Impact Analysis*, prepared by Trames Solutions Inc., dated May 18, 2015.

TABLE 6-2 (CONTINUED)
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[24]

Cumulative Project		Weekday				Saturday		
		Daily	PM Peak Hour			Midday Peak Hour		
		2-Way	Enter	Exit	Total	Enter	Exit	Total
24.	Murrieta Marketplace[25]	23,168	377	263	640	1,009	1,081	2,090
25.	Murrieta Apartments[26]	1,742	25	84	109	84	49	133
26.	Hamilton Tract	75	1	5	6	5	3	8
27.	MHS2.5[27]	2,776	90	84	174	106	107	213
28.	Date Street Self-Storage	197	7	5	12	10	10	20
29.	La Alba Day Care[28]	476	58	52	110	52	59	111
30.	Food Mart and Gas Station La Alba[29]	2,464	76	74	150	85	83	168
Total Cumulative Projects Trip Generation Potential		**96,839**	**2,631**	**2,191**	**4,822**	**3,780**	**3,918**	**7,698**

[24] Source: *Trip Generation, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012).* Where applicable, pass-by adjustment factors were utilized and are reflected in the cumulative projects trip generation potential.
[25] Source: *Murrieta Marketplace Traffic Impact Analysis,* prepared by Trames Solutions Inc., dated December 26, 2017.
[26] Source: *MHSR Apartments Traffic Impact Analysis,* prepared by TJW Engineering, Inc., dated November 22, 2019.
[27] Source: *MHS 2.5 Traffic Impact Analysis,* prepared by Trames Solutions Inc., dated October 17, 2019.
[28] Source: *Focused Traffic Impact Analysis for the Proposed Day Care Center in the City of Murrieta,* prepared by Kimley Horn, dated October 20, 2020.
[29] Source: *Murrieta Gas Station Project in the City of Murrieta Traffic Impact Study,* prepared by Kimley Horn, dated October 2019.

7.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

7.1 Impact Criteria and Thresholds

The relative impact of the proposed Project during the AM peak hour and PM peak hour was evaluated based on analysis of future operating conditions at the key study intersection, without, then with, the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection. The significance of the potential impacts of the Project at each key intersection was then evaluated using the following traffic impact criteria.

Riverside County allows LOS "D" to be used as the maximum acceptable threshold for the study intersections.

7.2 Traffic Impact Analysis Scenarios

The following scenarios are those for which HCM calculations have been performed at the key study intersections for existing with project and near-term (Year 2024) traffic conditions:

A. Existing Traffic Conditions;

B. Existing With A.G. (Ambient Growth) to the Year 2024 With Project Traffic Conditions;

C. Scenario (B) with Improvements, if necessary;

D. Existing With A.G. (Ambient Growth) to the Year 2024 With Project With Cumulative Projects Traffic Conditions; and

E. Scenario (D) with Improvements, if necessary.

8.0 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

8.1 Existing With Ambient Growth With Project Traffic Conditions

Table 8-1 summarizes the peak hour level of service results at the six (6) key study intersections for "Existing With Ambient Growth With Project" traffic conditions. The first column (1) of HCM/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic. The second column (2) lists Existing With Ambient Growth With Project traffic conditions. The third column (3) shows the increase in delay value due to the added peak hour project trips and indicates whether the traffic associated with the Project will have a "cumulative" impact based on the impact criteria defined in this report. The fourth column (4) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

8.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 8-1* indicates that for Existing traffic conditions, all six (6) key study intersections currently operate at acceptable levels of service during the AM and PM peak hours.

Appendix C presents the Existing HCM/LOS calculations for the six (6) key study intersections.

8.1.2 *Existing With Ambient Growth With Project Traffic Conditions*

Review of column (2) of *Table 8-1* indicates that for Existing With Ambient Growth With Project traffic conditions, all six (6) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours.

Appendix C presents the Existing With Ambient Growth With Project HCM/LOS calculations for the six (6) key study intersections.

8.2 Existing With Ambient Growth With Project With Cumulative Projects Traffic Conditions

Table 8-2 summarizes the peak hour level of service results at the six (6) key study intersections for "Existing With Ambient Growth With Project With Cumulative Projects" traffic conditions. The first column (1) of HCM/LOS values in *Table 8-2* presents a summary of existing AM and PM peak hour traffic. The second column (2) lists Existing With Ambient Growth With Project With Cumulative Projects traffic conditions. The third column (3) shows the increase in delay value and indicates whether the traffic associated with the Project will have a "cumulative" impact based on the impact criteria defined in this report. The fourth column (4) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

Review of column (2) of *Table 8-2* indicates that for Existing With Ambient Growth With Project With Cumulative Projects traffic conditions, two (2) of the six (6) key study intersection are forecast to operate at an adverse level of service during the PM peak hour when compared to the target LOS defined in this report. The remaining four (4) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours. The intersections operating at adverse levels of service are:

	AM Peak Hour		PM Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
1. Winchester Road at Benton Road	--	--	89.5	F
4. Leon Road at Benton Road	--	--	78.1	F

Review of column (3) of *Table 8-2* indicates that two (2) of the six (6) key study intersections will operate at deficient levels of service and exceed the target LOS under Existing With Ambient Growth With Project With Cumulative Projects traffic conditions when compared to the target LOS defined in this report. However, as shown in column (4) of *Table 8-2*, the implementation of recommended improvements at the deficient locations improves these intersections to either acceptable service levels or better than "with Project" conditions.

Appendix C also presents the Existing With Ambient Growth With Project With Cumulative Projects HCM/LOS calculations for the six (6) key study intersections.

TABLE 8-1

EXISTING WITH AMBIENT GROWTH WITH PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[30]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2024) With Project Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2024) With Project With Improvements	
			HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
1. Winchester Road at	AM	LOS D	17.8	B	18.6	B	0.8	No	--	--
Benton Road	PM		33.5	C	38.1	D	4.6	No	--	--
2. Temeku Street at	AM	LOS D	29.6	C	29.6	C	0.0	No	--	--
Benton Road	PM		31.2	C	33.9	C	2.7	No	--	--
3. Penfield Lane at	AM	LOS D	22.7	C	25.1	C	2.4	No	--	--
Benton Road[31]	PM		23.7	C	20.9	C	-2.8	No	--	--
4. Leon Road at	AM	LOS D	13.2	B	13.9	B	0.7	No	--	--
Benton Road	PM		17.3	C	19.8	C	2.5	No	--	--
5. Van Gaale Lane/Cognac Street at	AM	LOS D	11.7	B	12.3	B	0.6	No	--	--
Benton Road[32]	PM		12.2	B	13.1	B	0.9	No	--	--
6. Pourroy Road at	AM	LOS D	41.6	D	43.5	D	1.9	No	--	--
Benton Road	PM		38.9	D	40.0	D	1.1	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[30] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[31] Includes Project improvements.

[32] Utilized *Vistro 2021* software due to non-typical geometry at this intersection.

TABLE 8-2

EXISTING WITH AMBIENT GROWTH WITH PROJECT WITH CUMULATIVE PROJECTS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[33]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2024) With Project With Cumulative Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2024) With Project With Cumulative With Improvements	
			HCM	LOS	HCM	LOS	Increase	Yes/No	HCM	LOS
1. Winchester Road at	AM	LOS D	17.8	B	34.4	C	16.6	No	39.0	D
Benton Road[34]	PM		33.5	C	**89.5**	**F**	**45.4**	**Yes**	**61.1**	**E**
2. Temeku Street at	AM	LOS D	29.6	C	41.8	D	12.2	No	--	--
Benton Road	PM		31.2	C	32.8	C	1.6	No	--	--
3. Penfield Lane at	AM	LOS D	22.7	C	24.0	B	1.3	No	--	--
Benton Road[35]	PM		23.7	C	29.2	C	5.5	No	--	--
4. Leon Road at	AM	LOS D	13.2	B	18.0	C	4.8	No	28.6	C
Benton Road	PM		17.3	C	**78.1**	**F**	**60.8**	**Yes**	33.3	C
5. Van Gaale Lane/Cognac Street at	AM	LOS D	11.7	B	16.2	C	4.5	No	--	--
Benton Road[36]	PM		12.2	B	27.9	D	15.7	No	--	--
6. Pourroy Road at	AM	LOS D	41.6	D	37.8	C	-7.5	No	--	--
Benton Road[34]	PM		35.0	D	51.1	D	16.1	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[33] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.
[34] Includes Cumulative improvements.
[35] Includes Project improvements.
[36] Utilized *Vistro 2021* software due to non-typical geometry at this intersection.

9.0 PLANNED AND RECOMMENDED IMPROVEMENTS

For the intersections where future traffic volumes are expected to result in poor operating conditions, this report recommends (identifies) improvements, which change the geometry to increase capacity. These capacity improvements usually involve roadway widening and/or restriping to reconfigure or add lanes to various approaches of a key intersection or key roadway segment. The proposed improvements are expected to address deficient levels of service.

Figure 9-1 presents the planned and recommended improvements and intersection controls at the key study intersections. These are discussed in more detail in the sections below.

9.1 Project-Specific Improvements

The following project-specific improvements are to be constructed by the proposed Project along the Project frontage and at the intersection of Penfield Lane and Benton Road. It should be noted that these improvements were discussed previously in *Section 2.2.*

- Intersection 3. Penfield Lane at Benton Road: Widen Benton Road along the Project frontage and restripe the west leg to provide an exclusive eastbound right-turn lane. Modify the existing traffic signal.

9.2 Planned Improvements

The following planned improvements are associated with the construction of cumulative projects and are included in the Existing With Ambient Growth With Project With Cumulative traffic conditions:

- Intersection 1. Winchester Road at Benton Road: Widen and restripe the south leg to provide dual exclusive northbound left-turn lanes and a third southbound departure lane. Widen and restripe the north leg to provide a second exclusive southbound left-turn lane, a third southbound through lane, and an exclusive southbound right-turn lane. Construct the west leg and provide dual exclusive eastbound left-turn lanes, three eastbound through lanes, an exclusive eastbound right-turn lane, and three westbound departure lanes. Widen and restripe the east leg to provide two westbound through lanes and a third westbound departure lane. Stripe crosswalks on the south and west legs. Modify the existing traffic signal for eight-phase operation.

- Intersection 6. Pourroy Road at Benton Road: Widen and restripe the south leg to provide a second southbound departure lane. Widen and restripe the north leg to provide an exclusive southbound left-turn lane and a second southbound through lane. Widen and restripe the west leg to provide two additional westbound departure lanes. Restripe the east leg to provide a second westbound through lane and convert the exclusive westbound right-turn lane to a shared westbound through/right-turn lane. Modify the existing traffic signal.

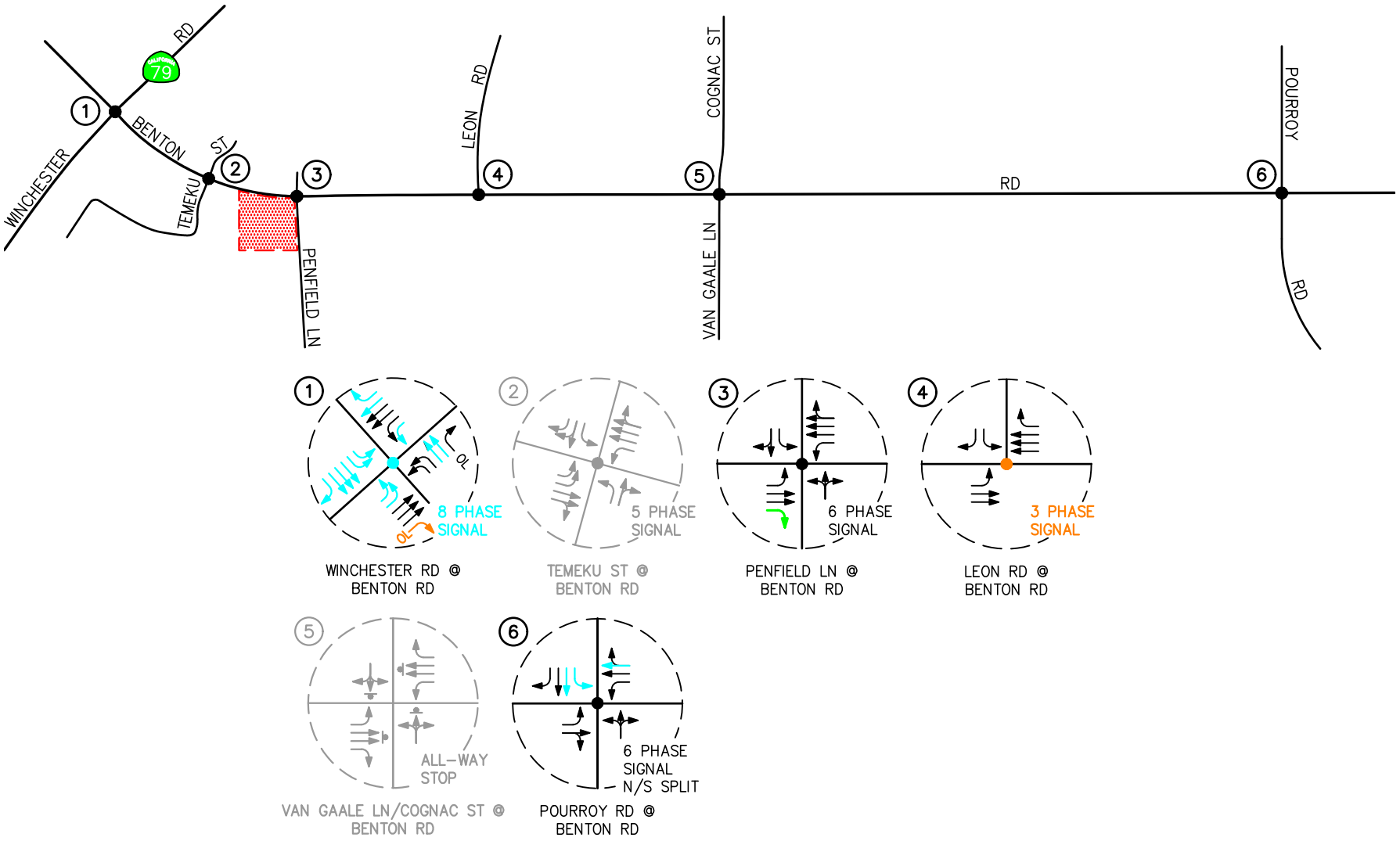
9.3 Recommended Improvements

9.3.1 *Existing With Ambient Growth With Project With Cumulative Projects Traffic Conditions*

The results of Existing With Ambient Growth With Project With Cumulative Projects traffic conditions indicate that two (2) of the six (6) key study intersection are forecast to operate at an adverse level of service during the PM peak hour when compared to the target LOS defined in this report. The remaining four (4) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours. The improvements listed below have been identified at the deficient locations to improve these intersections to either acceptable service levels or better than "with Project" conditions:

- Intersection 1. Winchester Road at Benton Road: Widen and restripe the south leg to provide an exclusive northbound right-turn lane. Modify the existing traffic signal, accordingly, and provide northbound overlap phasing.

- Intersection 4. Leon Road at Benton Road: Install a traffic signal and design for three-phase operation. Stripe a crosswalk on the west leg.



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= APPROACH LANE ASSIGNMENT
= PROJECT-SPECIFIC IMPROVEMENTS
= E+A+P+C PLANNED IMPROVEMENTS
= E+A+P+C RECOMMENDED IMPROVEMENTS
= TRAFFIC SIGNAL, = STOP SIGN
= PROJECT SITE

FIGURE 9-1

PLANNED AND RECOMMENDED IMPROVEMENTS

FRENCH VALLEY TOMMY'S EXPRESS WASH, RIVERSIDE COUNTY

10.0 TRAFFIC SIGNAL WARRANT ANALYSIS

The level of service analyses at the key unsignalized impacted study intersections that are recommended to be signalized are supplemented with an assessment of the need for signalization of the intersections. This assessment is made on the basis of signal warrant criteria. For this study, the need for signalization is assessed on the basis of the peak-hour traffic signal warrant; Warrant #3 described in the *California Manual on Uniform Traffic Control Devices (MUTCD).* Warrant #3 has two parts: 1) Part A evaluates peak hour vehicle delay for traffic on the minor street approach with the highest delay and 2) Part B evaluates peak-hour traffic volumes on the major and minor streets. This method provides an indication of whether peak-hour traffic conditions or peak-hour traffic volume levels are, or would be, sufficient to justify installation of a traffic signal. Other traffic signal warrants are available, however, they cannot be checked under future conditions because they rely on data for which forecasts are not available (such as accidents, pedestrian volume, and four- or eight-hour vehicle volumes).

The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered and further analysis performed when one or more of the warrants are satisfied. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections.

10.1 Existing With Ambient Growth With Project With Cumulative Projects Traffic Conditions

The results of the peak-hour traffic signal warrant analysis for Existing With Ambient Growth With Project With Cumulative Projects traffic conditions are summarized in column (1) of *Table 10-1*. The results indicate that the following one (1) key unsignalized deficient intersection has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part B for the AM and PM peak hours:

- 1. Winchester Road at Benton Road

The analysis and the recommended improvements show that the above-mentioned intersection in Existing With Ambient Growth With Project With Cumulative Projects traffic conditions is recommended to be signalized. With signalization of this intersection, which is warranted, this intersection is forecast to operate at acceptable service levels during the AM and PM peak hours. Thus, it is concluded from *Table 10-1* that a traffic signal is justified at this location.

The Existing With Ambient Growth With Project With Cumulative Projects Signal Warrant Analysis worksheets are contained in ***Appendix** D.*

TABLE 10-1
INTERSECTION TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY

Key Intersection	Time Period	(1) Existing With A.G. (Year 2024) With Project With Cumulative Traffic Conditions	
		Part A of Warrant 3 Satisfied?	**Part B of Warrant 3 Satisfied?**
4. Leon Road at Benton Road	AM	No	**Yes**
	PM	No	**Yes**

Notes:

- Signal Warrant checks based on Warrant 3, Part A - Peak-Hour Delay Warrant and Part B - Peak-Hour Volume Warrant contained in the *California MUTCD.*

11.0 PROJECT FAIR SHARE ANALYSIS

The transportation impacts associated with the development of the proposed Project were determined based on the future conditions analysis with the proposed Project. The key study locations forecast to operate at adverse levels of service are discussed below. As such, the proposed Project's "fair share" of the recommended improvements has been calculated for the key study locations that are forecast to operate at adverse levels of service.

11.1 Existing With Ambient Growth With Project With Cumulative Projects Traffic Conditions

Table 11-1 presents the AM and PM peak hours Project fair share percentages at the key study intersections that are forecast to operate at adverse levels of service in Existing With Ambient Growth With Project With Cumulative Projects traffic conditions. As presented in *Table 11-1*, the first column (1) presents the Project only traffic volume. The second column (2) presents the existing traffic volume at the intersection. The third column (3) presents the Existing With Ambient Growth With Project With Cumulative Projects traffic volumes. The fourth column (4) represents the Project fair share based on the following formula:

- Project Fair Share (4) = Column (1)/[Column (3) – Column (2)]*100

The Project fair share percentages (most adverse time period) for the two (2) adverse intersections for Existing With Ambient Growth With Project With Cumulative Projects traffic conditions that require physical improvements are shown below:

- 1. Winchester Road at Benton Road 1.26%
- 4. Leon Road at Benton Road 7.84%

TABLE 11-1
EXISTING WITH AMBIENT GROWTH YEAR WITH PROJECT WITH CUMULATIVE PROJECTS TRAFFIC CONDITIONS
FAIR SHARE CONTRIBUTION

Key Intersection		Impacted Time Period	(1) Project Only Volume	(2) Existing Volume	(3) Existing With Ambient With Project With Cumulative Project Volume	(4) Project Fair Share Responsibility
1.	Winchester Road at	AM	--	--	--	--
	Benton Road	PM	33	3,628	6,250	**1.26%**
4.	Leon Road at	AM	--	--	--	--
	Benton Road	PM	66	1,311	2,153	**7.84%**

Notes:

- Project Fair Share (4) = Column (1) / [Column (3) – Column (2)]
- **Bold Project Fair Share Responsibility** is based on worse case

12.0 STATE OF CALIFORNIA (CALTRANS) METHODOLOGY

12.1 Vehicle Miles Traveled Analysis

The Department of Transportation (Caltrans) has formally adopted VMT as the metric for reviewing the transportation impacts of a land use development project. Caltrans has released the Vehicle Miles Traveled-Focused *Transportation Impact Study Guide (TISG)*, dated May 20, 2020, and the *Caltrans Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance*, dated July 2020, in order to provide guidance on Caltrans' review of land use projects.

Caltrans' TISG references the *Technical Advisory on Evaluating Transportation Impacts In California Environmental Quality Act* (CEQA), dated December 2018, prepared by the State of California Governor's Office of Planning and Research (OPR) as the basis for its guidance on VMT assessment. For the purpose of this transportation assessment, it is understood that the County of Riverside's *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled* are generally consistent to the methodology and screening criteria contained within the December 2018 Technical Advisory prepared by OPR. Therefore, no separate VMT analysis has been prepared for Caltrans' review of the proposed project. The VMT analysis for this project is contained within ***Section 14.0*** later in this TIA.

12.2 Intersection Vehicle Queuing Analysis

The *Caltrans Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance*, dated July 2020, provides direction on a simplified safety analysis approach that reduces the risk to all road users and that focuses on multi-modal conflict analysis as well as access management issues. District traffic safety staff are encouraged to consider the proposed project's potential influence on safety on state roadways, including the following factors:

- Increased presence of pedestrians and bicyclists
- Degradation of the walking and bicycling environment and experience
- New pedestrian and bicyclist connection desires
- Multimodal conflict points, especially at intersections and project access locations
- Change in traffic mix such as an increase in bicyclists or pedestrians where features such as shoulders or sidewalks may not exist or are inconsistent with facility design (sidewalks, bike and multi-user paths, multimodal roadways, etc.)
- Increased vehicular speeds
- Transition between free flow and metered flow
- Increased traffic volumes
- Queuing at off-ramps resulting in slow or stopped traffic on the mainline or speed differentials between adjacent lanes
- Queuing exceeding turn pocket length that impedes through-traffic

The proposed Project does not take direct access from a State facility; therefore, the project has not been reviewed for factors pertaining to site access or local roadways. However, the proposed Project is expected to generate net new project trips along SR-79 Winchester Road (i.e. key study

intersections #1). Therefore, an analysis of the project's effect on turn pocket queuing was prepared in order to determine if the Project would cause, or contribute towards, slowing or stopped traffic on through travel lanes resulting in unsafe speed differentials between adjacent lanes.

The queuing analysis was prepared for Existing, Existing With Ambient Growth With Project, and Existing With Ambient Growth With Project With Cumulative traffic conditions. The intersection was reviewed in terms of expected maximum vehicle queues (i.e. 95th percentile queues) which represent the maximum back of vehicle queues with 95th percentile traffic volumes. The corresponding maximum vehicle queue lengths were then compared to the total turn pocket storage lengths.

12.2.1 *Existing With Ambient Growth With Project Traffic Conditions*

As shown in ***Table 12-1***, existing storage is not provided to accommodate the forecast 95th percentile queues for the southbound left-turn lane at the intersection of Winchester Road and Benton Road under Existing and Existing With Ambient Growth With Project traffic conditions. Therefore, it is recommended that the southbound left turn pocket be restriped to address the queuing deficiencies.

12.2.2 *Existing With Ambient Growth With Project Projects Traffic Conditions*

As shown in ***Table 12-2***, estimated storage is not provided to accommodate the forecast 95th percentile queues for the dual southbound left-turn lanes at the intersection of Winchester Road and Benton Road under Existing With Ambient Growth With Project With Cumulative Projects traffic conditions. Therefore, it is recommended that the design of the future dual southbound left-turn lanes include a minimum storage of 400 feet per lane to accommodate the forecast deficiencies.

TABLE 12-1

EXISTING WITH AMBIENT GROWTH WITH PROJECT PEAK HOUR CALTRANS QUEUING ANALYSIS[37]

Study Intersection (Jurisdiction)	Estimated Storage Provided	Existing Traffic Conditions				Existing With A.G. (Year 2024) With Project Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue	Adequate Storage (Yes / No)	Max Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)
1. Winchester Road at Benton Road									
Southbound Left-Turn	290’	**331’**	**No**	**436’**	**No**	**361’**	**No**	**476’**	**No**

[37] Queue is based on the *95th Percentile Queue* and is reported in total queue length (feet) per lane for signalized intersections.

TABLE 12-2

EXISTING WITH AMBIENT GROWTH WITH PROJECT WITH CUMULATIVE PEAK HOUR CALTRANS QUEUING ANALYSIS[38]

Study Intersection (Jurisdiction)	Estimated Storage Provided	Existing With A.G. (Year 2024) With Project With Cumulative Traffic Conditions				Existing With A.G. (Year 2024) With Project With Cumulative With Improvements Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue	Adequate Storage (Yes / No)	Max Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)
1. Winchester Road at Benton Road									
Northbound Left-Turn	290’	69’	Yes	198’	Yes	69’	Yes	98’	Yes
Northbound Right-Turn	150’	--	--	--	--	46’	Yes	27’	Yes
Southbound Left-Turn	290’	247’	Yes	**421’**	**No**	247’	Yes	**397’**	**No**
Southbound Right-Turn	150’	25’	Yes	65’	Yes	25’	Yes	67’	Yes
Eastbound Left-Turn	290’	37’	Yes	105’	Yes	37’	Yes	91’	Yes
Eastbound Right-Turn	150’	25’	Yes	112’	Yes	25’	Yes	108’	Yes
Westbound Left-Turn	360’	246’	Yes	244’	Yes	270’	Yes	256’	Yes

[38] Queue is based on the *95th Percentile Queue* and is reported in total queue length (feet) per lane for signalized intersections.

13.0 SITE ACCESS AND INTERNAL CIRCULATION EVALUATION

13.1 Level of Service Analysis for Project Access Locations

As shown in *Figure 2-2,* access to the proposed Project will be provided via one (1) right-in/right-out stop-controlled driveway along Benton Road and one (1) full-access stop-controlled driveway located along Penfield Lane.

Table 13-1 summarizes the intersection operations for the proposed Project driveways for future traffic conditions with the proposed Project. As shown in column (1), the proposed Project driveways are forecast to operate at acceptable LOS B or better during the AM and PM peak hours under Existing With Ambient Growth With Project traffic conditions. As shown in column (2), the proposed project driveways are forecast to operate at acceptable LOS B or better during the AM and PM peak hours under Existing With Ambient Growth With Project With Cumulative Projects traffic conditions.

Appendix E contains the detailed HCM/LOS calculation worksheets for the project driveways.

13.2 Internal Circulation Evaluation

The on-site circulation layout of the proposed Project as illustrated in *Figure 2-2* on an overall basis is adequate. Curb return radii appear adequate for passenger cars, service/delivery trucks, and trash trucks. Based on our review of the site plan, the overall layout does not create significant vehicle-pedestrian conflict points such that access for the Project is impacted by internal vehicle queuing/stacking. Project traffic is not anticipated to cause significant internal queuing/stacking at the Project driveways. The on-site circulation is acceptable based on our review of the proposed site plan. The alignment and spacing of the Project driveways are also deemed adequate. As such, motorists entering and exiting the Project site from the driveways will be able to do so comfortably, safely, and without undue congestion.

TABLE 13-1
PROJECT DRIVEWAY PEAK HOUR LEVELS OF SERVICE SUMMARY

Key Driveway		Control Type	Time Period	(1) Existing With A.G. (Year 2024) With Project Traffic Conditions		(2) Existing With A.G. (Year 2024) With Project With Cumulative Projects Traffic Conditions	
				HCM (s/v)	LOS	HCM (s/v)	LOS
A.	Project Driveway 1 at Benton Road	One-Way Stop	AM	9.5	A	10.0	B
			PM	11.1	B	13.4	B
B.	Penfield Lane at Project Driveway 2	One-Way Stop	AM	9.2	A	9.2	A
			PM	10.9	B	10.9	B

Notes:

- LOS = Level of Service, please refer to *Table 3-2* for the LOS definitions
- s/v = seconds per vehicle

14.0 VEHICLE MILES TRAVELED (VMT) ASSESSMENT

On December 28, 2018, the California Natural Resources Agency adopted revised CEQA Guidelines. Among the changes to the guidelines was the removal of vehicle delay and LOS from consideration for transportation impacts under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on vehicle miles traveled. Lead agencies are allowed to continue using their current impact criteria, or to opt into the revised transportation guidelines. The County of Riverside adopted new traffic impact criteria in December 2020 to be consistent with the CEQA revisions. These new guidelines are contained within the *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled*, dated December 2020 and provide screening criteria and methodology for VMT analysis.

The *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled* state that small projects with low trip generation per existing CEQA exemptions or based on the County Greenhouse Gas Emissions Screening Tables are presumed to cause a less than significant impact and should not be required to complete a VMT assessment. These projects are noted below:

- Single Family Housing projects less than or equal to 110 dwelling units
- Multifamily (Low-Rise) Housing projects less than or equal to 147 dwelling units
- Multifamily (Mid-Rise) Housing projects less than or equal to 194 dwelling units
- General Office Building with area less than or equal to 165,000 SF
- Retail buildings with area less than or equal to 60,000 SF
- Warehouse (unrefrigerated) buildings with area less than or equal to 208,000 SF
- General Light Industrial buildings with area less than or equal to 179,000 SF
- Project GHG emissions less than 3,000 Metric tons of Carbon Dioxide Equivalent (MTCO2e)
- Unless specified above, project trip generation with less than 110 trips per day

As stated previously, the proposed Project will consist of an express car wash with 130-foot wash tunnel, a 729 SF fast-food restaurant with drive-through, and a 2,535 SF fast-food restaurant with drive-through. Therefore, based on the aforementioned criteria (i.e. retail with area less than 60,000 SF), this Project would screen out from a VMT analysis and be presumed to have a less than significant impact on VMT, per the County's guidelines.