1. INTRODUCTION

This report presents the results of the transportation impact analysis (TIA) conducted for the proposed commercial development located north of Cochrane Road between US Highway 101 and Mission View Drive in Morgan Hill, California. Specifically, the proposed project includes 590,100 square feet (s.f.) of retail space, a 12-position fuel station, and 63,200 s.f. of movie theater space. (It should be noted that the preliminary site plan, dated March 10, 2005, shows the fuel station as an optional use on Pad 2, and that the primary proposed use for this pad is 6,000 s.f. of retail space. However, since the 12-position fuel station would generate substantially more traffic than the planned retail space for this location, the traffic analysis is based on development of Pad 2 with a fuel station in order to present a worst-case analysis. In addition, it should be noted that the current site plan dated March 10, 2005 shows a total retail floor area (including garden center) of 588,050 s.f., assuming fuel station use for Pad 2. This is 2,050 s.f. less than the floor area used in this traffic analysis, which was based on a previous version of the site plan. Since the traffic analysis is therefore based on a project size which is approximately 0.4 percent larger than currently proposed, the resulting calculations may be slightly conservative; however, the difference is not great enough to affect the findings, conclusions, or recommendations contained in this report.)

The proposed land uses are consistent with the City of Morgan Hill's General Plan land use designation for this site. The current General Plan includes a network connection between Cochrane Road and Burnett Avenue via DePaul Drive. The project proposes to relocate the planned connection approximately 800 feet east opposite Mission View Drive. Therefore, a 2025 General Plan analysis scenario was also included.

Figure 1 shows the site location and surrounding roadway network. A site plan, Figure 2, shows the project site will be served by one service driveway and five general access driveways on Mission View Drive and two driveways on Cochrane Road. The westernmost driveway on Cochrane Road will form the new north leg of the Cochrane Road/DePaul Drive intersection and provide full access (left- and right-turns in and out). A second driveway on Cochrane Road between DePaul Drive and Mission View Drive is limited to right-turns in and out. The site plan also shows Mission View Drive extended northward with six project driveways on Mission View Drive. The southernmost driveway on Mission View Drive is assumed to be limited to right-turns in and out. Full access is assumed at the remaining five driveways.

The purpose of this analysis is to identify the potential impacts of the proposed development on the transportation system in the vicinity of the site. Project impacts were estimated following the guidelines of the City of Morgan Hill and the Santa Clara Valley Transportation Authority (VTA), which is the congestion management agency for Santa Clara County. The following key intersections were analyzed for this project:

1. Cochrane Road / Monterey Road
2. Cochrane Road / Butterfield Boulevard
3. Cochrane Road / Sutter Boulevard
4. Cochrane Road / Madrone Parkway
5. Cochrane Road / US 101 Southbound Ramps
6. Cochrane Road / US 101 Northbound Ramps
7. Cochrane Road / DePaul Drive (formerly St. Louise Drive)
8. Cochrane Road / Mission View Drive
9. Main Avenue / Monterey Road

project would have a significant cumulative impact on the segment of US 101 between Tennant Avenue and Dunne Avenue during the AM peak hour. The mitigation for cumulative impacts to the freeway segments is implementation of the "Immediate Actions" list in the CMP Draft Countywide Deficiency Plan, which are intended to encourage non-automobile modes of transportation. Even after implementation of mitigation measures, the cumulative impact would still be **significant and unavoidable**.

ALTERNATE PROJECT SCENARIO

The project trips generated by the alternate project were estimated following the same process as the proposed project described previously except that 60,000 s.f. of retail space was substituted with the same size supermarket. The same passby, diverted link, and internalization rates were applied to the alternate project description as the proposed project.

The alternate project development is estimated to generate 25,143 net new daily trips, 593 net new AM peak-hour trips (377 inbound/216 outbound), 2,110 net new PM peak-hour trips (1,054 inbound/1,056 outbound), and 2,631 net new Saturday midday peak-hour trips (1,435 inbound/1,196 outbound).

The Level of Service calculations used existing count data and lane configurations, list of approved and pending developments supplied by city staff, and the alternate project-generated trips. The results of the intersection LOS calculations are presented in Table ES-1 for Alternate Project Conditions.

Based on the project impact criteria listed previously, the alternate project would have a significant impact on the Cochrane Road/Northbound US 101 Ramp, Mission View Drive/Cochrane Road, and Dunne Avenue/Monterey Road intersections.

The mitigation measure for the US 101 Northbound Ramp/Cochrane Road under Alternate Project Conditions includes converting the westbound approach to provide one separate through lane and one shared through-right turn lane. The recommended lane improvements and the traffic signal recommended under Project Conditions at the Mission View Drive/Cochrane Road intersection, would provide LOS D under the Alternate Project Conditions. To mitigate the impact to LOS D+, an additional westbound through lane would be required. The recommended lane improvements under Project Conditions at the Dunne Avenue/Monterey Road intersection would also mitigate the impacts under the Alternate Project Conditions and provide an acceptable level of service.

Based on the monitored freeway segment densities under Alternate Project Conditions, the segment of US 101 between Tennant Avenue and Dunne Avenue in the northbound direction during the AM peak hour operates at an unacceptable level of service (LOS F) and the project is expected to add a volume greater than one percent of the capacity to this segment. Therefore, the proposed project will **have a significant impact** on this segment of US 101. The mitigation measure for this impact is implementation of the "Immediate Actions" of the Draft Countywide Deficiency Plan, which include various transportation demand management (TDM) measures to reduce single occupant vehicle travel. However, the implementation of these measures would not reduce the project traffic contribution to this freeway segment to under one percent of current volumes. Therefore, the impact would not be reduced to less-than-significant levels and the project traffic would result in a significant and unavoidable impact to this freeway segment.

The parking analysis conducted for Alternate Project Conditions applied the same two methodologies as were used to evaluate parking supply for the Project Conditions. The results are the same as Project Conditions and would result in a potentially significant impact. The same mitigation identified for Project Conditions would also be recommended for the Alternate Project Conditions.

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9. Main Avenue / Monterey Road

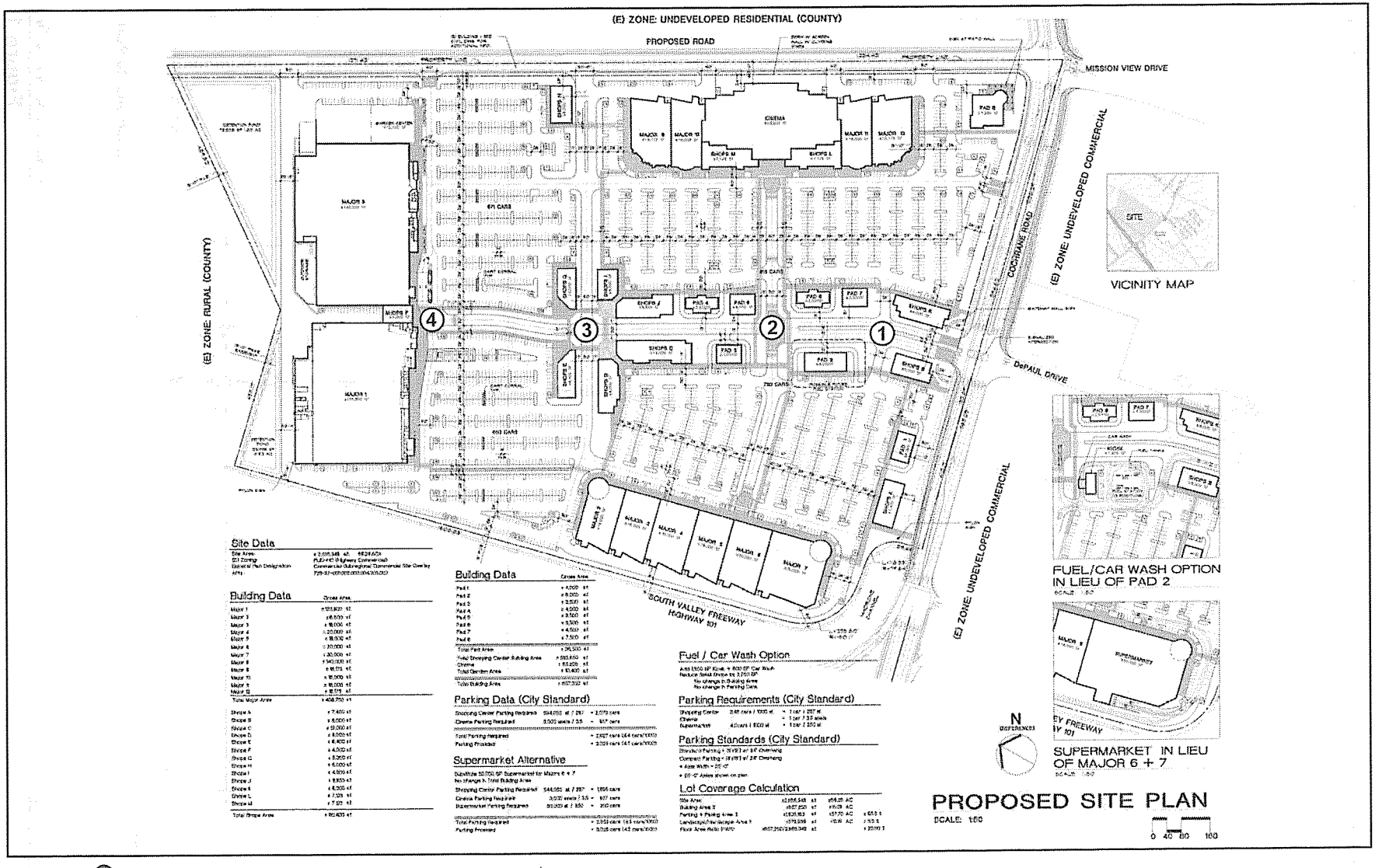
Cochrane Rd PUD

FEHR & PEERS
TRANSPORTATION CONSULTANTS

May 2005
SJ04-725

SITE LOCATION

Figure 1



Cochrane Rd PUD

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June 2005
SJ04-725\725- Figure 2

CONCEPTUAL SITE PLAN

FIGURE 2

10. Main Avenue / Butterfield Boulevard
11. Main Avenue / Condit Road
12. Dunne Avenue / Monterey Road
13. Dunne Avenue / Butterfield Boulevard
14. Dunne Avenue / US 101 Northbound Ramps
15. Tennant Avenue / US 101 Northbound Ramps

The operations of the key intersections were evaluated during the morning (AM) and evening (PM) peak commute periods for the following scenarios:

Scenario 1: *Existing Conditions* – Existing volumes obtained from counts.

Scenario 2: *Background Conditions* – Existing peak-hour volumes plus traffic from approved but not yet constructed developments in the area.

Scenario 3: *Project Conditions* – Background peak-hour traffic volumes plus traffic generated by the proposed retail development.

Scenario 4: *Cumulative No Project Conditions* – Existing peak-hour volumes plus traffic generated by approved and pending projects.

Scenario 5: *Cumulative Plus Project Conditions* – Cumulative No Project volumes plus traffic generated by the proposed project.

Scenario 6: *General Plan 2025 Conditions* – Volumes projected for Year 2025 with the currently approved General Plan plus traffic generated by the proposed project.

Potential project impacts of the adjacent freeway segments of US 101 north and south of Cochrane Road were evaluated as well as site access, on-site circulation, and parking.

The remainder of this report is divided into eight chapters. Chapter 2 presents Existing Conditions in terms of the existing roadway configurations, transit service, bicycle and pedestrian facilities, traffic volumes, and operating conditions of the key intersections. Operations under Background Conditions with traffic from approved but not yet constructed developments are discussed in Chapter 3. Chapter 4 describes the methodology used to estimate the project traffic and its impacts on the transportation system (intersections and freeway segments). This chapter includes a discussion of site access, on-site circulation, and parking. Chapter 5 presents the discussion of an alternative project description. Chapter 6 presents the Cumulative Conditions. Operations of the key intersections under General Plan Buildout Conditions are described in Chapter 7 and Chapter 8 presents the study conclusions and recommendations.

2. EXISTING CONDITIONS

This chapter describes the existing conditions of the roadway facilities, traffic volumes, intersection operations, pedestrian and bicycle facilities, and transit service. This chapter also includes a discussion of the methodology used to calculate intersection levels of service and the corresponding results.

ROADWAY NETWORK

US 101 and Monterey Road provide regional access to the project site. The following streets provide local access to the project site: Cochrane Road, Main Avenue, Dunne Avenue, Tennant Avenue, Butterfield Boulevard, DePaul Drive, Mission View Drive, Half Road, and Condit Road. Descriptions of these roadway facilities are presented below.

US 101 extends northward through San Jose and San Francisco and southward along the California Central Coast. US 101 is a six-lane freeway (three mixed flow lanes in each direction) between Cochrane Road and Monterey Street in Gilroy. North of Cochrane Road to San Jose, US 101 provides three mixed-flow lanes and one High Occupancy Vehicle (HOV) lane in each direction. The interchange at Cochrane Road provides access to the project site.

Monterey Road provides regional access to Gilroy and San Jose and local access within the City of Morgan Hill. North of Cochrane Road, Monterey Road is four-lanes wide. Within Morgan Hill, Monterey Road is a four-lane arterial with on-street parking and left-turn lanes at intersections. Monterey Road narrows to a single southbound lane near the Union Pacific Railroad over-crossing between Cochrane Road and Wright Avenue. Monterey Road features a continuous center lane for left turns from Wright Avenue to Main Avenue and south of Dunne Avenue. The speed limit on Monterey Road is 45 miles per hour (mph) north of Cochrane Road and varies from 25 to 40 mph between Cochrane Road and East Dunne Avenue.

Cochrane Road is a four-lane, divided arterial that extends eastward from its intersection with Monterey Road through a partial-cloverleaf interchange at US 101. East of US 101, Cochrane Road is a two-lane road that extends eastward to Anderson Reservoir and then southward to its terminus at the Main Street/Liberata Drive intersection. Existing land uses along Cochrane Road, near the project site, are primarily residential in nature.

Main Avenue is a two-lane, arterial roadway that intersects Monterey Road and extends eastward over US 101. East of US 101, Main Avenue becomes a two-lane road that intersects Condit Road and Elm Street. This street links Live Oak High School with Downtown Morgan Hill.

Dunne Avenue is a four-lane divided arterial that intersects Monterey Road, Butterfield Boulevard, Condit Road, and Hill Road. Dunne Avenue includes a partial cloverleaf interchange with US 101, and east of US 101, Dunne Avenue becomes a two-lane roadway at Hill Road. The roadway is posted at 35 mph and is signalized at intersections at major cross streets.

Murphy Avenue is a north-south roadway that extends between Diana Avenue and Middle Avenue on the east side of US 101. Murphy Avenue currently provides one travel lane in each direction. The City of Morgan Hill's General Plan designates Murphy Avenue as a four-lane arterial that will be extended to the north and connect with DePaul Drive.

Tennant Road is a four-lane, divided east-west arterial between Monterey Road and US 101. East of US 101, Tennant Road is a two-lane rural road that extends eastward and intersects Condit Road.