2.1 Traffic/Transportation

This section summarizes the results and recommendations of a traffic impact analysis report (September 2009) prepared for the project by Darnell and Associates. The complete report is included as Appendix B of the Environmental Impact Report (EIR). The analysis follows the *County of San Diego Guidelines for Determining Significance* and the *Report Format Requirements for Traffic and Circulation* (February 19, 2010).

An Initial Study was conducted prior to the preparation of this EIR and demonstrated less than significant traffic/transportation impacts related to air traffic patterns, incompatible uses, parking capacity, and inadequate emergency access. It was also determined in the Initial Study that the project would not impact adopted policies or programs supporting alternative transportation. Therefore, the analysis below does not cover these topics. The complete Initial Study is included in Appendix A of the EIR. The analysis below focuses on traffic generated by the project (construction and operation), as well as analysis of potential safety issues related to site distance and an existing student bus stop in the project vicinity.

2.1.1 Existing Conditions

2.1.1.1 Levels of Service

Street system operating conditions are typically described in terms of "level of service" (LOS). LOS is a scale used to indicate the quality of traffic flow on roadway segments and at intersections. LOS ranges from A through F, with LOS A representing uncongested, free-flowing conditions, and LOS F representing total breakdown with stop-and-go operation. Each LOS category is defined by a range of volume-to-capacity (V/C) ratios that compare the level of traffic to the theoretical capacity of the facility.

2.1.1.2 Daily Roadway Segment Roadway Conditions

The principal roadways in the project study area are described below including the physical characteristics, adjacent land uses, and traffic control devices along these roadways. A field review of the area surrounding the project was conducted in September 2008 to understand the existing circulation network. Figure 2.1-1 depicts the existing circulation network.

Camino Del Rey is an east/west two-lane undivided circulation element roadway with a posted speed limit of 45 miles per hour (mph). The existing cross-section of Camino Del Rey is equivalent to that of a Light Collector Road, with a capacity of 10,900 average daily traffic (ADT) at LOS D. According to the proposed County of San Diego Circulation Element, between SR-76 and West Lilac Road, Camino Del Rey has an ultimate classification of a 1.2A (four lane boulevard) with a capacity of 27,000 ADT at LOS D. Between West Lilac Road and Old Highway 395, Camino Del Rey has an ultimate circulation element classification of a 2.2C, and a capacity of 13,500 ADT at LOS D.

West Lilac Road is an east/west two-lane undivided circulation element roadway with little to no shoulder. The posted speed limit between Via Ararat and Old Highway 395 is 45 mph. The existing cross-section of West Lilac Road is equivalent to that of a Light Collector Road with a capacity of 10,900 ADT at LOS D. According to the proposed County of San Diego Circulation Element, West Lilac Road has an ultimate classification of a 2.2E (two lane Collector Road) with bike lanes, and a capacity of 10,900 vehicles at a LOS D.

Old Highway 395 is generally constructed as a north/south two-lane undivided circulation element roadway. The section of Old Highway 395 just north of West Lilac Road provides an additional southbound truck climbing lane. The posted speed limit on Old Highway 395 from SR-76 (Pala Road) to Via Urner Way is 45 mph. The existing cross-section of Old Highway 395 is equivalent to that of a Light Collector Road with a capacity of 10,900 ADT at LOS D. According to the proposed County of San Diego Circulation Element, Old Highway 395 has an ultimate classification of a 2.1D (two lane collector with center turn lanes) and a capacity of 15,000 ADT at LOS D.

Via Ararat Drive is a north/south two-lane undivided private road with no center line stripe. Currently, Via Ararat Drive is approximately 20 feet wide, which does not meet the County's Private Road Standards. As part of the proposed project, Via Ararat Drive will be widened to include 22.5 feet of pavement. However, even with this proposed improvements, the cross-section of Via Ararat Drive will not comply with the County standards. Therefore, the project proponent submitted a design exception request to the County. This design change was approved by the County and the Deer Springs Fire Protection District (DSFPD) in October 2001 and October 2006. Via Ararat Drive has an estimated maximum capacity of 2,500 ADT at LOS C.

Aqueduct Road is a north/south two-lane undivided private road with no center line stripe. Currently, Aqueduct Road is approximately 20 feet wide, which does not meet the County's Private Road Standards. The proposed project will widen Aqueduct Road to include 24 feet of pavement on a 28-foot graded width. The proposed improvements will bring the cross-section of Aqueduct Road up to the County's Private Road Standards. Aqueduct Road has an estimated maximum capacity of 2,500 ADT at LOS C.

Via Urner Way is an east/west two-lane undivided non-circulation element private road with no center line stripe and a posted speed limit of 25 mph. Via Urner Way has an estimated maximum capacity of 2,500 ADT at LOS C.

2.1.1.3 Existing Roadway Segment Conditions

Table 2.1-1 summarizes the existing roadway segments conditions in the project area. As demonstrated in Table 2.1-1, all roadway segments considered in the traffic study currently operate at LOS D or better.

2.1.1.4 Existing Roadway Intersection Conditions

Table 2.1-2 summarizes the existing peak-hour intersection operations at the intersections near the site. As shown in the table, all study intersections currently operate at LOS C or better during both the AM and PM peak hours.

2.1.2 Analysis of Project Effects and Determination as to Significance

2.1.2.1 Traffic Study Area

The traffic study area was determined by using the County of San Diego criterion which recommends the inclusion of all transportation facilities that receive 25 or more two-way peak hour trips for the project. If the criterion was used alone, the study area would be focused on the project's access points off Via Ararat Drive and Aqueduct Road. Thus, to address the concerns of the local community, the study area was expanded to include the key intersections and roadway segments identified below.

Intersections

- State Route 76 (SR-76)/Mission Road at Olive Hill Road/Camino Del Rey (signalized)
- West Lilac Road at Via Ararat Drive (uncontrolled, assumed stop control on minor street)
- West Lilac Road at Aqueduct Road (uncontrolled, assumed stop control on minor street)
- West Lilac Road at Old Highway 395 (two-way stop-controlled)
- Old Highway 395 at Interstate 15 (I-15) Southbound Ramps (one-way stop-controlled)
- Old Highway 395 at I-15 Northbound Ramps (one-way stop-controlled)

Roadway Segments

- Camino Del Rey from Mission Road to Old River Road
- Camino Del Rey from Old River Road to West Lilac Road
- West Lilac Road from Camino Del Rey to Via Ararat Drive
- West Lilac Road from Via Ararat Drive to Aqueduct Road
- West Lilac Road from Aqueduct Road to Old Highway 395
- Old Highway 395 from Dulin Road to West Lilac Road
- Old Highway Road from West Lilac Road to Via Urner Way
- Via Ararat Drive from West Lilac Road to Mount Ararat Way
- Aqueduct Road from West Lilac Road to Via Urner Way
- Via Urner Way from Aqueduct Road to Old Highway 395

Morning and afternoon peak hour turning counts were collected in September 2008. Complete count summaries are included as Appendix A within Appendix B of the Draft EIR.

2.1.2.2 Project Trip Generation

Trip generation estimates for the proposed development were calculated based on the *San Diego Association of Government's (SANDAG) (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (April 2002). This manual provides standards and recommendations for the probable traffic generation for various land uses based upon local, regional, and nationwide studies of existing developments in comparable settings.

According to the rates provided in the manual, each dwelling unit will generate approximately 12 daily trips (one-way), with 8 percent of these trips occurring in the AM peak hour and 10 percent occurring in the PM peak hour. The trip generation for the project is shown in Table 2.1-3. As shown, the project will generate an estimated 336 daily vehicle trips with 27 occurring in the AM peak hour and 34 occurring in the PM peak hour.

Guidelines for the Determination of Significance

Guidelines have been selected in accordance with the County's *Guidelines for Determining Significance for Transportation and Traffic* (June 30, 2009)

Roadways

The project would have a significant roadway impact if:

1. The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Circulation Element Road or State Highway to operate at a LOS E or LOS F as a result of the proposed project as identified below:

Allowable Increases on Congested Road Segments

Existing LOS	Two-Lane Road	Four-Lane Road	Six-Lane Road
LOS "E"	200 ADT	400 ADT	600 ADT
LOS "F"	100 ADT	200 ADT	300 ADT

2. The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.

Analysis (Guidelines 1 and 2 – Roadways)

Table 2.1-4 summarizes the results of the daily roadway segment analysis for existing conditions with and without the addition of traffic from the project.

As shown in Table 2.1-4, all key roadway segments analyzed will continue to operate at acceptable LOS D or better with the addition of project traffic. LOS D is an acceptable LOS; therefore, the project would not result in a direct impact to key roadway segments and impacts would be less than significant.

Additionally, the project will add less than 100 ADT to all other roadway segments not included in Table 2.1-4. Since this is less than the County's threshold identified above, the proposed project will not result in a significant direct impact to any roadway segments and impacts would be less than significant.

Intersections

The project would have a significant intersection impact to a signalized intersection if:

3. The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a *signalized* intersection to operate at a LOS E or LOS F as identified below, and based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operation of the intersection.

Allowable Increases on Signalized Intersections

LOS E	Delay of 2 seconds or less
LOS F	Delay of 1 second, or 5 peak hour trips or less on a critical movement

4. The project would have a significant intersection impact to an unsignalized intersection if:

    - The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or

- The additional or redistributed ADT generated by the proposed project will add 21or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or
- The additional or redistributed ADT generated by the proposed project will add six or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or
- The additional or redistributed ADT generated by the proposed project will add six or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project, and would significantly impact the operations of the intersection.

Analysis (Guidelines 3 and 4 – Intersections)

Table 2.1-5 summarizes the existing peak hour intersection operations with and without the addition of project traffic. Table 2.1-6 summarizes the existing peak hour intersection operations with and without the addition of project traffic and overlapping construction traffic at all intersections near the site. Table 2.1-6 considers two scenarios: all traffic coming from the west and all traffic coming from the east.

As shown on Tables 2.1-5 and 2.1-6, all intersections will operate at an acceptable LOS during AM and PM peak hours under both scenarios. Since this is less than the County's significance threshold as identified above, the proposed project would have less than significant direct impacts to any intersections based on either project traffic or the overlap of residential and construction traffic.

Unsignalized Intersections

This section discusses intersection geometrics, sight distance and other operational issues related to the five unsignalized intersections that were analyzed in the traffic study.

West Lilac Road/Aqueduct Road: A field review of the area found that there are limited driveways along West Lilac Road just east and west of Aqueduct Road (two driveways to the west of Aqueduct Road and five driveways to the east of Aqueduct Road). With the exception of the two driveways located immediately east and west of Aqueduct Road, all driveways are located more than 300 feet away from Aqueduct Road. The first driveway located just west of Aqueduct Road is located approximately 101 feet to the west of Aqueduct Road on the north side of West Lilac Road. This driveway appears to serve as a secondary access to two residential homes. The second closest driveway is located approximately 141 feet to the east of Aqueduct Road on the north side of West Lilac Road. Since the traffic turning into/out of these driveways is nominal, the addition of the project traffic will not significantly impact the operation of these existing driveways.

As discussed in the *Traffic Study for West Lilac Residential Subdivision (TM 5276)* Aqueduct Road is currently only 20 feet wide; however, as part of the proposed project the applicant will widen Aqueduct Road such that it complies with the County of San Diego's Private Road Standards. Thus the addition of the proposed project will improve the existing geometrics at the West Lilac Road/Aqueduct Road intersection and thus not have a significant impact.

The West Lilac Road/Aqueduct Road intersection is not included on the County's signal priority list and based on the level of service analysis provided in the *Traffic Study for West Lilac Residential Subdivision (TM 5276),* a traffic signal is not required to provide acceptable levels of service at this intersections with or without the addition of the proposed project.

Field reviews indicate that there is adequate visibility for vehicles exiting Aqueduct Road onto West Lilac Road. Based upon these factors, the proposed project is deemed to have a less than significant impact at the West Lilac Road/Aqueduct Road intersection based on a review of the signal priority list, intersection geometrics, and proximity of adjacent driveways.

West Lilac Road/Old Highway 395: A field review found that there are limited driveways along Old Highway 395 and West Lilac Road in the vicinity of the West Lilac Road/Old Highway 395 intersection. There is one driveway located at the northwest corner of the West Lilac Road/Old Highway 395 intersection. This driveway just provides access to a small paved area that does not serve any specific building or use (i.e. it is not a designated park and ride lot and there are no buildings that can take access from this area). The other driveways on West Lilac Road are located more than 300 feet away from Old Highway 395 and the driveways on Old 395 are located in excess of 1,300 feet south of West Lilac Road.

A review of the intersection geometrics along at the West Lilac Road/Old Highway 395 intersection find that there are adequate shoulders on Old Highway 395, painted edge lines on both West Lilac Road and Old Highway 395, dedicated left turn lanes on Old Highway 395, and dedicated right turn lanes on West Lilac Road. The intersection geometrics are in compliance with County standards and based on the level of service analysis provided in the September 25, 2009 *Traffic Study for West Lilac Residential Subdivision (TM 5276)* provide adequate levels of service with or without the addition of the proposed project.

The West Lilac Road/Old Highway 395 intersection is not included on the County's signal priority list and based on the level of service analysis provided in the *Traffic Study for West Lilac Residential Subdivision (TM 5276),* a traffic signal is not required to provide acceptable levels of service at this intersections with or without the addition of the proposed project.

Field reviews found that there is adequate visibility for the turning movements exiting West Lilac Road onto Old Highway 395. Based upon these factors, the proposed project is deemed to have a less than significant impact at the West Lilac Road/Old Highway 395 intersection based on a review of the signal priority list, intersection geometrics, and proximity of adjacent driveways.

West Lilac Road/I-15 Southbound Ramp: A field review found that there are no driveways on Old Highway 395 just north of or south of the I-15 Southbound Ramp. The closest intersection (other than the I-15 northbound ramp) is the Via Urner Way intersection which is located over 1,600 feet to the north.

A review of the intersection geometrics along at the West Lilac Road/I-15 Southbound Ramp intersection find that there are adequate shoulders on Old Highway 395, painted edge lines on both Old Highway 395 and the I-15 Southbound Ramp, dedicated northbound left turn lane and southbound right turn lane on Old Highway 395, and dedicated right turn lanes exiting the southbound I-15 ramp. The intersection geometrics are in compliance with Caltrans standards and based on the level of service analysis provided in the September 25, 2009 *Traffic Study for West Lilac Residential Subdivision (TM 5276)* provide adequate levels of service with or without the addition of the proposed project.

The West Lilac Road/I-15 Southbound Ramp intersection is not included on the County's signal priority list and based on the level of service analysis provided in the September 25, 2009 *Traffic Study for West Lilac Residential Subdivision (TM 5276),* a traffic signal is not required to provide acceptable levels of service at this intersections with or without the addition of the proposed project.

Field reviews found that there is adequate visibility for the turning movements exiting the I-15 southbound ramp onto Old Highway 395.

Based on the discussions above, the proposed project is deemed to have a less than significant impact at the West Lilac Road/I-15 Southbound Ramp intersection based on a review of the signal priority list, intersection geometrics, and proximity of adjacent driveways.

West Lilac Road/I-15 Northbound Ramp: A field review found that there are no driveways on Old Highway 395 just north of or south of the I-15 Southbound Ramp. The closest intersection (other than the I-15 southbound ramp) is the Palos Verdes Drive intersection which is located approximately 760 feet to the south.

A review of the intersection geometrics along at the West Lilac Road/I-15 Northbound Ramp intersection find that there are adequate shoulders on Old Highway 395, painted edge lines on both Old Highway 395 and the I-15 Southbound Ramp, southbound right turn lane on Old Highway 395, and dedicated left turn lane and right turn lane exiting the northbound I-15 ramp. The intersection geometrics are in compliance with Caltrans standards and based on the level of service analysis provided in the *Traffic Study for West Lilac Residential Subdivision (TM 5276)* provide adequate levels of service with or without the addition of the proposed project.

The West Lilac Road/I-15 Northbound Ramp intersection is not included on the County's signal priority list and based on the level of service analysis provided in the *Traffic Study for West Lilac Residential Subdivision (TM 5276),* a traffic signal is not required to provide acceptable levels of service at this intersections with or without the addition of the proposed project. Field reviews found that there is adequate visibility for the turning movements exiting the I-15 northbound ramp onto Old Highway 395. Based upon this information, the proposed project is deemed to have a less than significant impact at the West Lilac Road/I-15 Northbound Ramp intersection based on a review of the signal priority list, intersection geometrics, and proximity of adjacent driveways.

West Lilac/Via Ararat Drive: An analysis of the West Lilac Road/Via Ararat Drive intersection and an analysis of the adequacy of sight distance at this intersection was included as part of the traffic study for the project (Appendix B). As noted in Table 2.1-5, the West Lilac Road/Via Ararat Drive intersection operates at acceptable levels of service of A or B for all critical movements with project traffic during peak AM and PM traffic and project traffic does not impact this intersection. As shown in Table 2.1-11, the West Lilac Road/Via Ararat Drive intersection also operates at an acceptable level of services of B for project plus cumulative traffic and project traffic does not have a cumulative impact on the intersection. A Sight-Distance Analysis completed for the West Lilac Road/Via Ararat Drive intersection, included as part of the traffic study for the project (Appendix B) also evaluated the adequacy of sight distance at this intersection. This analysis found that sight distance was adequate at this intersection with approximately 360 feet of sight distance looking west of the West Lilac Road/Via Ararat Drive intersection and approximately 380 feet of sight distance plus a lane transition looking east of the West Lilac Road/Via Ararat Drive intersection. These distances meet all County sight distance requirements at this intersection. This Sight Distance Analysis is discussed further below in this section. As noted in the traffic study for the project (Appendix B), the project is required to widen Via Ararat Drive from its present paved width

of 20 feet to 22.5 feet of paved width with a 4-inch wide edge line along each side of the roadway, which will improve the existing geometrics at the West Lilac Road/Via Ararat Drive intersection. The project will not, therefore, impact the West Lilac Road/Via Ararat Drive intersection and does not have a significant impact on this intersection.

Site Design

5. A significant impact related to hazards due to existing design conditions would be identified if:

    - Design features/physical configurations of access roads may adversely affect the safe transport of vehicles along the roadway.
    - The percentage or magnitude of increased traffic on the road due to the proposed project may affect the safety of the roadway.
    - The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers, may result in vehicle conflicts with other vehicles or stationary objects.
    - The project does not conform to the requirements of the private or public road standards, as applicable.

Analysis (Guideline 5 - Design)

Site Access

The project proposes to provide one access point off Aqueduct Road at Street "A" and one access point off Via Ararat at Street "D." Both access roads will be designed to provide one lane of ingress and one lane of egress. Due to the low volume of traffic on Aqueduct Road and Via Ararat Drive, the conflicting turn volumes at the project access roads will be light. Thus, both access roads are expected to operate at acceptable LOS without the addition of acceleration/deceleration lanes and no impacts related to site access are identified (Darnell and Associates 2009).

Neighboring residents have raised concerns about the project traffic utilizing the private road Via Urner Way, located south of the project access point off Aqueduct Road at Street "A", as a cut-through route to get to Old Highway 395. To ameliorate this concern, a "Left Turn Only" sign will be installed at the Street "A" exiting onto Aqueduct Road. The signage will direct project traffic to travel north on Aqueduct Road and away from Via Urner Way and minimize any cut through traffic onto Via Urner Way to Old Highway 395.

Site-Distance Analysis

A sight distance analysis was prepared for the project as part of the traffic impact analysis (Appendix B of EIR) to address potential concerns for sight distance at the intersection of West Lilac Road/Via Ararat Drive. Speed surveys were conducted and found that the 85th percentile speed of westbound traffic on West Lilac Road just east of Via Ararat Drive was 36 miles per hour. A copy of the speed survey is provided in Appendix D of Appendix B of the Draft EIR. Using the 85th percentile travel speed, the minimum stopping sight distance required based on the American Association of State Highway and Transportation Officials' (AASHTO's) criteria was calculated.

Table 2.1-7 shows the stopping sight distance calculations. As shown in Table 2.1-7, the minimum stopping sight distance required looking to the west of the West Lilac Road/Via Ararat intersection is 204 feet.

There is approximately 220 feet of sight distance looking east of the West Lilac Road/Via Ararat intersection. Therefore, there is adequate stopping sight distance provided at the intersection. Further, a 132-foot long, 10-foot wide acceleration lane for traffic turning left from northbound Via Ararat onto westbound West Lilac Road has just recently been constructed. The acceleration lane provides for a safe movement for vehicles to turn left from Via Ararat and enter the acceleration lane, then accelerate to merge in with westbound traffic on West Lilac Road. The addition of the acceleration lane increases the total stopping sight distance to approximately 380 feet plus the lane transition. Therefore, adequate distance is provided to meet the required 204 feet minimum stopping sight distance required by AASHTO and any design hazard impacts related to site distance would be less than significant.

Accident reports for the intersection of Via Ararat Drive and West Lilac Road have been examined to determine how many accidents have occurred at this intersection and the cause of any of these accidents. This accident report is attached to the responses to comments. Accident reports for the West Lilac Road and Via Ararat Drive intersection for the period from January 1, 2005 to November 30, 2010 indicate that one accident has occurred at this intersection during this five year and eleven month period. This accident occurred on February 10, 2005. The report identified driver error in making a left turn movement and did not mention any lack of adequate sight distance.

School Bus Stop Analysis

In the past, the Bonsall Unified School District, which serves K-8 students, has picked up students at the intersection of West Lilac Road and Via Ararat. On West Lilac Road, school bus stops occurred only for eastbound buses on West Lilac, stopping on the south side of the street (west of Via Ararat). Students picked up from this bus stop were located south of West Lilac Road and did not walk on West Lilac Road to access the stop. Based upon recent communication with the Bonsall Unified School District (February 2011), they have discontinued school bus service along West Lilac Road. The Fallbrook Union High School District, which serves grades 9 through 12, does not currently have students in the area of West Lilac Road/Via Ararat that are being served by school bus service. Further, as discussed on Page 2.1-6, there is adequate stopping distance at the intersection of West Lilac Road/Via Ararat. Regardless, in the event that bus service is restarted in the vicinity of the West Lilac Road and Via Ararat intersection, the school districts would review site conditions to establish a safe pick up location. No bus stop safety impacts are occurring.

Roadway Widths for Aqueduct Road and Via Ararat

As discussed in Section 2.1.1, Via Ararat Drive and Aqueduct Road are currently only 20 feet wide and do not meet the County's private road standard. The project will widen Aqueduct Road to 24 feet of pavement on 28 feet of graded width, which will make Aqueduct Road consistent with the County's private road standard.

Via Ararat Drive has a current paved width of 20 feet. Due to the difficulties of relocating an overhead power line along the west side of the roadway to widen Via Ararat Drive to a paved width of 24 feet, a design exception to widen Via Ararat Drive to a paved width of 22.5 feet was submitted to both the County Public Works Department and the DSFPD. Both the County Public Works Department and the DSFPD approved this design exception finding it would safely accommodate present and future traffic on

Via Ararat Drive. The proposed road improvements to Via Ararat Drive were found safe since projected traffic volumes on Via Ararat Drive under existing plus project conditions is only 389 daily vehicles. Further, the typical residential street provides a 20 foot paved travel surface and an 8 foot parking lane on each side of the roadway. Thus, the proposed improvements to Via Ararat Drive would provide a larger unobstructed pavement width than the typical residential street. In addition, the improvement plans include the placement of a 4-inch white edge line along each side of the roadway and a placement of delineators at each power pole or arrangements to place reflective markings on each pole. This ensures safe travel on Via Ararat Drive. Therefore, no safety impacts will occur from the widening of Via Ararat Drive and these impacts are less than significant.

Construction-Related Traffic Impact Analysis

Construction-related traffic includes equipment and materials deliveries and well as traffic associated with construction crews. Table 2.1-8 provides a summary of the construction-related traffic in passenger car equivalents (PCEs).

Table 2.1-8 assumes all three stages of the grading operations would occur simultaneously. These stages include: clearing and grubbing, remedial and mass scraping, and finish grading. This is a conservative analysis approach, since the finish grading operations would not occur at the same time as the clearing and grubbing. The grading operation is estimated to generate approximately 278 ADT over a 31-day duration. Since this is less than the 336 ADT that would be generated by the project once it develops and all 28 homes are occupied, the potential traffic impacts associated with the grading operations would be less than those analyzed for the project. The traffic impact analysis prepared for the project (Darnell & Associates 2009) determined that the addition of 336 ADT would not result in a significant operational impact. Therefore, the 278 ADT generated due to grading activities would also not result in any operational impacts.

Table 2.1-8 also shows that the Site Preparation/Development stage of construction is estimated to generate 172 average daily PCE trips, while the first stages of the street improvements would generate approximately 271 ADT, and the final stages of the street improvements would generate approximately 287 ADT. The traffic impact analysis prepared for the project (Darnell & Associates 2009) determined that the addition of 336 ADT would not result in a significant operational impact. Therefore, the 172 to 287 ADT generated during Site Preparation/Development activities would also not result in any operational impacts.

If all phases of the housing construction were to occur simultaneously, the construction of one housing construction cycle (assumed to be five houses per every five month construction cycle) is estimate to generate a maximum of 227 ADT. This is approximately 109 fewer trips than what would be generated by the project once all the 28 homes are built and occupied and impacts would be less than significant.

It should be noted that there is a potential for some of the homes to be built and occupied earlier than the start of construction of other homes, thus yielding an overlap of residential and construction traffic. If it was assumed that five houses were being constructed at any given time, the worst-case scenario would have 25 homes built and occupied while three homes were under construction. This would net approximately 385 ADT.

To assess whether this overlap scenario of 385 ADT would have a direct impact on an area roadway or intersection, the key roadways and intersections analyzed under existing plus the traffic of 25 houses from the project, plus the construction traffic (which equates to 32 peak hour trips) were analyzed. Two

scenarios were considered: (1) 100 percent of the construction traffic would come from the west; and (2) 100 percent of the construction traffic would come from the east. As shown in Table 2.1-9, the addition of construction traffic, on top of an assumption of 25 occupied homes, still results in an acceptable LOS along key segments and at key intersections. Therefore, construction traffic would have a less than significant impact.

2.1.3 Cumulative Impact Analysis

The County's *Report Format Requirements for Traffic and Circulation* (February 19, 2010) do not require detailed cumulative analysis for certain projects that generate less than 500 ADT unless the project meets one of the following criteria:

- Study area roads would be affected by a large-scale General Plan Amendment;
- The project includes a General Plan Amendment or other permit type that would allow a land use with increased potential for traffic generation beyond that anticipated in the Transportation Impact Fee (TIF) Report;
- The project would potentially result in cumulative impacts within another jurisdiction based on that jurisdiction's traffic guidelines (or SANTEC).

As noted in Section 2.1.2.2, the project is anticipated to generate a maximum of 385 ADT with overlapping construction traffic, therefore the project trip generation is below the 500 ADT thresholds that requires cumulative traffic analysis. Further, the project does not meet any of the three criteria noted above. Specifically, there are no roads in the study area that would be affected by a large-scale General Plan Amendment. Second, the project does not propose a General Plan Amendment. Finally, the project would not result in a cumulative impact within another jurisdiction. The project and traffic study area are all within the jurisdiction of the County of San Diego. Therefore, a cumulative analysis is not required. However, prior to the release of these revised guidelines in February 2010, a cumulative traffic analysis was prepared for the project. It is included for informational purposes, and is not required per the County's revised *Report Format Requirements for Traffic and Circulation* guidelines.

The Project is located in the Bonsall area which is part of the County's adopted Transportation Impact Fee (TIF) Report. The applicant proposes to participate in the County's TIF program in order to mitigate the local and regional cumulative impacts of the project on roadway facilities located within the unincorporated area of the County of San Diego.

The County's *Report Format Requirements for Traffic and Circulation.* Adopted on February 19, 2010; does not require a cumulative traffic analysis for the project since it generates less than 500 ADT. However, a cumulative traffic analysis was still completed to evaluate the cumulative traffic impacts. The cumulative traffic analysis was completed in a manner consistent with the County's *Report Format Requirements for Traffic and Circulation,* even though not required.

On November 2, 2009, Calthorpe Associates submitted a request to the County of San Diego for a Plan Amendment Authorization ("PAA") for a project known as the Accretive Plan Amendment (PAA 09-007) requesting permission to process a general plan amendment and specific plan for a master planned community in the Valley Center Community Planning Area consisting of a maximum of 1746 dwelling units, 2 schools, a neighborhood-surveying commercial village center with retail uses and an active park and a transit center. The PAA indicates it is a conceptual plan that "will be refined through a coordinated effort with the residents of the surrounding community in order to prepare a project design for future

General Plan Amendment consideration." This PAA request was approved by the Planning Commission on December 17, 2010. As proposed, the project would require approval of an amendment to the County General Plan and approval of a specific plan and a tentative and final subdivision map. The action makes no judgment on the project, but simply clears the way for it to be considered by the County. The project would still require public hearings, environmental review and eventually consideration and approval by the County Board of Supervisors. At this juncture, a project application has not been submitted to the County of San Diego on the Accretive project and the environmental review has not commenced. Accordingly, the Accretive project is not a probable future project at this time.

CEQA Guidelines Section 15130(b)(1) requires that the cumulative analysis in an EIR include past, present, and probable future projects. Since the Accretive project is not a probable future project, there is no requirement to evaluate it in this EIR. Nonetheless, the Accretive project has been analyzed in this EIR based on the limited information currently available to determine if it would alter any of the cumulative impact analysis.

The Accretive consists of approximately 416 acres of land located approximately 3,000 feet east of I-15 with the northern portion of this land transecting West Lilac Road and Valley Center. The project is located approximately one mile east of the project site in the Valley Center Community Planning Area and is separated from the project site by both Old Highway 395 and I-15. The PAA request includes a plan to construct a new road known as Mobility Road 3 that will bisect the project site from east to west and will provide a new connection from West Lilac Road and ultimately from Cole Grade Road at Lilac Ranch to I-15 at the existing interchange with Old Highway 395. No information is provided in the PAA on the number of lanes or the planned width of Road 3A. The Old Highway 395 interchange would be modified to a diamond configuration with northbound and southbound on-ramps to I-15 and a northbound off-ramp from I-15.

In August 2009, Accretive contracted with SANDAG to perform traffic modeling on a range of alternative land use distributions. These alternatives utilized the community concept of shifting density from the northern and southern nodes of Valley Center to the neighborhood concepts included as part of the PAA. The PAA indicates this traffic modeling showed that a shift of the proposed residential and commercial density to a western node near I-15 and Old Highway 395 along the proposed Mobility Element Road 3 would create acceptable levels of service in downtown Valley Center and would address existing failing levels of service in downtown Valley Center. A map of the traffic modeling completed by SANDAG indicates that area roads will continue to function at acceptable levels of service for the Accretive project, with the exception of one section of Valley Center Road that would operate at LOS E. No project traffic uses Valley Center Road. The SANDAG traffic study completed for Accretive is not available for review since this study was completed for the applicant and was not submitted to the County.

At this time, a cumulative analysis that includes the Accretive project at this time is also severely hampered by the lack of any specificity on the number of residential units that will ultimately be proposed, the square footage and nature of any commercial uses, on-site and off-site road and infrastructure improvements, the lack of any information on the planned schools or park areas and by the lack of any clearly articulated development envelope for the planned future uses. If these land use entitlements are permitted by the County at some time in the future, Accretive will be required to mitigate any significant direct or cumulative traffic impacts as part of the CEQA process.

The Traffic Impact Study utilized the County Guidelines of Significance for Traffic and the projected 2030 build out to identify potentially significant cumulative impacts. As seen in the roadway segment

analysis for the cumulative condition on Table 2.1-10 and the intersection operation for the cumulative condition on Table 2.1-11, only Camino Del Rey from Mission Road to Old River Road was identified as a potentially significant cumulative impact:

- **Impact TR-1: Cumulative Impact to Camino del Rey from Mission Road to Old River Road (LOS E):** The project will add 108 trips to an already degraded roadway, thus resulting in a near-term cumulative impact to this segment. The project contribution is less than 1 percent increase in the total ADT, based upon the 2030 buildout of the area.

This road is included in the TIF Program. Thus, the identified cumulative impacts have been addressed by the TIF Program for the purpose of environmental review under CEQA. Cumulative intersection impacts were analyzed and are shown on Table 2.1-11. As indicated in Table 2.1-11 all intersections operate at acceptable levels of service of LOS D or better with most of these intersections operating at LOS B or better. Therefore, the project will not result in any cumulative intersection impacts.

2.1.4 Significance of Impacts Prior to Mitigation

Based upon the analysis presented in Section 2.1.2, project-level roadway or intersection impacts were less than significant for the project and no mitigation is required. Further, potential traffic safety hazards were analyzed in Section 2.1.2. The analysis in Section 2.1.2 concluded that safety impacts were less than significant as a result of adequate sight distance on West Lilac Road, the location of the existing school bus stop on West Lilac Road and project design features. Based upon the cumulative analysis presented in Section 2.1.3, the project will significantly add to a cumulative impact on the segment of Camino del Rey between Mission Road and Old River Road. Mitigation is required for this cumulative impact.

2.1.5 Mitigation

Section 4 of the Public Facility Element requires mitigation as a condition of project approval for all discretionary projects which have a significant impact on roadways. Because the proposed project would not result in any significant direct impacts to traffic, mitigation for direct impacts is not required.

The project will have a significant cumulative contribution to the segment of Camino del Rey from Mission Road to Old River Road. Therefore, to mitigate for potentially significant cumulative impact, the proposed project shall implement the following mitigation measure:

M-TR-1 Prior to issuance of building permits, the proposed project shall participate in the County's Transportation Impact Fee (TIF) program by paying applicable development fees.

The segment of Camino del Rey from Mission Road to Old River Road is included in the TIF Program. Thus, the identified cumulative impacts have been addressed by the TIF Program for the purpose of environmental review under CEQA and this cumulative traffic impact has been mitigated to a level of insignificance.

2.1.6 Conclusions

Based upon the analysis presented in Section 2.1.2, project-level roadway and intersection impacts were less than significant for construction and operation of the project and no mitigation is required. As noted in Section 2.1.2 the project will not create any significant traffic safety impacts.

Cumulative impacts are those impacts caused collectively by all development within the community. Cumulative impacts can result from individually minor, but collectively significant projects taking place over a period of time (*CEQA Guidelines* §15355). The *CEQA Guidelines* recognize that mitigation for cumulative impacts may involve the adoption of (or regulation by) ordinances or regulations (*CEQA Guidelines* §15130) such as the County-adopted TIF Program.

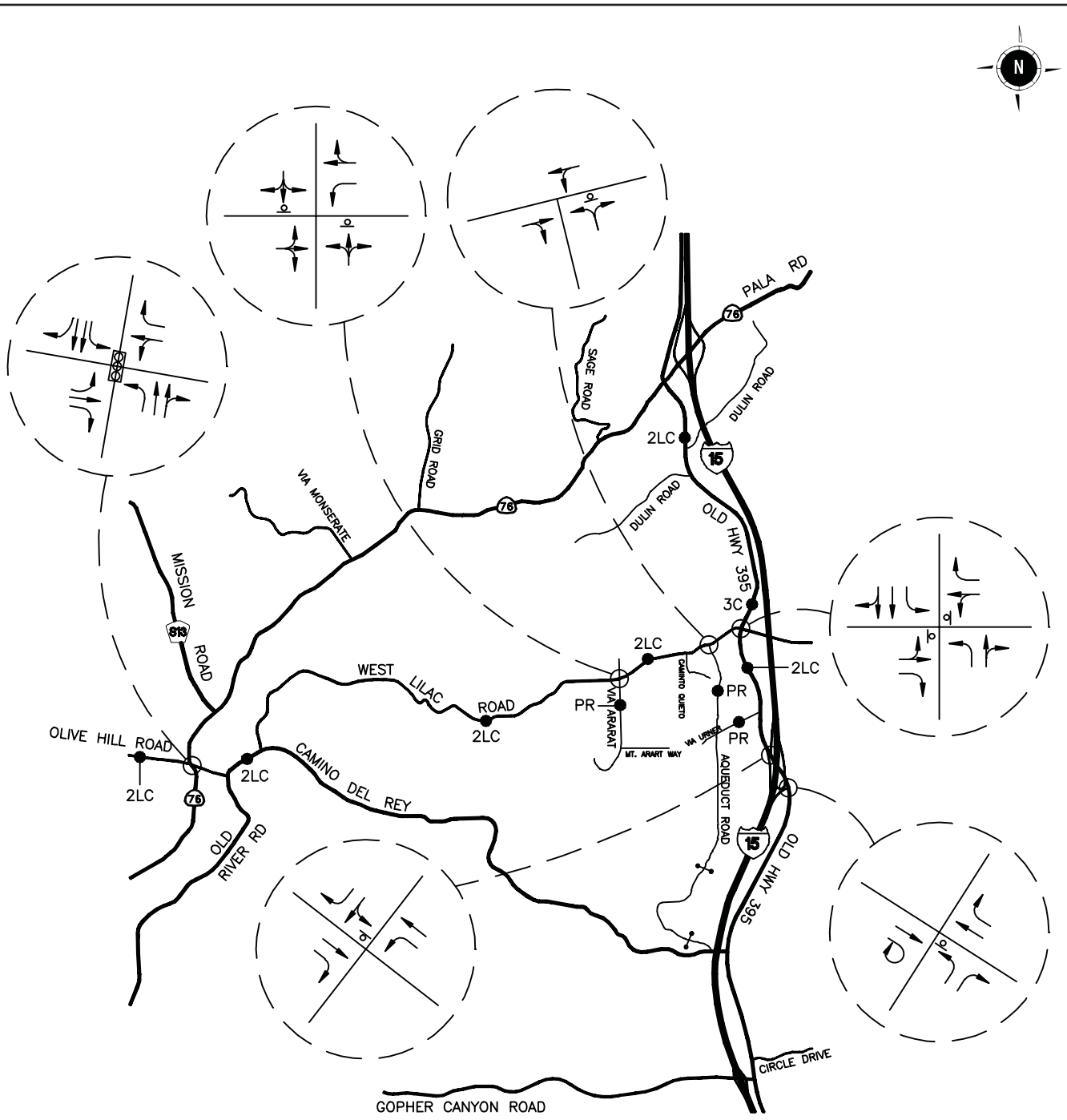
The TIF program involves the collection of a development fee from project applicants to fund the construction of roadway facilities necessary to mitigate the cumulative traffic impacts of development projects approved by the County of San Diego. Specifically, the TIF program serves to:

- Fund the construction of roadway facilities needed to mitigate projected cumulative traffic impacts resulting from future development within the County, and;
- Proportionally allocate the cost of the needed roadway facilities to development projects based upon their individual contribution to cumulative traffic impacts. Each approved project would pay a fair share toward the improvement of County roads as the future levels of service become unacceptable due to increased traffic volume caused by the cumulative effect of ongoing development.

TIF fees are collected into 23 local Community Planning Area accounts, three regional accounts, and three regional freeway ramp accounts. TIF funds are only used to pay for improvements to roadway facilities identified for inclusion in the TIF Program, which include both County roads and Caltrans highway facilities. TIF funds collected for a specific local or regional area must be spent in the same area. By ensuring TIF funds are spent for the specific roadway improvements identified in the TIF Program, the required nexus to collect fees under the Mitigation Fee Act is established. As sufficient funds become available, the County will implement the road improvements identified in the TIF Report.

The SANDAG Regional Transportation Model was utilized in the preparation of the TIF Report to analyze base year (Year 2000) and projected build-out development conditions (Summary of Projections method) on the roadway network throughout the unincorporated area of the County. Based on the traffic modeling, lane-miles of facilities needed to support future growth within the community were identified as eligible, either in whole or in part, for TIF funding.

Based on the individual area and regional TIF accounts and the incorporation of projected build-out traffic conditions into the adopted TIF Report, participation in the TIF program is adequate mitigation for cumulative impacts on County roadways. Camino del Rey from Mission Road to Old River Road has been included in this TIF program. Therefore, participation in the TIF Program constitutes adequate mitigation of the cumulative traffic impacts that would result from the Project and with payment of the required fee, cumulative traffic impacts would be less than significant.



LEGEND

- TRAVEL LANE
- TRAFFIC SIGNAL
- STOP SIGN
- GATE

2LC – TWO LANE LIGHT COLLECTOR

3C – COLLECTOR ROAD WITH 2 SOUTHBOUND LANES AND 1 NORTHBOUND LANE

PR – PRIVATE ROAD

Source: Darnell & Associates, Inc; 10/22/2008 | G:\Projects\443161 WestLilac\84814 WestLilacSubdivision\graphics\docs\Figure2.1-1 Circulation Network.ai | Last Updated : 11-12-08

Existing Circulation Network

FIGURE 2.1-1

TABLE 2.1-1
Existing Roadway Segment Conditions

Roadway Segment	Classification	Capacity @ LOS D	ADT	LOS
Camino Del Rey				
Mission Road to Old River Road	Light Collector	10,900	9,840	D
Old River Road to West Lilac Road	Light Collector	10,900	9,157	D
West Lilac Road				
Camino Del Rey to Via Ararat Drive	Light Collector	10,900	2,121	B
Via Ararat Drive to Aqueduct Road	Light Collector	10,900	2,130	B
Aqueduct Road to Old Highway 395	Light Collector	10,900	2,292	B
Old Highway 395				
Dulin Road to West Lilac Road	Light Collector	10,900	4,174	C
West Lilac Road to Via Urner Way	Light Collector	10,900	4,280	B
Via Ararat Drive (a1)				
West Lilac Road to Mt. Ararat Way	Private Road	2,500	236	>C
Aqueduct Road (1)				
West Lilac Road to Via Urner Way	Private Road	2,500	253	>C
Via Urner Way (1)				
Aqueduct Road to Old Hwy 395	Private Road	2,500	956	>C

Source: Darnell & Associates 2009
Notes: (1) Levels of Service are not typically applied to non-circulation element roadways. The capacity shown here is the recommended capacity for LOS C. < C = Operates at better than LOS C.
Capacity is based on upper limit of LOS D per the County of San Diego Level of Service Thresholds
ADT = Average Daily Traffic; LOS = Level of Service

TABLE 2.1-2
Existing Intersection Conditions

Intersection	Critical Movement	AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
SR-76 (Mission Road)/Olive Hill Road - Camino Del Rey@ Mission Road (Signalized)	Intersection	30.6	C	32.3	C
	NB	11.0	B	9.9	A
	SB	11.5	B	10.3	B
	NB	11.2	B	9.7	A
West Lilac Road/Old Highway 395 (TWSC)	EB	14.0	B	14.0	B
	WB	11.6	B	11.2	B
	NB	8.1	A	7.6	A
	SB	7.3	A	7.5	A
	SB	10.1	B	11.2	B
Old Highway 395/I-15 Northbound Ramps (OWSC)	NB	9.8	A	10.9	B

Source: Darnell & Associates 2009
sec/veh = seconds of delay per vehicle; LOS = Level of Service; TWSC = Two-Way Stop-Controlled;
OWSC = One-Way Stop-Controlled;
EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound
Delay and LOS calculated using SYNCHRO

TABLE 2.1-3
Trip Generation

Land Use	Daily	AM Peak Hour			PM Peak Hour		
		Total - % of Daily	% In	% Out	Total - % of Daily	% In	% Out
Estate Residential	12 Trips/DU[1]	8%	30%	70%	10%	70%	30%

Trip Generation

Land Use	Total No. of Units	Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Estate Residential	28 DUs	336	27	8	19	34	24	10

Source: Darnell & Associates 2009
[1] DU = dwelling unit
Trip Generation Rates are based on SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002

TABLE 2.1-4
Existing + Project Roadway Segment Conditions

Roadway Segment	Classification	Capacity @ LOS D	Existing		Two-Way Project Traffic	Existing + Project			
			ADT	LOS	ADT	ADT	LOS	Significant	Impact
Camino Del Rey									
SR-76 to Old River Road	Light Collector	10,900	7,991	D	108	8,099	D	N/A	None
Old River Road to West Lilac Road	Light Collector	10,900	8,147	D	108	8,255	D	N/A	None
West Lilac Road									
Camino Del Rey to Via Ararat Drive	Light Collector	10,900	1,867	A	108	1,975	B	N/A	None
Via Ararat Drive to Caminito Quieto	Light Collector	10,900	1,867	A	118	1,985	B	N/A	None
Caminito Quieto to Aqueduct Road	Light Collector	10,900	1,902	B	118	2,020	B	N/A	None
Aqueduct Road to Old Highway 395	Light Collector	10,900	1,902	B	228	2,130	B	N/A	None
Old Highway 395									
Dulin Road to West Lilac Road	Light Collector	10,900	4,118	C	53	4,171	C	N/A	None
West Lilac Road to Via Urner Way	Light Collector	10,900	3,713	B	175	3,888	B	N/A	None
Via Ararat Drive (a)									
West Lilac Road to Mt. Ararat Way	Private Road	2,500	258	< C	131	389	< C	N/A	None
Aqueduct Road (a)									
West Lilac Road to Via Urner Way	Private Road	2,500	134	< C	205	339	< C	N/A	None
Via Urner Way (a)									
Aqueduct Road to Old Hwy 395	Private Road	2,500	1,082	< C	0	1,082	< C	N/A	None

Source: Darnell & Associates 2009
(a) Levels of Service are not typically applied to non-circulation element roadways. The capacity shown here is the recommended capacity for LOS C
Capacity is based on the upper limit of LOS D per the County of San Diego Level of Service Thresholds
Significance is based on the County of San Diego's *Guidelines for Determining Significance*
< C = Operates at better than LOS C; N/A = Not Applicable because segment operates at LOS D or better

TABLE 2.1-5 Existing + Project Peak Hour Intersection Delay and Level of Service

Intersections	Crit. Mvmt.	Existing		Existing Plus Project					
		Delay sec/veh	LOS	Delay sec/veh	LOS	Δ Delay	Max Crit Mvmt	Proj. Signif?	Impact Type
AM PEAK HOUR									
Camino del Rey/Mission Road (Signal)	Int.	30.6	C	32.8	D	2.2	5	No	None
West Lilac/Via Ararat (TWSC)	NB SB	11.0 11.5	B B	11.1 11.6	B B	0.1 0.1	4	No	None
West Lilac/Aqueduct (OWSC)	NB	11.2	B	10.5	B	-0.7	9	No	None
West Lilac/Old Highway 395 (TWSC)	EB WB NB SB	14.0 11.6 8.1 7.3	B B A A	14.1 11.8 8.1 7.3	B B A A	0.1 0.2 0.0 0.0	10	No	None
Old Hwy. 395/I-15 SB (OWSC)	SB	10.1	B	10.2	B	0.1	5	No	None
Old Hwy. 395/I-15 NB (OWSC)	NB	9.8	A	9.9	A	0.1	4	No	None
PM PEAK HOUR									
Camino del Rey/Mission Road (Signal)	Int.	32.3	C	32.9	C	0.6	6	No	None
West Lilac/Via Ararat (TWSC)	NB SB	9.9 10.3	A B	10.0 10.5	B B	0.1 0.2	5	No	None
West Lilac/Aqueduct (OWSC)	NB	9.7	A	9.8	A	0.1	12	No	None
West Lilac/Old Hwy. 395 (TWSC)	EB WB NB SB	14.0 11.2 7.6 7.5	B B A A	14.7 11.5 7.6 7.5	B B A A	0.7 0.3 0.0 0.0	13	No	None
Old Hwy. 395/I-15 SB (OWSC)	SB	11.2	B	11.3	B	0.1	12	No	None
Old Hwy. 395/I-15 NB (OWSC)	NB	10.9	B	11.1	B	0.2	7	No	None

Source: Darnell & Associates 2009
Delay is measured in seconds per vehicle; Δ Delay = change in delay; LOS = Level of Service
TWSC = Two-Way Stop-Control; OWSC = One-Way Stop-Control
Max Critical Movement = maximum vehicles in single critical movement
EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; Delay and LOS calculated using SYNCHRO
Project significance based on County Thresholds.

TABLE 2.1-6
Existing + Construction Traffic Intersection Level of Service Summary

Intersection	Traffic Control	Critical Movement	Existing [(a)]				Existing + Residential Traffic (25 Homes) + Construction Traffic							
							Alternative 1 + 100% from West				Alternative 2 + 100% from East			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Camino Del Rey @ Mission Road	Signal	Intersection	30.6	C	32.3	C	35.1	D	34.1	C	34.1	C	33.2	C
West Lilac Road @ Via Ararat	TWSC	NB SB	11.0 11.5	B B	9.9 10.3	A B	11.3 11.7	B B	10.9 10.5	B B	11.3 11.7	B B	9.9 10.5	A B
West Lilac Road @ Aqueduct Road	OWSC	NB	11.2	B	9.7	A	11.2	B	10.3	B	11.2	B	9.7	A
West Lilac Road @ Old Hwy. 395	TWSC	EB WB NBL SBL	14.0 11.6 8.1 7.3	B B A A	14.0 11.2 7.6 7.5	B B A A	14.2 11.8 8.1 7.3	B B A A	14.5 11.5 7.6 7.5	B B A A	15.6 1.5 8.2 7.3	C B A A	14.0 11.7 7.6 7.5	B B A A
Old Hwy. 395 @ I-15 SB Ramp	OWSC	SB	10.1	B	11.2	B	10.1	B	11.3	B	10.1	B	11.5	B
Old Hwy. 395 @ I-15 NB Ramp	OWSC	NB	9.8	A	10.9	B	9.9	A	11.2	B	10.0	B	11.2	B

Source: Darnell & Associates 2009
Delay is measured in seconds per vehicle; LOS = Level of Service; TWSC = Two-Way Stop-Control; OWSC = One-Way Stop-Control
EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound
[(a)] Existing delay and LOS taken from Darnell & Associates (2009) *Traffic Study for West Lilac Residential Subdivision (TM 5276)*

TABLE 2.1-7
Stopping Sight Distance Requirements

Location	Speed - V [(a)] (mph)	Reaction Time - t (seconds)	Deceleration Rate - a (ft/sec^2)	Reaction Distance - d_1 (feet)	Braking Distance - d_2 (feet)	Stopping Sight Distance - d (feet)
West Lilac Road e/o Via Ararat						
Westbound	36	1.5	11.2	79	124	**204**

Source: Darnell & Associates 2009
Note: All calculations assume the grade is level
e/o = East of; $d_1 = 1.47Vt$; $d_2 = 1.075 (V^2 \div a)$; $d = d_1 + d_2$
[(a)] Speeds are based on the speed surveys conducted by Darnell & Associates in August 2005

TABLE 2.1-8
Summary of Construction Traffic Daily Trips

Construction Phase	Daily Trips – ADT (PCE)	Duration of Activity (Days)
Grading Operation		
Clear and Grub	152	8
Remedial and Mass E-Scrapers	80	12
Finish Grading	46	11
Total Grading:	*278*	*31*
Site Preparation/Development		
Wet Utilities – Pipe Installation	47	11
Wet Utilities – Structure Installation	14	8
Dry Utilities – Conduit Installation	36	9
Dry Utilities – Concrete Products	16	2
Landscape Operations	50	18
Support Operations/Site Work	9	72
Total Site Preparation/Development	*172*	*201*
Street Improvements – Balancing/Base		
Balancing/Base	262	6
Support Operations/Site Work	9	6
Total Street Improvements-Balancing/Base	*271*	*6*
Street Improvements – Asphalt Paving & Dyke		
Asphalt Paving & Dyke	278	4
Support Operations/Site Work	9	4
Total Street Improvements-Asphalt Paving & Dyke	*287*	*4*
House Construction		
Foundation	38	15
Framing & Structural	54	30
Electrical, Plumbing, Mech.	50	35
Finish, Flat Work, Yards	76	20
Support Operations/House Construction	9	130
Total Maximum House Construction	*227*	

Source: Darnell & Associates 2009
PCE = Passenger Car Equivalent Trips, assumes that one (1) trip made by every large construction vehicle such as a dump truck, etc., is the equivalent to two (2) passenger car equivalent trips.

TABLE 2.1-9
Existing + Construction Traffic Roadway Segment Level of Service Summary

Segment	LOS D Capacity	Existing Conditions		Residential Traffic (25 Homes)		Construction Traffic [a]	Existing + Residential Traffic + Construction Traffic	
		ADT	LOS	% Distribution	ADT		ADT	LOS
Old Highway 395								
Dulin Road to West Lilac Road	10,900	4,174	C	16%	48	85	4,307	C
West Lilac Road to Via Umer	10,900	4,280	C	52%	156	85	4,521	C
West Lilac Road								
Camino Del Rey to Via Ararat	10,900	2,121	B	32%	96	85	2,302	B
Via Ararat to Aqueduct Road	10,900	2,130	B	35%	105	85	2,320	B
Aqueduct Road to Old Highway 395	10,900	2,292	B	68%	204	85	2,581	B
Camino Del Rey								
Mission Road to Old River Road	10,900	9,840	D	32%	96	85	10,021	D
Old River Road to West Lilac Road	10,900	9,517	D	32%	96	85	9,698	D
Via Ararat [b]								
West Lilac Road to Mt. Ararat	1,500	326	<C	39%	117	85	528	<C
Aqueduct Road [b]								
West Lilac Road to Via Urner	1,500	253	<C	61%	183	85	521	<C
Via Urner [b]								
Aqueduct Road to Old Highway 395	1,500	956	<C	0%	0	0	956	<C

Source: Darnell & Associates 2009
ADT = Average Daily Traffic; LOS = Level of Service; <C = Operates at Better than LOS C
LOS D Capacity per County of San Diego Public Road Standards
[a] Construction traffic assumes that 100% of the construction traffic is assigned to each roadway segment to assess the worst-case scenario
[b] Level of Service does not typically apply to residential streets; the capacity shown here is the recommended capacity for LOS C

TABLE 2.1-10
Cumulative Roadway Segment Level of Service Summary

Segment	LOS D Capacity	Existing (A)		Cumulative w/o Project (B)		Cumulative + Project (C)		Cumulative Contribution (C)-(A)		Project Contribution (C)-(B)		
		ADT	LOS	ADT	LOS	ADT	LOS	Incr. in ADT	Cuml. Impact	Project ADT	% Incr. ADT	Project Impact
Old Hwy 395 between Dulin Road and West Lilac Road	10,900	4,174	C	5,882	C	5,935	C	1,761	No	53	0.89%	None
Old Hwy 395 between West Lilac Road and Via Urner	10,900	4,280	C	6,055	C	6,230	C	1,950	No	175	2.81%	None
West Lilac Road between Camino del Rey and Via Ararat	10,900	2,121	B	2,745	B	2,853	B	732	No	108	3.79%	None
West Lilac between Via Ararat and Aqueduct Road	10,900	2,130	B	2,849	B	2,967	B	837	No	118	3.98%	None
West Lilac between Aqueduct Road and Old Hwy 395	10,900	2,292	B	3,057	B	3,285	B	993	No	228	6.94%	None
Camino del Rey between Mission Road and Old River Road	**10,900**	**9,840**	**D**	**11,512**	**E**	**11,620**	**E**	**1,780**	**Yes**	**108**	**0.93%**	**Cuml**
Camino del Rey between Old River Road and West Lilac Road	10,900	9,517	D	10,306	D	10,414	D	897	No	108	1.04%	None
Via Ararat between West Lilac Road and Mt. Ararat	1,500	326	>C	350	>C	481	>C	155	No	131	27.23%	None
Aqueduct Road between West Lilac Road and Via Urner	1,500	253	>C	287	>C	492	>C	239	No	205	41.67%	None
Via Urner between Aqueduct Road and Old Hwy 395	1,500	956	>C	989	>C	989	>C	33	No	0	0.00%	None

Source: Darnell & Associates 2009
LOS = level of service; ADT=Average daily traffic; >C=Better than LOS C; <C = Worse than LOS C; >D = Better than LOS D; <D = Worse than LOS D
Cuml. Impact? = Cumulative significance based on County Standards (Yes or No); Proj Impact = impact type; Cuml=cumulative
LOS D Capacity per County of San Diego Public Road Standards

TABLE 2.1-11
Cumulative Intersection Level of Service Summary

Intersections	Existing (A)		Cumulative w/o Project (B)		Cumulative + Project (C)		Cumulative Contribution (C)-(A)		Project Contribution (C)-(B)	
	Delay sec/veh	LOS	Delay sec/veh	LOS	Delay sec/veh	LOS	Δ Delay	Cuml. Impact?	Δ Delay	Cuml. Signif?
AM Peak Hour										
Camino del Rey/Mission Road	30.6	C	47.8	D	48.2	D	17.6	No	0.4	No
West Lilac Road/Via Ararat Way	11.0	B	12.3	B	12.4	B	1.4	No	0.1	No
	11.5	B	12.9	B	13.0	B	1.5	No	0.1	
West Lilac Road/Aqueduct Road	11.2	B	12.6	B	11.6	B	0.4	No	-1.0	No
West Lilac Road/Old Hwy 395	14.0	B	23.6	C	24.4	C	10.4	No	0.8	No
	11.6	B	14.2	B	14.6	B	3.0	No	0.4	
	8.1	A	8.6	A	8.6	A	0.5	No	0.0	
	7.3	A	7.4	A	7.4	A	0.1	No	0.0	
Old Hwy 395/I-15 Southbound	10.1	B	11.0	B	11.2	B	1.1	No	0.2	No
Old Hwy 395/I-15 Northbound	9.8	A	10.6	B	10.7	B	0.9	No	0.1	No
PM Peak Hour										
Camino del Rey/Mission Road	32.3	C	48.7	D	49.5	D	17.2	No	0.8	No
West Lilac Road/Via Ararat Way	9.9	A	10.4	B	10.7	B	0.8	No	0.3	No
	10.3	B	11.1	B	11.2	B	0.9	No	0.1	
West Lilac Road/Aqueduct Road	9.7	A	10.2	B	10.3	B	0.6	No	0.1	No
West Lilac Road/Old Hwy 395	14.0	B	23.0	C	25.3	D	11.3	No	2.3	No
	11.2	B	13.2	B	13.7	B	2.5	No	0.5	
	7.6	A	7.7	A	7.8	A	0.2	No	0.1	
	7.5	A	7.6	A	7.6	A	0.1	No	0.0	
Old Hwy 395/I-15 Southbound	11.2	B	13.2	B	13.4	B	2.2	No	0.2	No
Old Hwy 395/I-15 Northbound	10.9	B	12.9	B	13.2	B	2.3	No	0.3	No

Source: Darnell & Associates 2009
Delay is measured in seconds per vehicle; Δ Delay=change in delay; LOS=level of service
Delay and LOS calculated using SYNCHRO
Project significance based on County thresholds