URBAN CROSSROADS

41 Corporate Park, Suite 300
Irvine, CA 92606

Prepared by:

Aric Evatt, PTP
Charlene S. Hwang, PE
Janette Cachola


Prepared for:

Mr. Tim Rogers
TOWER OF ENERGY GROUP
1943 W. 190th Street
Torrance, CA 90504

# VILLAGE MARKET #912
# TRAFFIC IMPACT ANALYSIS
# LA QUINTA, CALIFORNIA

February 27, 2012

JN:07290-10
AE:CH:JC:rd

# TABLE OF CONTENTS

# TABLE OF CONTENTS (CONTINUED)

Section Page

# LIST OF APPENDICES

# LIST OF EXHIBITS

## LIST OF EXHIBITS (CONTINUED)

## LIST OF TABLES

## LIST OF TABLES (CONTINUED)

# VILLAGE MARKET #912
## TRAFFIC IMPACT ANALYSIS
## CITY OF LA QUINTA, CALIFORNIA

## 1.0 EXECUTIVE SUMMARY

A. Introduction

The purpose of this traffic impact analysis is to evaluate the potential traffic impacts from the proposed Village Market #912 development. Village Market #912 is referred to as "Project" from this point forward in this report. The Project is generally located south of Avenida Montezuma and bounded by Avenida Navarro to the west and Avenida Bermudas to the east in the Old Town area of the City of La Quinta. Exhibit 1-A illustrates the location of the Project in relation to the intersections addressed in this study.

Urban Crossroads, Inc. has prepared this traffic analysis in accordance with the City of La Quinta's *Engineering Bulletin #06-13 (dated September 22,2010)* and *Engineering Bulletin #10-01 (dated August 9, 2010)*. In addition, through coordination with City of La Quinta staff, Urban Crossroads, Inc. has discussed key traffic impact study assumptions to ensure that City requirements are addressed in the report. These assumptions include, but are not limited to, analysis locations, ambient growth, cumulative project traffic and analysis scenarios. The findings and the recommendations in this report adhere to current acceptable engineering practices and reflect Urban Crossroads Inc.'s professional engineering judgment.

B. Description of Proposed Project

The existing project site currently consists of a gas station (8 vehicle fueling positions) with a 2,000 square foot convenience market and a 1,000 square foot high-turnover sit-down restaurant. The proposed Project is to consist of a gas station with 8 vehicle fueling positions (consistent with the existing condition) and an expanded convenience market totaling approximately 3,890 square feet. The high-turnover sit-down restaurant will be removed in order to accommodate the expanded convenience market.

Exhibit 1-B provides a site plan of the proposed Project. Year 2013 is the anticipated Project opening year. At buildout of the proposed Project (2013), the site is anticipated to generate an estimated 673 net additional trips per day with an additional 31 trips during the AM peak hour and an additional 39 trips during the PM peak hour.

EXHIBIT 1-A

# LOCATION MAP

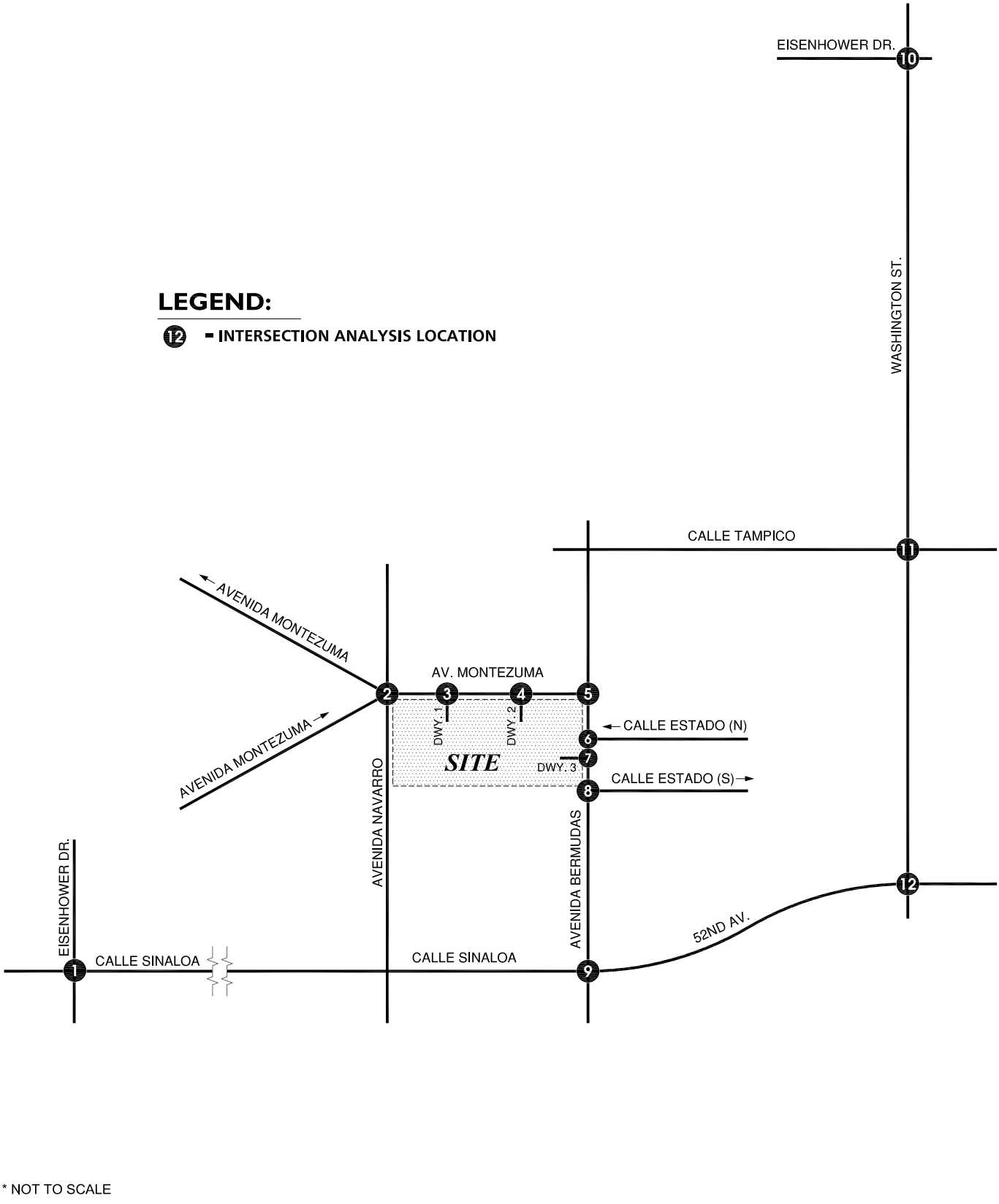
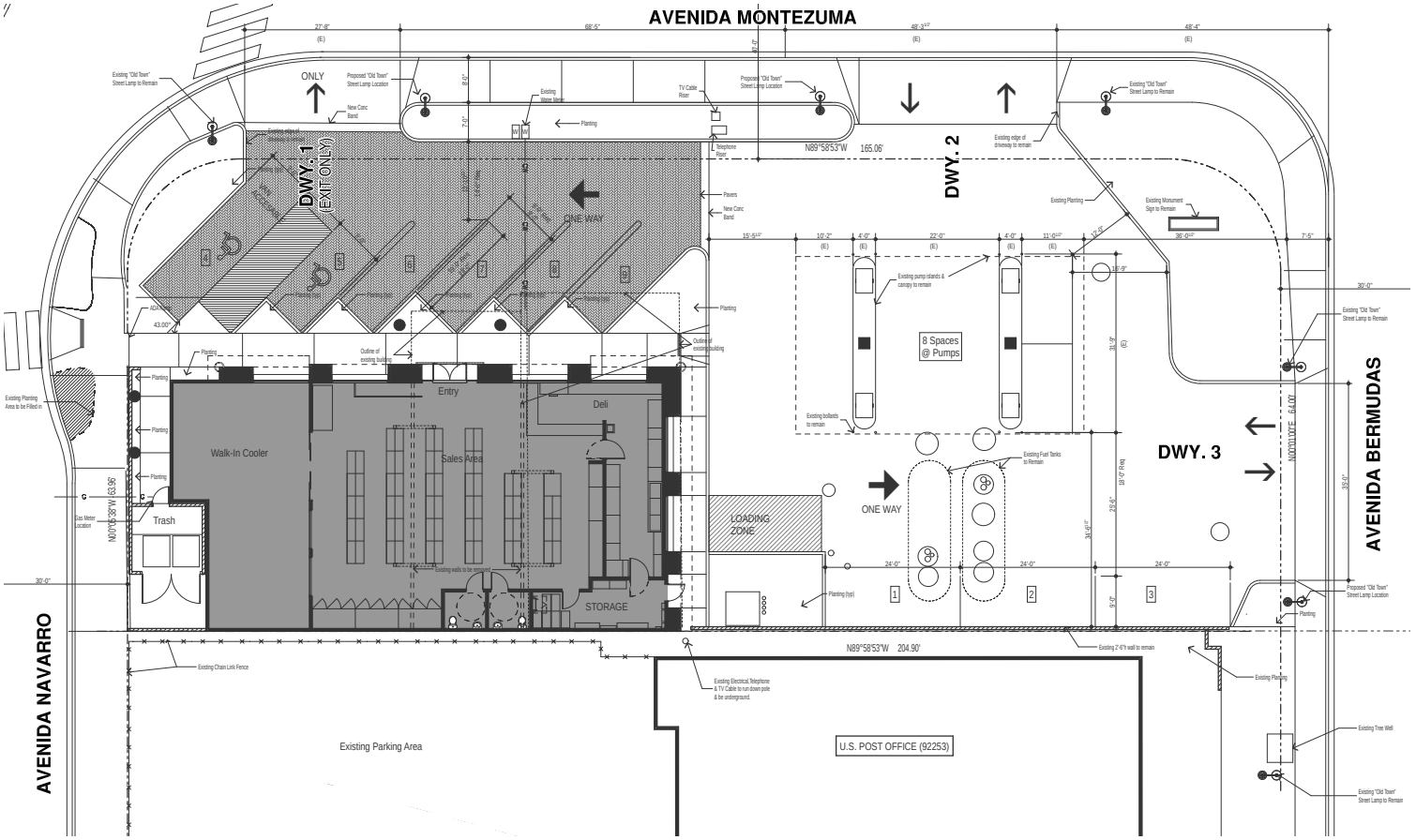


EXHIBIT 1-B

# SITE PLAN




N

C. Summary of Findings

The results of the potentially significant project-specific traffic impact for the study area intersections for near-term and long-term traffic conditions are summarized in Table 1-1. As shown in Table 1-1, the proposed Project is not anticipated to contribute additional traffic resulting in neither a potentially significant project-specific traffic impact nor a cumulative traffic impact.

1. Existing Conditions

The intersection analysis for existing conditions represents current peak season intersection level of service operations as the volumes have been adjusted by fifteen (15) percent to account for a seasonal variation. All study area intersections are currently operating at acceptable levels of service, LOS "D" or better, with the exception of the following intersections:

- Avenida Bermudas / Calle Sinaloa/52nd Avenue – LOS "E" AM Peak Hour Only
- Washington Street / 52nd Avenue – LOS "F" AM Peak Hour Only

Roadway segments are analyzed by comparing the existing peak season daily traffic volumes to the capacity of the particular roadway. The analysis indicates that all studied roadway segments are currently operating at acceptable levels of service with existing configurations. All of the road segments are operating at LOS "A".

2. Existing Plus Project Conditions

With the addition of project traffic to existing traffic volumes, all of the intersections and road segments studied will operate at LOS "D" or better with the exception of the same two (2) intersections previously identified under existing conditions. However, the resulting change in delay at each of the affected intersections as a result of the addition of project traffic is less than one (1) second, and therefore does not trigger the City of La Quinta's potentially significant project-specific traffic impact criteria. As such, the addition of project traffic does not result in a potentially significant project-specific traffic impact at either of the deficient intersection locations.

3. Project Opening Year (2013) Conditions

The analysis of cumulative traffic impacts under Opening Year (2013) (Existing + Ambient + Cumulative and Existing + Ambient + Cumulative + Project) conditions, which considers traffic from other related projects in the area and a background growth of one (1) percent

**TABLE 1-1**

**SUMMARY OF POTENTIALLY SIGNIFICANT PROJECT-SPECIFIC TRAFFIC IMPACTS AND CUMULATIVE TRAFFIC IMPACTS ASSESSMENT AT INTERSECTIONS[1]**

| INTERSECTION | E+P CONDITIONS | | | OPENING YEAR (2013) CONDITIONS | | | 2025 CONDITIONS | | |
|---|---|---|---|---|---|---|---|---|---|
| | POTENTIALLY SIGNIFICANT PROJECT-SPECIFIC IMPACT [2] | IMPACT ASSESSMENT | E+P PROJECT-RELATED INTERSECTION IMPROVEMENTS | CUMULATIVE IMPACT [2] | IMPACT ASSESSMENT | OPENING YEAR (2013) PROJECT-RELATED INTERSECTION IMPROVEMENTS | CUMULATIVE IMPACT [2] | IMPACT ASSESSMENT | 2025 PROJECT RELATED INTERSECTION IMPROVEMENTS |
| Eisenhower Drive (NS) at: | | | | | | | | | |
| • Calle Sinaloa (EW) | NO | N/A [3] | N/A [3] | NO | N/A [3] | N/A [5] | NO | N/A [3] | N/A [3] |
| Avenida Navarro (NS) at: | | | | | | | | | |
| • Avenida Montezuma (EW) | NO | N/A [3] | N/A [3] | NO | N/A [3] | N/A [5] | NO | N/A [3] | N/A [3] |
| Avenida Bermudas (NS) at: | | | | | | | | | |
| • Avenida Montezuma (EW) | NO | N/A [3] | N/A [3] | NO | N/A [3] | N/A [5] | NO | N/A [3] | N/A [3] |
| • Calle Estado (North) (EW) | NO | N/A [3] | N/A [3] | NO | N/A [3] | N/A [5] | NO | N/A [3] | N/A [3] |
| • Calle Estado (South) (EW) | NO | N/A [3] | N/A [3] | NO | N/A [3] | N/A [5] | NO | N/A [3] | N/A [3] |
| • Calle Sinaloa/52nd Avenue (EW) | NO | N/A [3] | N/A [3] | NO | N/A [3] | N/A [5] | NO | N/A [3] | N/A [3] |
| Washington Street (NS) at: | | | | | | | | | |
| • Eisenhower Drive (EW) | NO | N/A [3] | N/A [3] | NO | N/A [3] | N/A [5] | NO | N/A [3] | N/A [3] |
| • Calle Tampico (EW) | NO | N/A [3] | N/A [3] | NO | N/A [3] | N/A [5] | NO | N/A [3] | N/A [3] |
| • 52nd Avenue (EW) | NO | N/A [3] | N/A [3] | NO | N/A [3] | N/A [5] | NO | N/A [3] | N/A [3] |

[1] Per City of La Quinta Engineering Bulletin #06-13, potential project-specific significant impacts and project-specific cumulative impacts must be evaluated. Project is required to mitigate their impacts by mitigation measures.

[2] A potentially significant project-specific traffic impact is defined if the signalized intersection is operating with a LOS" E" and the project causes the delay to increase by 2 seconds or more or for LOS "F, if the project increases the delay by 1 second or more. For unsignalized intersections, if the intersection has a projected LOS "F" on a side street for two-way stop control or LOS "E" or worse for an all-way stop controlled intersection and the addition of project traffic results in an increase of 3 seconds or more of delay for any movement.

[3] Not Applicable. Potentially significant project-specific traffic impact is not anticipated. Therefore, an impact assessment is not needed.

per year, indicates that the same two (2) intersections previously identified as deficient under existing conditions would continue to operate at a level of service worse than LOS "D". However, based on the City's identified potentially significant project-specific traffic impact criteria, the resulting change in delay at each of the affected intersections as a result of the addition of project traffic is less than one (1) second. As such, the Project's contribution to these two (2) deficient intersections is not cumulatively considerable and, therefore, the impact is not significant.

4. Horizon Year (2025) Conditions

The analysis of cumulative traffic impacts under 2025 conditions, which considers traffic from other related projects in the area and a background growth of one (1) percent per year, indicates that the same two (2) intersections previously identified as deficient under existing conditions would continue to operate at a level of service worse than LOS "D", in addition to the following intersection:

- Washington Street / Eisenhower Drive – LOS "E" AM and PM Peak Hours

However, based on the City's identified potentially significant project-specific traffic impact criteria, the resulting change in delay at each of the affected intersections as a result of the addition of project traffic is less than one (1) second. As such, the Project's contribution to these three (3) deficient intersections is not cumulatively considerable and, therefore, the impact is not significant.

5. Site Access and On-Site Circulation

The project is responsible for the construction of site specific improvements. These improvements are provided below for Project buildout (2013) conditions. Site-specific circulation and access recommendations are depicted on Exhibit 1-C and are described in Chapter 7.0 of this report.

6. Parking

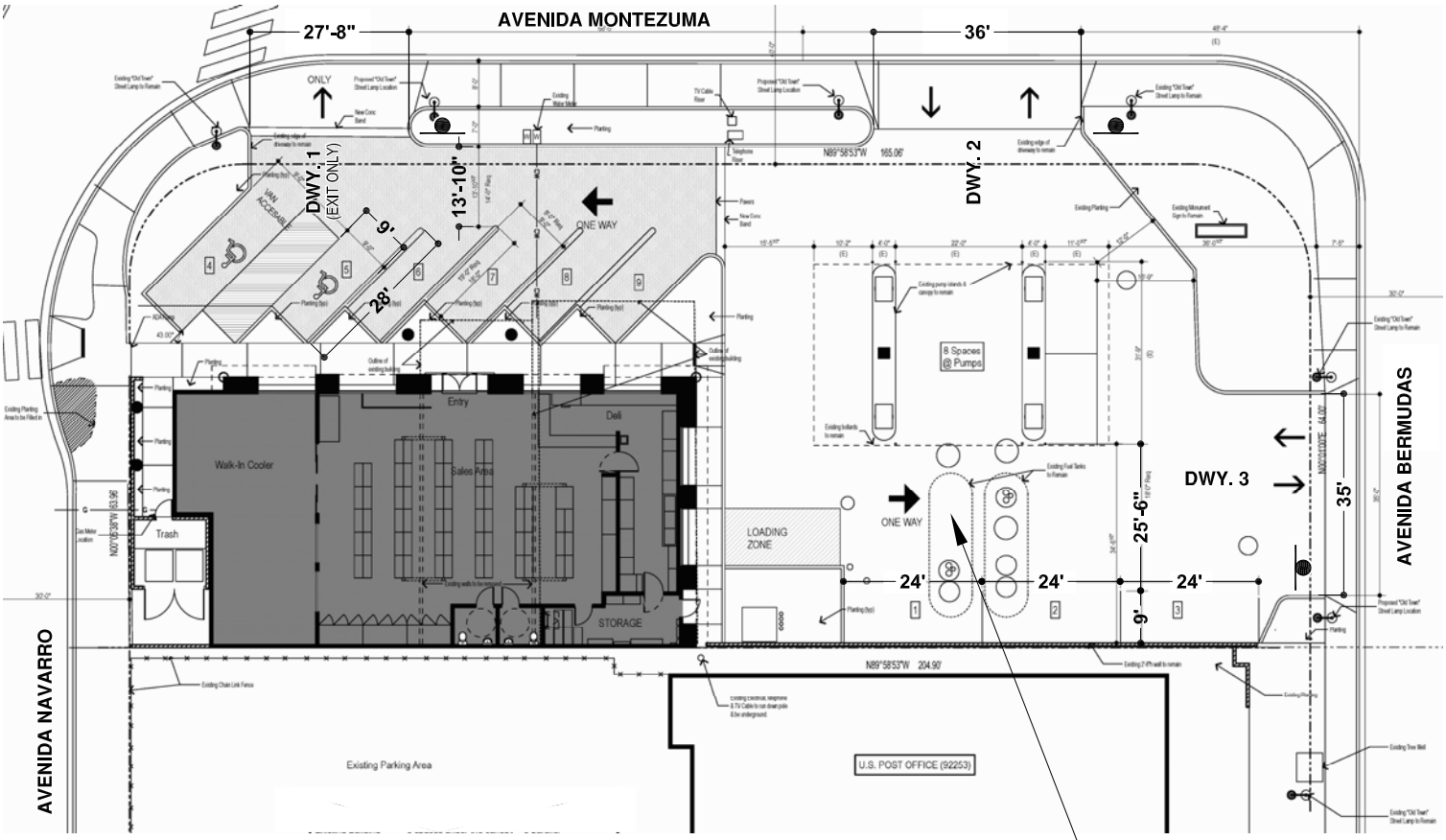
Parking will be calculated based on the existing pumps and retail store area as an existing use with eleven (11) existing parking spaces (including pump spaces). Therefore, the retail space must provide eight (8) additional spaces per code for retail square footage (1/250) for a total of nineteen (19) spaces. Any shortage may be made up by the "In-Lieu Fee". The current site plan indicates there are seventeen (17) spaces provided, as such, it is

EXHIBIT 1-C

# CIRCULATION RECOMMENDATIONS

DIRECT VEHICULAR ACCESS FROM AVENIDA NAVARRO WILL BE ELIMINATED AND THE ACCESS TO AVENIDA MONTEZUMA WILL BE REDUCED FROM 3 TO 2 DRIVEWAYS, WHICH BASED ON PARKING CONFIGURATION AND DRIVE AISLE WIDTH ADJACENT TO AVENIDA MONTEZUMA THE MOST WESTERLY DRIVEWAY SHOULD BE SIGNED FOR OUTBOUND TRIPS ONLY AND THE EASTERLY DRIVEWAY ON AVENIDA MONTEZUMA IS PROPOSED TO REMAIN FULL ACCESS. A FULL ACCESS DRIVEWAY IS ALSO PROPOSED TO REMAIN ON AVENIDA BERMUDAS.

DUE TO THE SITE'S PHYSICAL CONSTRAINTS, THE APPLICANT PROPOSES THE USE OF ANGLED PARKING STALLS WITH ONE-WAY DRIVE AISLES, APPROPRIATE ONE-WAY SIGNAGE AND STRIPING INDICATING DESIGNATED VEHICLE PATHS SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS.




THE PLANNED ANGLED PARKING STALLS LOCATED ALONG THE CONVENIENCE STORE FRONTAGE APPEAR TO CORRECTLY ADHERE TO CITY STANDARDS IN THAT THE HIGH-TURNOVER PARKING STALLS ARE SHOWN TO BE 9'0" WIDE AND 19'0" LONG. THE ONE-WAY DRIVE AISLE WIDTH OF 13'-10" DOES NOT SATISFY CITY STANDARDS FOR ONE-WAY DRIVE AISLE WIDTHS ADJACENT TO ANGLED PARKING BETWEEN 0-44 DEGREES (CITY CODE IS 14'0"). THE ONE-WAY DRIVE AISLE SHOULD BE STRIPED AS SUCH.

THE PLANNED PARALLEL PARKING SPACES PROVIDED ADJACENT TO THE SITE BOUNDARY ALONG THE SOUTHEASTERN PORTION OF THE SITE APPEAR TO ADHERE TO CITY STANDARDS IN THAT THEY ARE 9'0" WIDE AND 24'0" LONG. THE DRIVE AISLE WIDTH ADJACENT TO THE PARALLEL SPACES DOES NOT MEET CURRENT CITY STANDARD FOR TWO-WAY TRAVEL (i.e., 26 ft.), THEREFORE, THE DRIVE AISLE SHOULD BE STRIPED FOR ONE-WAY TRAVEL. AS A ONE-WAY DRIVE AISLE THERE WOULD APPEAR TO BE SUFFICIENT ROOM FOR VEHICLES TO SAFELY NAVIGATE THE PUMP ISLANDS.

**LEGEND:**

● = STOP SIGN

N

anticipated that the remaining two (2) spaces would be accounted for through payment of the “In-Lieu Fee”.

## 2.0 PROPOSED DEVELOPMENT

A. Location

The proposed Project is generally located south of Avenida Montezuma and bounded by Avenida Navarro to the west and Avenida Bermudas to the east in the City of La Quinta.

B. Land Use and Intensity

The existing project site currently consists of a gas station (8 vehicle fueling positions) with a 2,000 square foot convenience market and a 1,000 square foot high-turnover sit-down restaurant. The proposed Project is to consist of a gas station with 8 vehicle fueling positions (consistent with the existing condition) and an expanded convenience market totaling approximately 3,890 square feet. The high-turnover sit-down restaurant will be removed in order to accommodate the expanded convenience market.

C. Site Plan and Project Access

The Project site is currently operating with one driveway on Avenida Navarro, three full-access driveways located along Avenida Montezuma, and one full-access driveway on Avenida Bermudas. The Project is proposing to remove the driveway on Avenida Navarro and reduce the number of driveways on Avenida Montezuma from 3 to 2, which based on the parking configuration and drive aisle width adjacent to Avenida Montezuma the most westerly driveway should be signed for outbound trips only and the easterly driveway on Avenida Montezuma will remain full access. A full access driveway will also remain on Avenida Bermudas.

D. Project Timing

The proposed Project is anticipated to be constructed in a single phase with anticipated opening year of 2013.

This Page Intentionally Left Blank

## 3.0 AREA CONDITIONS

This section of the report discusses existing area conditions at study area intersections and roadway segments, which include existing traffic volumes and lane configurations. Analysis methodologies pursuant to the City of La Quinta *Engineering Bulletin #06-13 (dated September 22, 2010)* and the results of the existing conditions intersection and road segments analyses are discussed in this section.

A. Study Area

1. Area of Significant Traffic Impact

Pursuant to discussions with City of La Quinta staff, the study area includes the following twelve (12) existing intersections:

- Eisenhower Drive / Calle Sinaloa
- Avenida Navarro / Avenida Montezuma
- Driveway 1 / Avenida Montezuma
- Driveway 2 / Avenida Montezuma
- Avenida Bermudas / Avenida Montezuma
- Avenida Bermudas / Calle Estado (North)
- Avenida Bermudas / Driveway 3
- Avenida Bermudas / Calle Estado (South)
- Avenida Bermudas / Calle Sinaloa/Avenue 52
- Washington Street / Eisenhower Drive
- Washington Street / Calle Tampico
- Washington Street / 52nd Avenue

B. Existing Land Uses

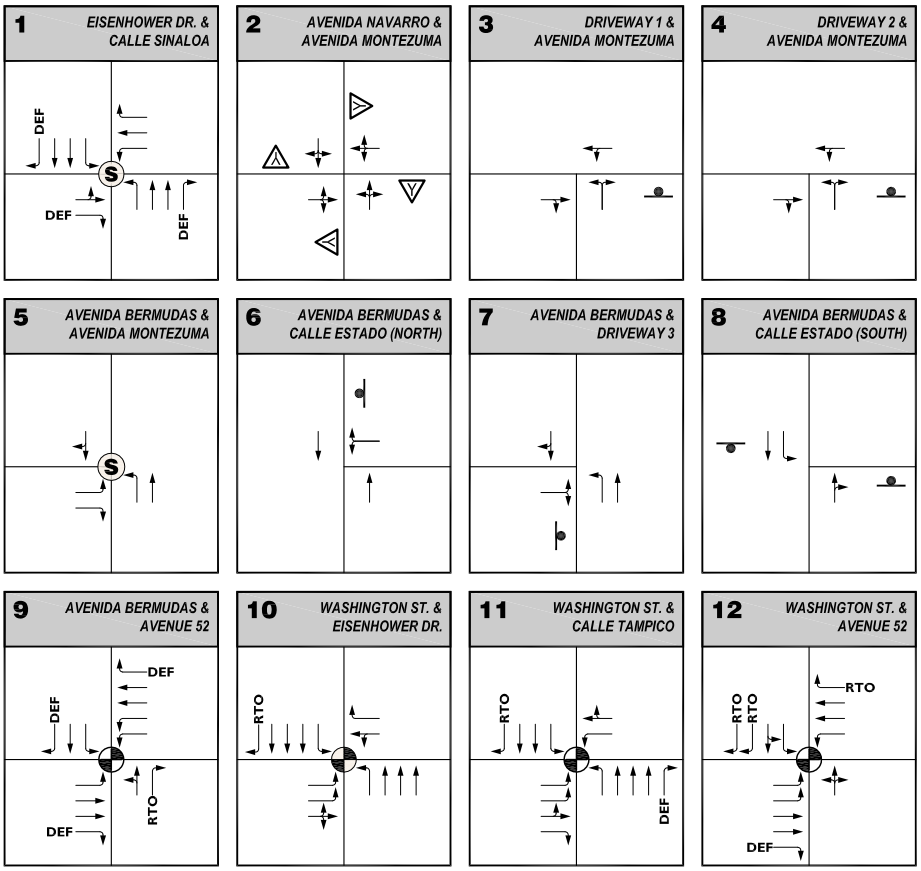
North – Public Parking Lot/Commercial
South – Residential
East – Commercial
West – Park/Residential

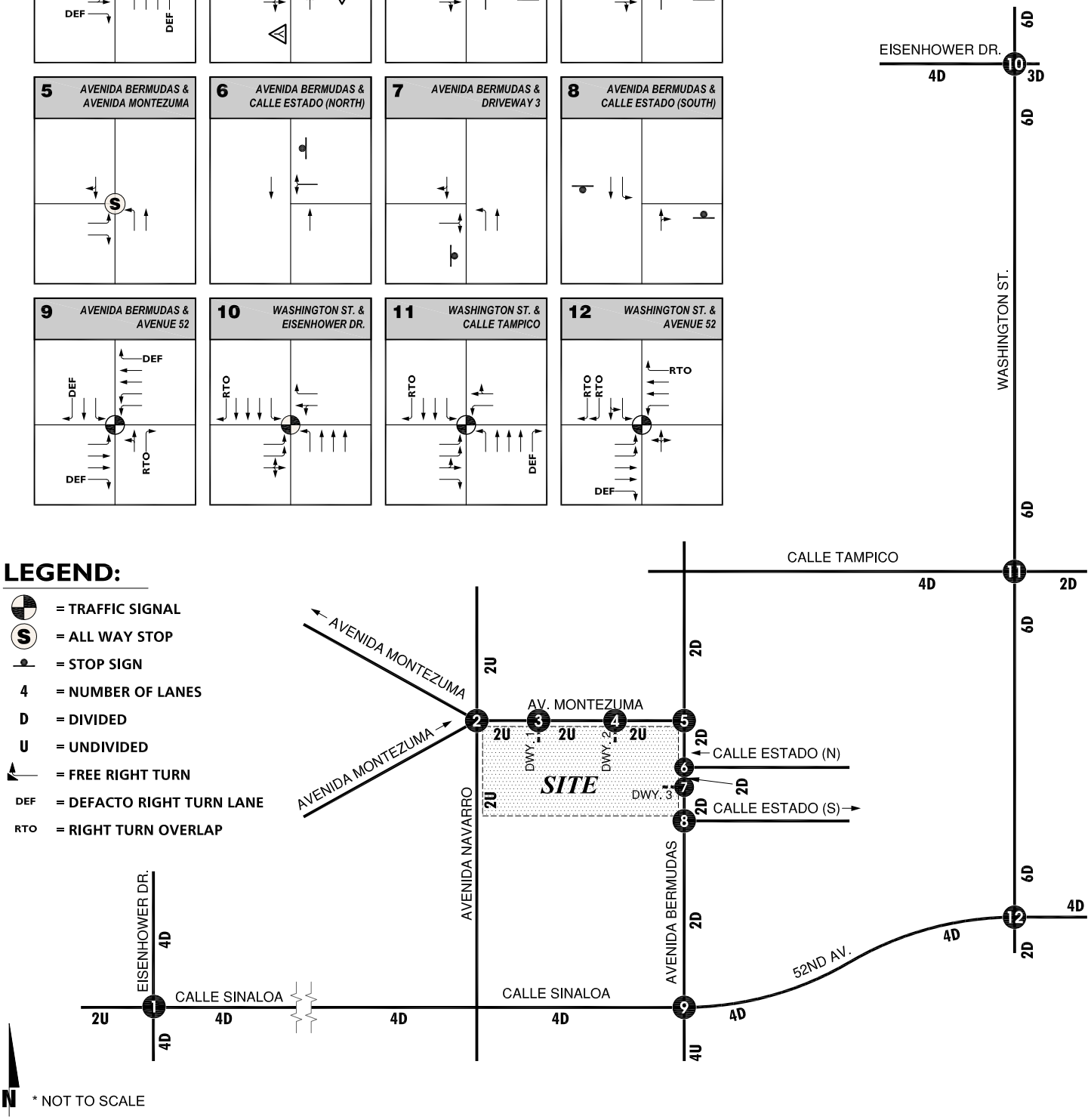
C. Area Roadway System

Exhibit 3-A identifies the existing roadway conditions for study area roadways. The number of through traffic lanes for existing roadways and the existing intersection controls are identified.

EXHIBIT 3-A

# EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



The City of La Quinta General Plan Circulation Element is depicted on Exhibit 3-B. Exhibit 3-C illustrates the City of La Quinta General Plan roadway cross-sections.

D. Traffic Volumes and Conditions

Based on discussions with City staff, the use of May 2010 traffic counts is acceptable for the purposes of this analysis with the application of a growth factor to bring the 2010 count data up to the 2012 traffic levels. As such, a one (1) percent per year (or a total of two percent) growth factor was applied to the May 2010 traffic counts for the purposes of reflecting 2012 existing conditions.

In accordance with the City of La Quinta's traffic study guidelines (*Engineering Bulletin #06-13, dated September 22, 2010*), traffic counts should consider the seasonal population variations within the City of La Quinta. Traffic counts conducted during the peak seasonal period from January 2nd to March 31st requires no seasonal adjustment. In contrast, traffic counts conducted during the off-season period from July to August should be increased by as much as 20% over measured levels. The traffic counts conducted for this study were collected during the off-peak season in late May 2010, which typically requires that a 10% seasonal variation factor be applied to existing traffic counts. However, since the traffic counts were conducted close to June (less than one week), a 15% seasonal variation factor has been applied to existing traffic counts in an effort to overstate as opposed to understate baseline traffic conditions. Existing (2012) volume development worksheets and seasonal adjustment calculations are included in Appendix "A".

Existing Average Daily Traffic (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 3-D. Existing (2012) ADT volumes are based upon factored intersection peak hour counts conducted for Urban Crossroads, Inc. using the following formula for each intersection leg:

PM Peak Hour (Approach Volume + Exit Volume) x 12 = Leg Volume

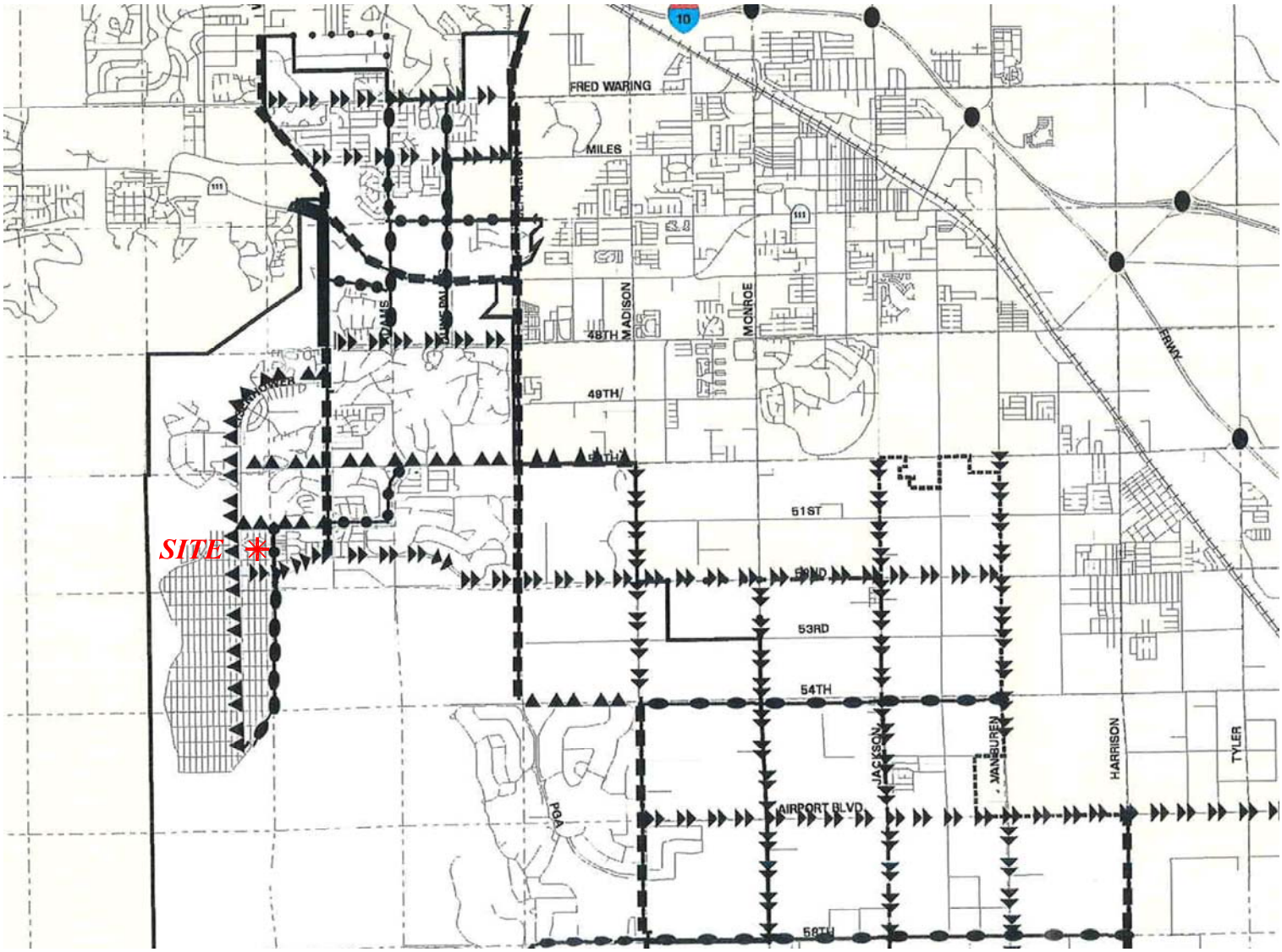
Exhibits 3-E and 3-F illustrates the Existing (2012) AM and PM peak hour intersection traffic volumes.

E. Level of Service Definitions and Analysis Methodologies

Signalized intersection operations analysis has been based on the methodology described in Chapter 16 of the *2000 Highway Capacity Manual* (HCM) by the Transportation Research Board. Intersection level of service operations are based on an intersection's average control delay.

EXHIBIT 3-B

# CITY OF LA QUINTA
# GENERAL PLAN CIRCULATION ELEMENT




## CITY ROADWAY CLASSIFICATIONS

- Freeway Interchanges
- Augmented Major (8D)
- Major Arterial (6D)
- Primary Arterial - A (4D)
- Primary Arterial - B (4D)
- Secondary Arterial (4U)
- Modified Secondary (2D)
- Collector (2U)

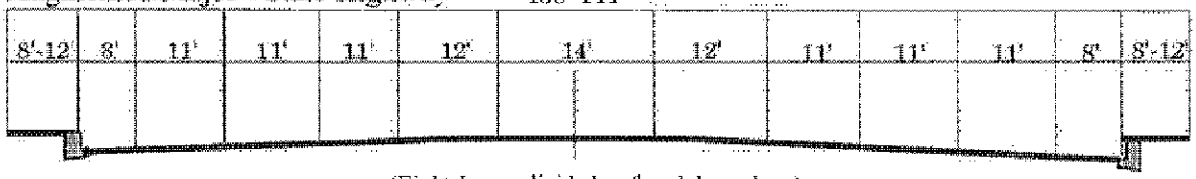
N

Source: City of La Quinta General Plan Update Traffic Study, RKJK & Associates, Inc. September, 2000

EXHIBIT 3-C

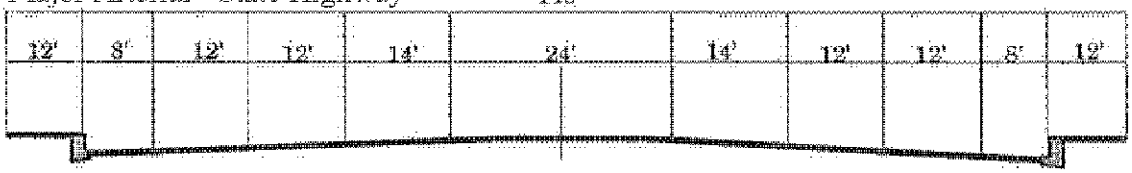
# CITY OF LA QUINTA
# GENERAL PLAN ROADWAY CROSS-SECTIONS
# (PAGE 1 OF 3)

Augmented Major - State Highway 136'-144'




(Eight Lanes divided, w/breakdown lane)

Major Arterial - State Highway 140'




(Six Lanes divided, w/ bike lane)

EXHIBIT 3-C

# CITY OF LA QUINTA
# GENERAL PLAN ROADWAY CROSS-SECTIONS
# (PAGE 2 OF 3)

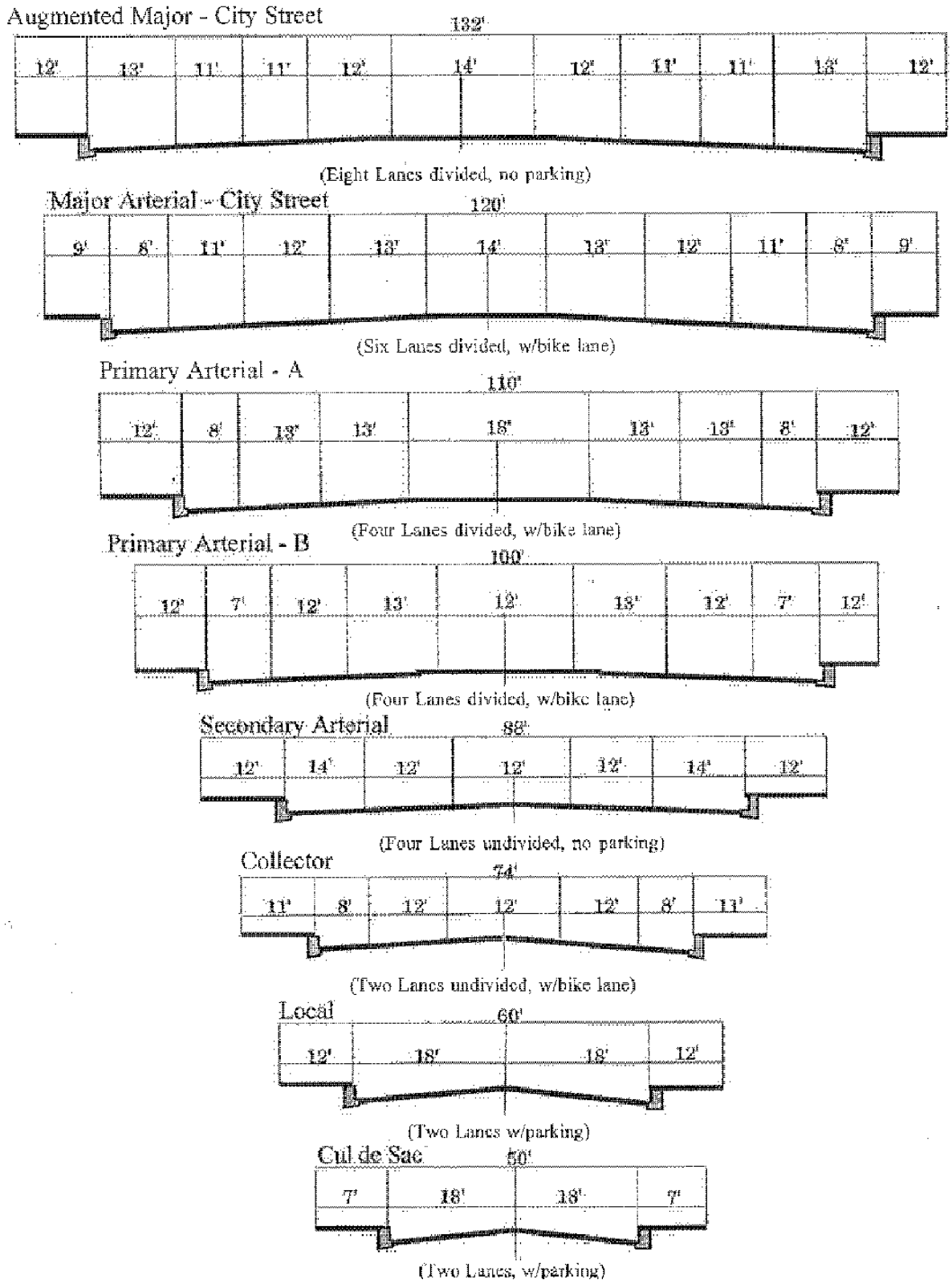
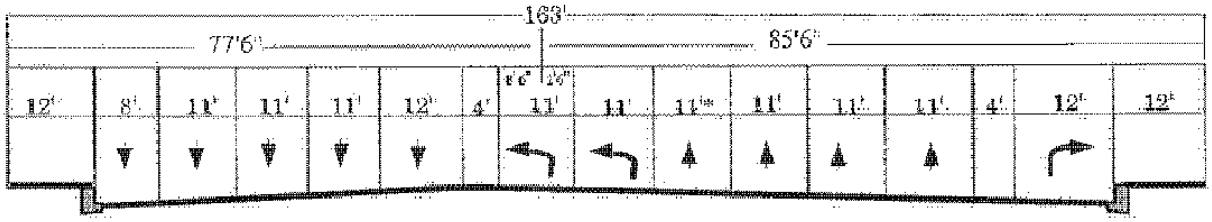


EXHIBIT 3-C

# CITY OF LA QUINTA
# GENERAL PLAN ROADWAY CROSS-SECTIONS
# (PAGE 3 OF 3)

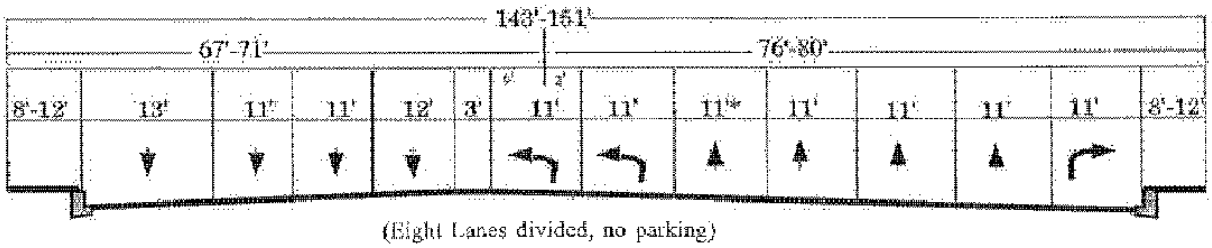
## Augmented Major at Dual Left Intersections - State Highway




(Eight Lanes divided, w/breakdown lane)

*Through lane adjacent to turn lane is reduced 1 foot, but returns to standard width on far side of intersection adjacent to median nose.

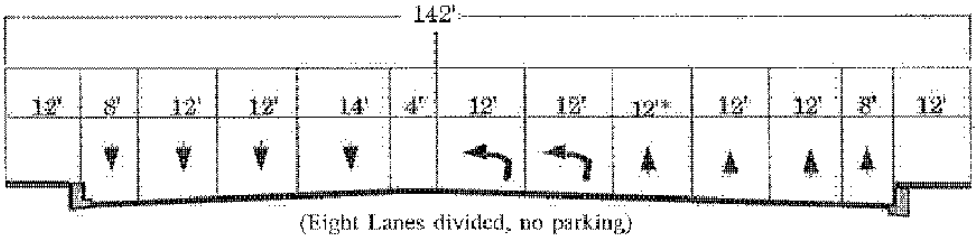
## Augmented Major at Dual Left Intersections - City Street




(Eight Lanes divided, no parking)

*Through lane adjacent to turn lane is reduced 1 foot, but returns to standard width on far side of intersection adjacent to median nose.

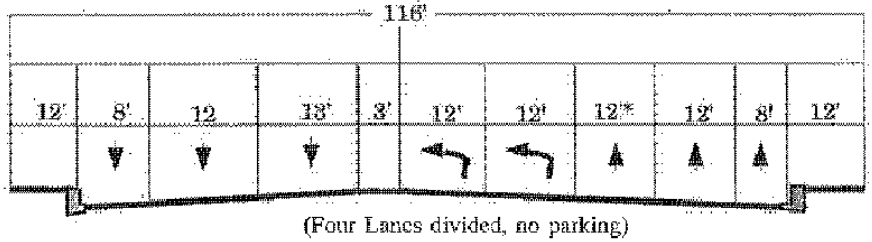
## Major Arterial at Dual Left Intersections - State Highway




(Eight Lanes divided, no parking)

*Through lane adjacent to turn lane is reduced 2 foot, but returns to standard width on far side of intersection adjacent to median nose.

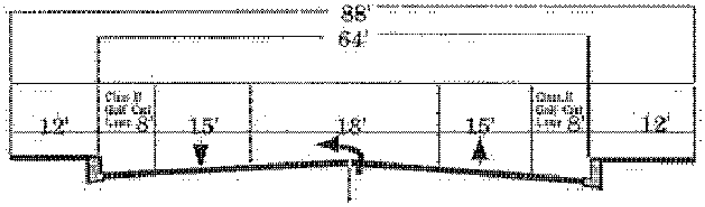
## Primary Arterial A at Dual Left Intersections - City Street




(Four Lanes divided, no parking)

*Through lane adjacent to turn lane is reduced 1 foot, but returns to standard width on far side of intersection adjacent to median nose.

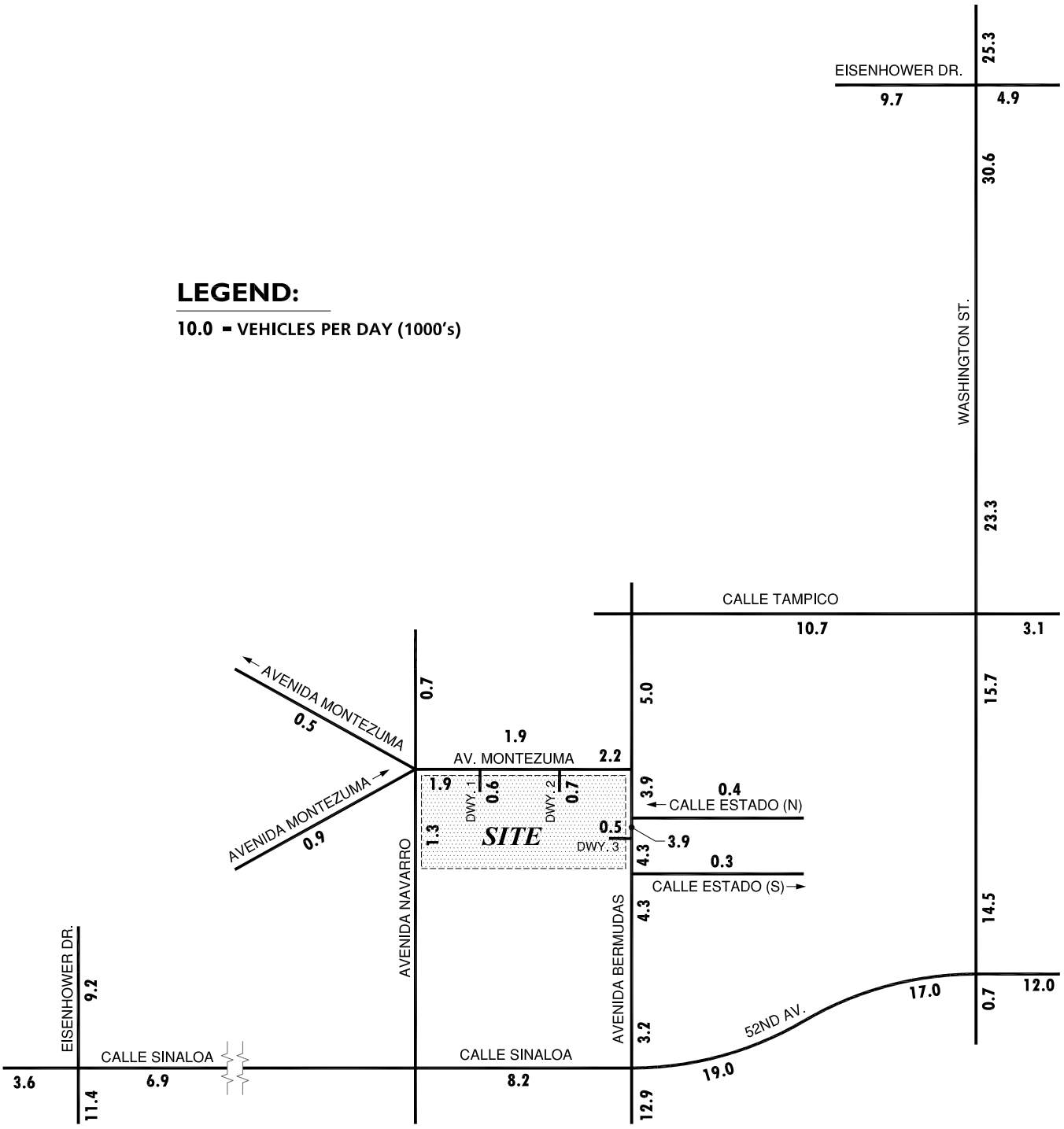
## Modified Secondary at Single Left Intersections - City Street




(Two Lanes undivided, w/golf cart lane)

EXHIBIT 3-D

# EXISTING 2012 AVERAGE DAILY TRAFFIC (ADT) (WITH SEASONAL ADJUSTMENT)




N * NOT TO SCALE

EXHIBIT 3-E

# EXISTING 2012 AM PEAK HOUR INTERSECTION VOLUMES (WITH SEASONAL ADJUSTMENT)

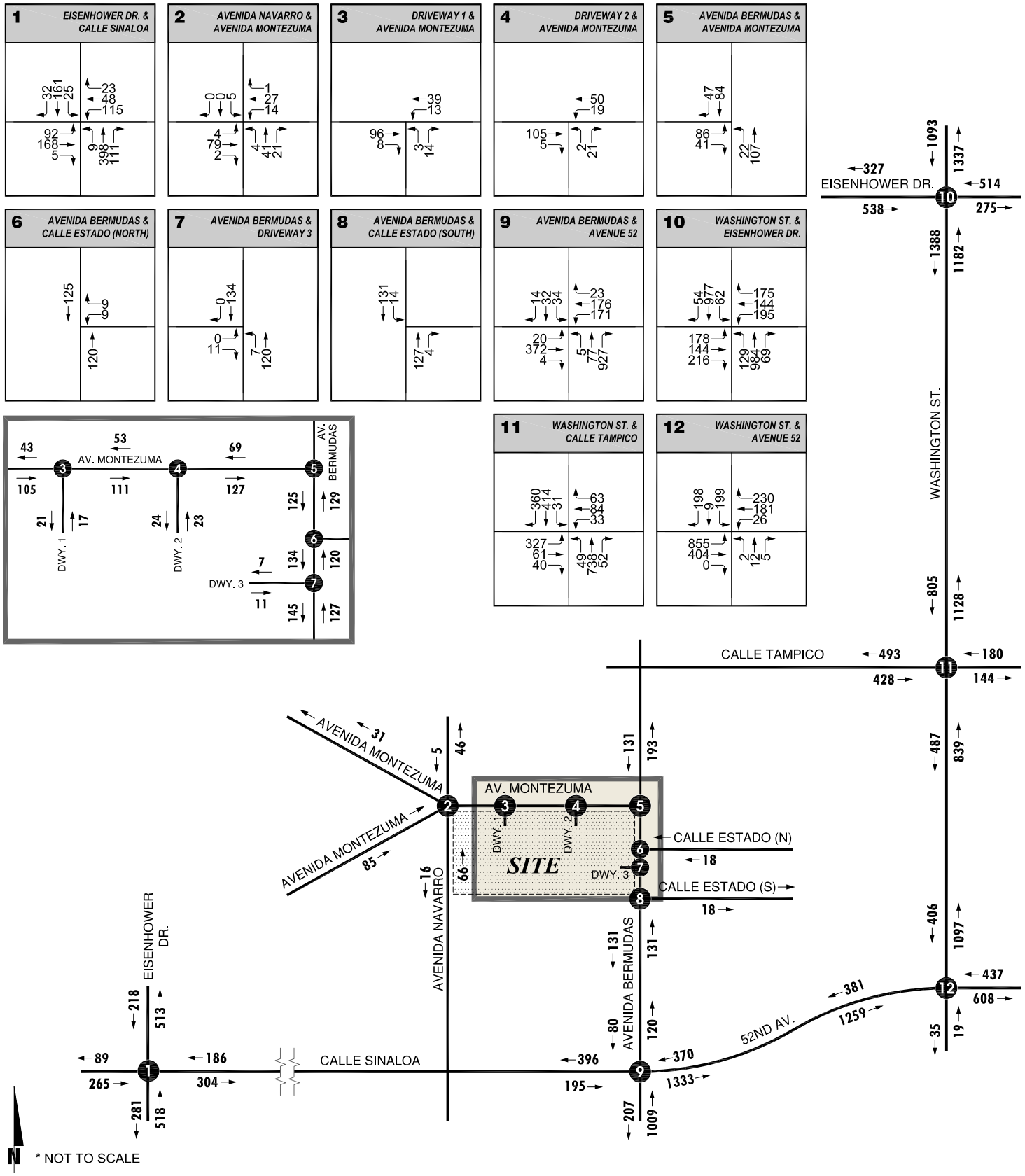
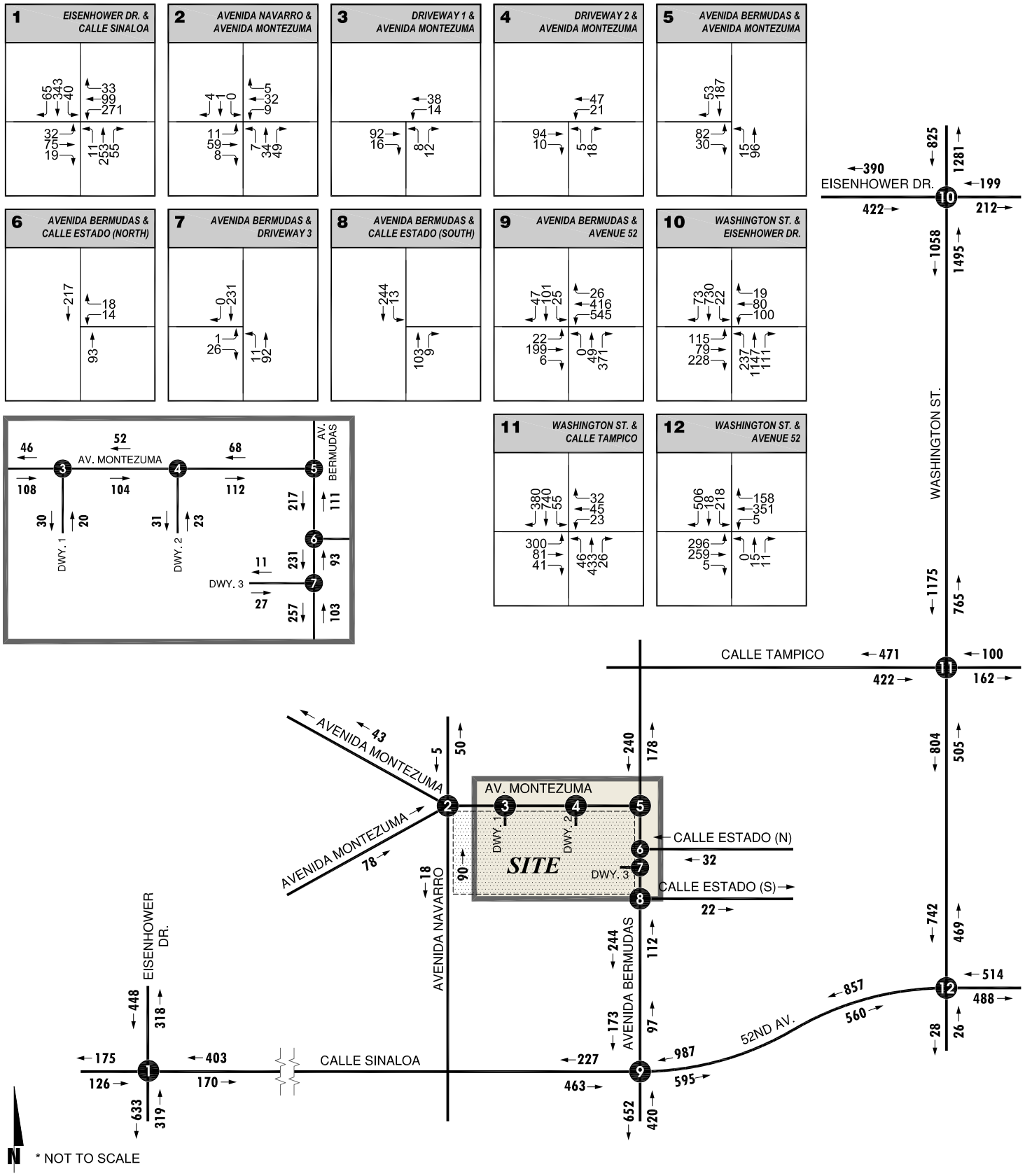


EXHIBIT 3-F

# EXISTING 2012 PM PEAK HOUR INTERSECTION VOLUMES (WITH SEASONAL ADJUSTMENT)



Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

For signalized intersections the intersection level of service is directly related to the average control delay per vehicle and is correlated to a level of service designation as described as follows:

| Level of Service | Description | Average Control Delay (Seconds) |
|---|---|---|
| A | Operations with very low delay occurring with favorable progression and/or short cycle length. | 0 to 10.00 |
| B | Operations with low delay occurring with good progression and/or short cycle lengths. | 10.01 to 20.00 |
| C | Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear. | 20.01 to 35.00 |
| D | Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable. | 35.01 to 55.00 |
| E | Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay. | 55.01 to 80.00 |
| F | Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths | 80.01 and up |

*Source: HCM 2000, Chapter 16*

The operations of unsignalized intersections have been evaluated using the methodology described in Chapter 17 of the HCM. The level of service rating is based on the weighted average control delay expressed in seconds per vehicle (see table below). At two-way or side-street stop-controlled intersections, level of service is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop controlled intersections, level of service is computed for the intersection as a whole.

| Level of Service | Description | Average Control Per Vehicle (Seconds) |
|---|---|---|
| A | Little or no delays. | 0 to 10.00 |
| B | Short traffic delays. | 10.01 to 15.00 |
| C | Average traffic delays. | 15.01 to 25.00 |
| D | Long traffic delays. | 25.01 to 35.00 |
| E | Very long traffic delays. | 35.01 to 50.00 |
| F | Extreme traffic delays with intersection capacity exceeded. | > 50.00 |
| *Source: HCM 2000, Chapter 17* | | |

Additional information regarding the HCM methodology and specific input parameters are provided in Appendix "B." It should be noted that these parameters are consistent with the City of La Quinta's *Engineering Bulletin #06-13*.

F. City of La Quinta Required Intersection Level of Service Criteria and Thresholds of Significance

Required Level of Service (LOS): The definition of an intersection deficiency has been obtained from the City of La Quinta *Engineering Bulletin #06-13*. The City of La Quinta has established LOS "D" as the minimum level of service for its intersections. Therefore, any intersection operating at LOS "E" or "F" will be considered deficient for the purposes of this analysis. As an exception, LOS "E" is allowable on the side street for two-way (cross-street) stop controlled intersections.

G. Existing Intersection Level of Service

Existing peak hour traffic operations have been evaluated for study area intersections. Existing intersection level of service calculations are based upon manual AM and PM peak hour turning movement counts conducted for Urban Crossroads, Inc with the aforementioned adjustments to reflect seasonal population variation. The results of the existing conditions analysis are summarized in Table 3-1, along with the existing intersection geometrics and traffic control devices at each analysis location.

For existing conditions, the study area intersections are currently operating at acceptable levels of service with existing geometry, with the exception of the following intersections:

- Avenida Bermudas / Calle Sinaloa/52nd Avenue
- Washington Street / 52nd Avenue