

**December 12, 2016**

Jim Parsons  
P/A Design Resources  
3021 Citrus Circle, Suite 150  
Walnut Creek, CA 94598

**Re: Trip Generation and Access Review for the Indian Valley Residential Project**

This letter report presents the results of a trip generation analysis and a review of access for the proposed Indian Valley Residential Project.

**Project Description**

The proposed project would involve construction of 71 single family homes. The project is proposing to have one vehicular access point at a new intersection on Canyon Road southeast of the Town of Moraga. Please note that a secondary emergency vehicle access would also be provided but this access would be gated and would not be open to civilian traffic.

**Project Trip Generation**

The standard reference used by traffic engineers to estimate trip generation is the Institute of Transportation Engineers (ITE) Trip Generation Manual (9<sup>th</sup> Edition). The vehicle trip generation for the project is shown in **Table 1**. The trip generation rates are based on the ITE rates for a single-family detached housing (Land Use 210) taken from the 9th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.

As shown in **Table 1**, the project is estimated to generate 53 vehicle trips during the AM peak hour and 71 trips during the PM peak hour.

**Table 1**  
**Peak Hour ITE Trip Generation Estimates**

| Land Use                       | ITE Code | Size     | ADT  | AM Peak Hour |      |       | PM Peak Hour |      |       |
|--------------------------------|----------|----------|------|--------------|------|-------|--------------|------|-------|
|                                |          |          |      | In           | Out  | Total | In           | Out  | Total |
| Single Family Detached Housing | 210      |          | 9.57 | 0.19         | 0.56 | 0.75  | 0.63         | 0.37 | 1.00  |
| Project Trip Generation        |          | 71 units | 679  | 13           | 40   | 53    | 45           | 26   | 71    |

**SOURCE:** Trip Generation, 9th Edition, Institute of Transportation Engineers, Washington D.C., 2012.

### **Accident Records for Canyon Road**

Abrams Associates has confirmed that the available accident data indicates Canyon Road operates safely, based on the latest California Highway Patrol records. During the five-year period from 2011 to 2016 the California Highway Patrol records indicate there were nine accidents on the section of Canyon Road between Camino Pablo and Pinehurst Road. It is important to note that seven of these accidents occurred at the intersections of Canyon Road with Camino Pablo and with Pinehurst Road.

Based on this data our preliminary review indicates that Canyon Road would continue to operate safely and at an acceptable level of service with the addition of the traffic estimated to be generated by the proposed project.

### **Preliminary Review of Project Access**

The project's preliminary plan for the internal roadway network and access to Canyon Road has been reviewed and no significant issues have been identified that would cause internal safety problems or any unusual traffic congestion or delay. Based on our review the proposed entrance has been properly designed to meet Caltrans roadway design and sight distance standards.

Based on the existing traffic volumes and the forecast peak project trip generation of 71 trips per hour during the PM peak period the proposed entrance intersection would not be expected to have any traffic operational issues. With a separate right and left turn lanes for traffic exiting the project and the proposed side street stop control the intersection should operate well within the established LOS standards. However, it is important to note these conclusions are preliminary and would be subject to review and approval by the County.

Please don't hesitate to contact me if you have any questions or need additional information.

Sincerely,



Stephen C. Abrams  
President, Abrams Associates  
T.E. License No. 1852