Appendix H

Trip Generation and Operations Analysis/VMT Assessment

Hexagon Transportation Consultants, Inc.

Memorandum

Date: July 1, 2022

To: Nick Pappani, Raney Planning & Management

From: Robert Del Rio, T.E., Luis Descanzo

Subject: Trip Generation and Operations Analysis for the Proposed The Gates Mixed-Use Development in Morgan Hill, California

Hexagon Transportation Consultants, Inc. has completed a trip generation and operations analysis for the proposed The Gates Mixed-Use Development project located at 18545-18565 Monterey Road (APNs 764-10-013, -015) in Morgan Hill, California (see Figure 1). The project as proposed would consist of 49 townhome units and 4,016 square feet (s.f.) of ground-floor retail space on a vacant lot located along the westside of Monterey Road just north of Jarvis Drive. Approximately 15% of the units will be affordable residential units. Vehicular access would be provided via a proposed right-in/right-out access driveway on southbound Monterey Road. An internal drive aisle would connect to the adjacent commercial uses located north of the project site and would provide access to the signalized Monterey Road and Cochrane Road intersection.

The methodology, results, and recommendations of the analysis are discussed below.

Scope of Study

The current General Plan, *Morgan Hill 2035 General Plan,* adopted in July 2016 uses Level of Service (LOS) as its primary metric for the evaluation of the projected operation of the City's roadway system. Therefore, this traffic operations analysis which includes a peak hour intersection level of service analysis is included for consistency with the General Plan goals and policies. The traffic operations analysis supplements the California Environmental Quality Act (CEQA) required VMT analysis provided in a separate memorandum. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

The purposes of the trip generation and operations analysis is to evaluate the magnitude of traffic that would be added to the roadway system due to the proposed project and to determine whether a comprehensive traffic study is required for the proposed project. The analysis consists of an estimation of project trip generation and evaluation peak-hour intersection level of service analysis at intersections in the immediate vicinity of the project site. A review of the project's site access per the proposed site plan also is included. Traffic conditions were evaluated for the scenarios listed below.

Existing Conditions. Existing conditions represent the existing peak-hour traffic volumes on the existing roadway network. It is not possible to collect new traffic counts due to the current COVID-19 pandemic and its effects on normal traffic conditions. Therefore, existing traffic volumes were represented by traffic counts collected in May 2018.

Figure 1
Site Location

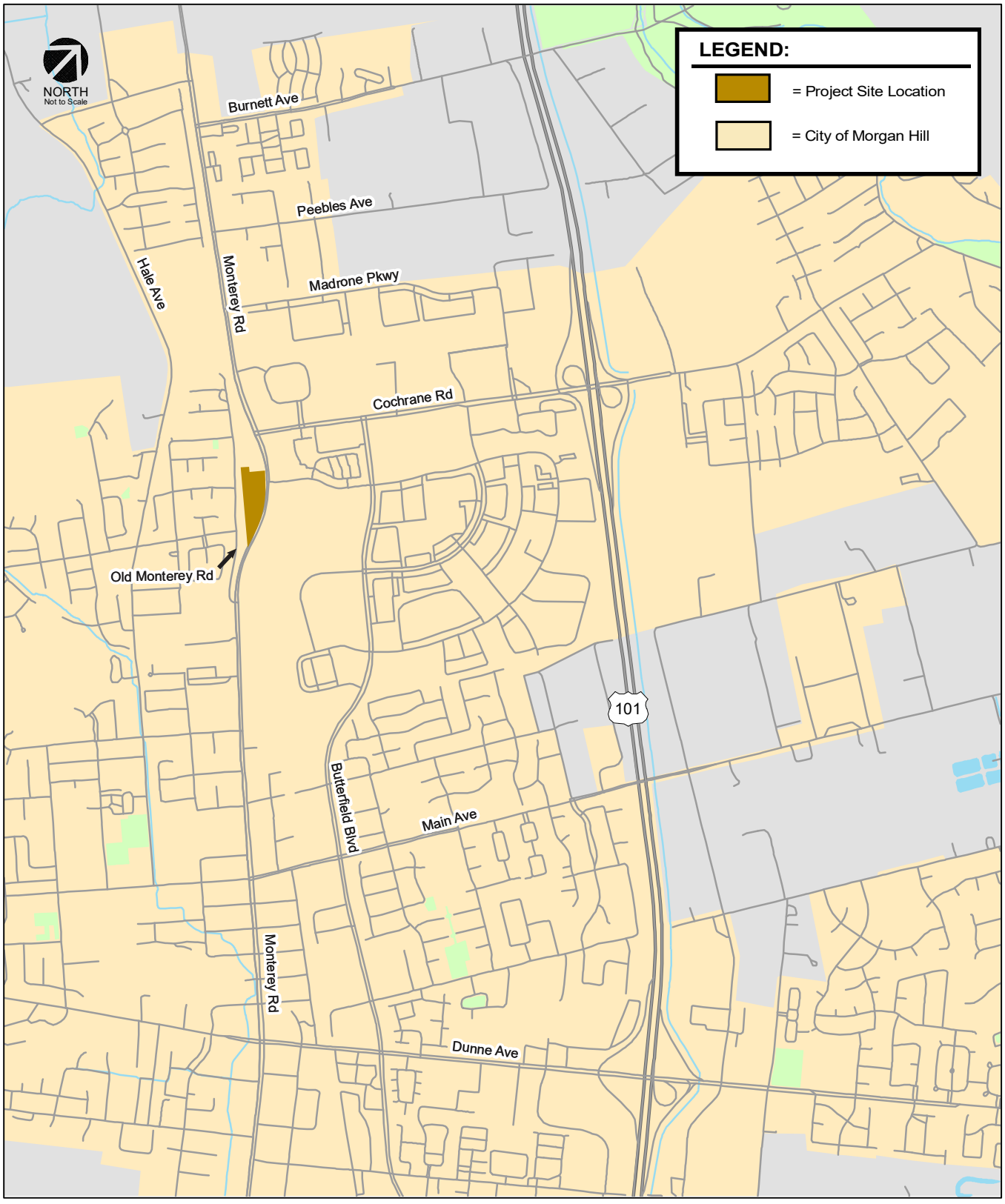
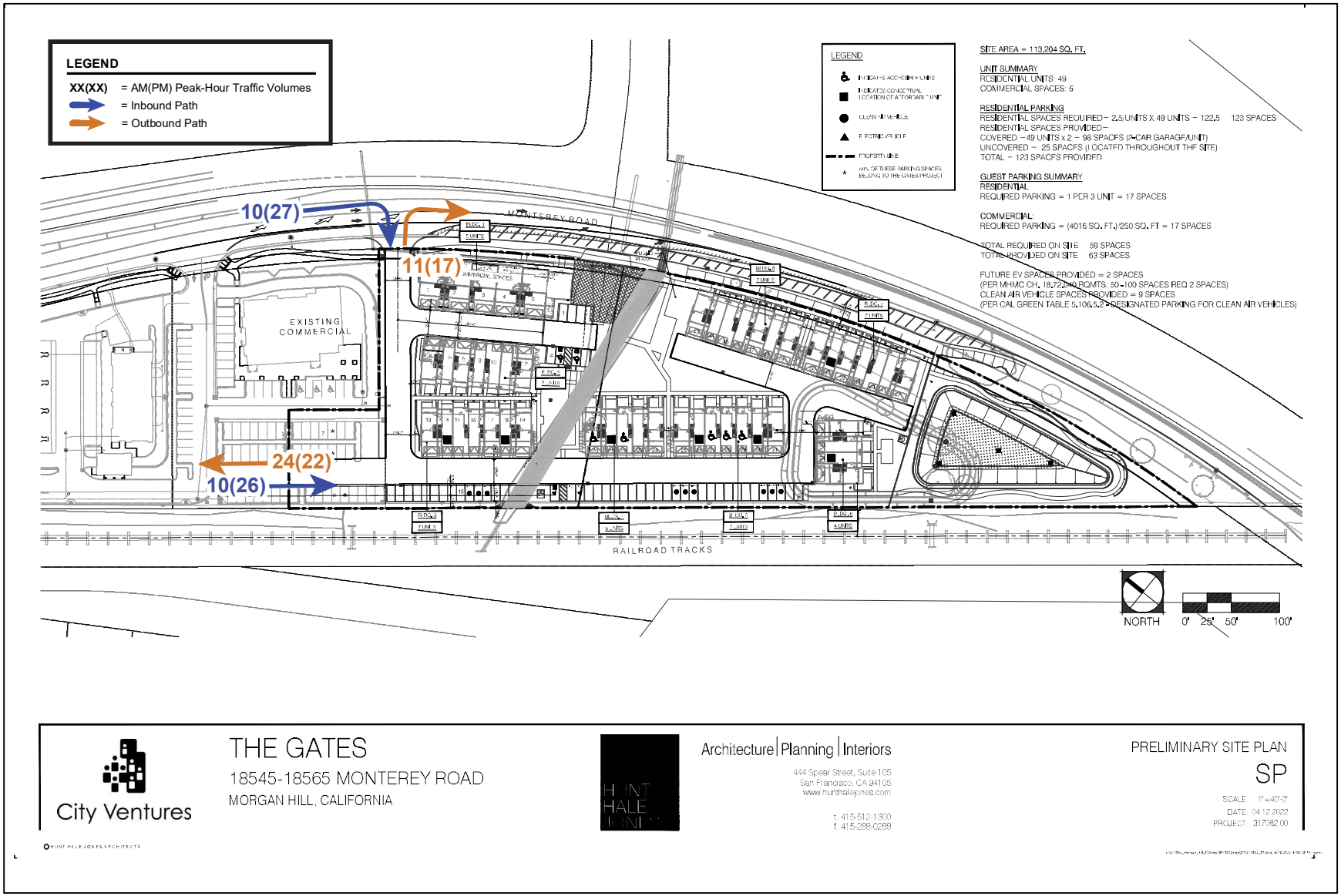


Figure 2
Site Plan and Gross Project Trips at Site Access Points



Existing Plus Project Conditions. Existing plus project peak-hour traffic volumes were estimated by adding to the existing traffic volumes the additional traffic that would be generated by the proposed project. Existing plus project conditions were evaluated relative to existing conditions in order to determine the effects of the proposed project on existing traffic conditions.

Year 2035 General Plan Conditions. Year 2035 General Plan conditions represent future traffic volumes on the future transportation network. Year 2035 General Plan conditions include traffic growth projected to occur in the Year 2035 without the proposed project.

Year 2035 General Plan with Project Conditions. Year 2035 General Plan with Project conditions consists of Year 2035 General Plan traffic conditions with the addition of project traffic.

Project Trip Generation Estimates and Assignment

In determining the project trip generation, the magnitude of traffic entering and existing the site is estimated for the AM and PM peak hours. Through empirical research, data have been collected that quantify the amount of traffic produced by many types of land uses. The research is compiled in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 11th Edition (2021)*. The standard trip generation rates can be applied to help predict the future traffic increases that would result from a new development. As proposed, the residential component of the development would consist of 49 attached single-family residential units. The ITE trip generation manual does not provide trip rates specifically for attached single-family units. Therefore, the rates for "Single-Family Detached Housing" (ITE Land Use 210) were used to estimate the residential trips generated by the proposed project. It is expected that the trip-making characteristics of the proposed attached single-family units would be similar to those of detached single-family units since each of the proposed units will include a private two-car garage and the limited availability of transit services in the project area.

As proposed, the commercial component of the development would consist of 4,016 s.f. of ground-floor retail space. Rates for "Strip Retail Plaza (<40k)" (ITE Land Use 822) were used to estimate the trips generated by the proposed retail space. Trip generation for retail uses are typically adjusted to account for pass-by-trips. Pass-by-trips are trips that would already be on the adjacent roadways (and are therefore already counted in the existing traffic) but would turn into the site while passing by. Justification for applying the pass-by-trip reduction is founded on the observation that a portion of retail traffic is not actually generated by the retail use but is already part of the ambient traffic levels. Pass-by-trips are therefore excluded from the traffic projections (although pass-by traffic is accounted for at the site entrances). A typical pass-by trip reduction of 20% was applied to the PM peak-hour trip estimates of the proposed retail/commercial component.

After applying the ITE trip rates and reductions for pass-by-trips, it is estimated that the project would generate 55 net new vehicle trips (20 inbound and 35 outbound) during the AM peak hour and 84 net new vehicle trips (49 inbound and 35 outbound) during the PM peak hour (see Table 1). At the proposed site access points, a total of 55 gross vehicle trips (20 inbound and 35 outbound) are expected during the AM peak hour and 92 gross vehicle trips (53 inbound and 39 outbound) are expected during the PM peak hour.

The directional distribution of site-generated traffic to and from the project site was estimated based on the existing travel patterns on the surrounding roadway network that reflect typical weekday AM and PM peak commute patterns, the location of the project driveways, freeway access points, and the locations of complimentary land uses. The peak-hour project trips associated with the proposed project were added to the transportation network in accordance with the distribution pattern. The project trip distribution pattern and assignment of project trips at the study intersections under existing plus project conditions are shown on Figure 3.

Table 1
Trip Generation Summary

Land Use	Size	AM Peak Hour Rate	AM Peak Hour Trip In	AM Peak Hour Trip Out	AM Peak Hour Trip Total	PM Peak Hour Rate	PM Peak Hour Trip In	PM Peak Hour Trip Out	PM Peak Hour Trip Total
Proposed Land Uses									
#210 - Single-Family Detached Housing	**49** Dwelling Units	0.79	10	29	39	1.04	32	19	51
#822 - Strip Retail Plaza (<40k)	**4,016** Square Feet	3.92	10	6	16	10.14	21	20	41
20% Passby Reduction[1]			0	0	0		-4	-4	-8
Net Project Trips			**20**	**35**	**55**		**49**	**35**	**84**
Gross Project Trips (Trips at Driveways)			*20*	*35*	*55*		*53*	*39*	*92*

Source: ITE Trip Generation Manual, 11th Edition 2021.
[1]A 20% pass-by reduction is typically applied for retail development within the City of Morgan Hill.

Year 2035 General Plan Conditions Project Trip Generation Estimates

It should be noted that the Mixed-use Flex land use designation (7-24 du/ac) is currently assigned to the 3.82-acre project site per the City's General Plan Land Use Map. Per the land use designation and maximum allowable development standards, the project site may support up to 91 dwelling units per the General Plan. However, analysis under cumulative conditions is based on the General Plan traffic model which assumes no new development on the project site.

Intersection Level of Service Analysis

Traffic conditions at the following study intersections were analyzed for the weekday AM and PM peak hours of traffic:

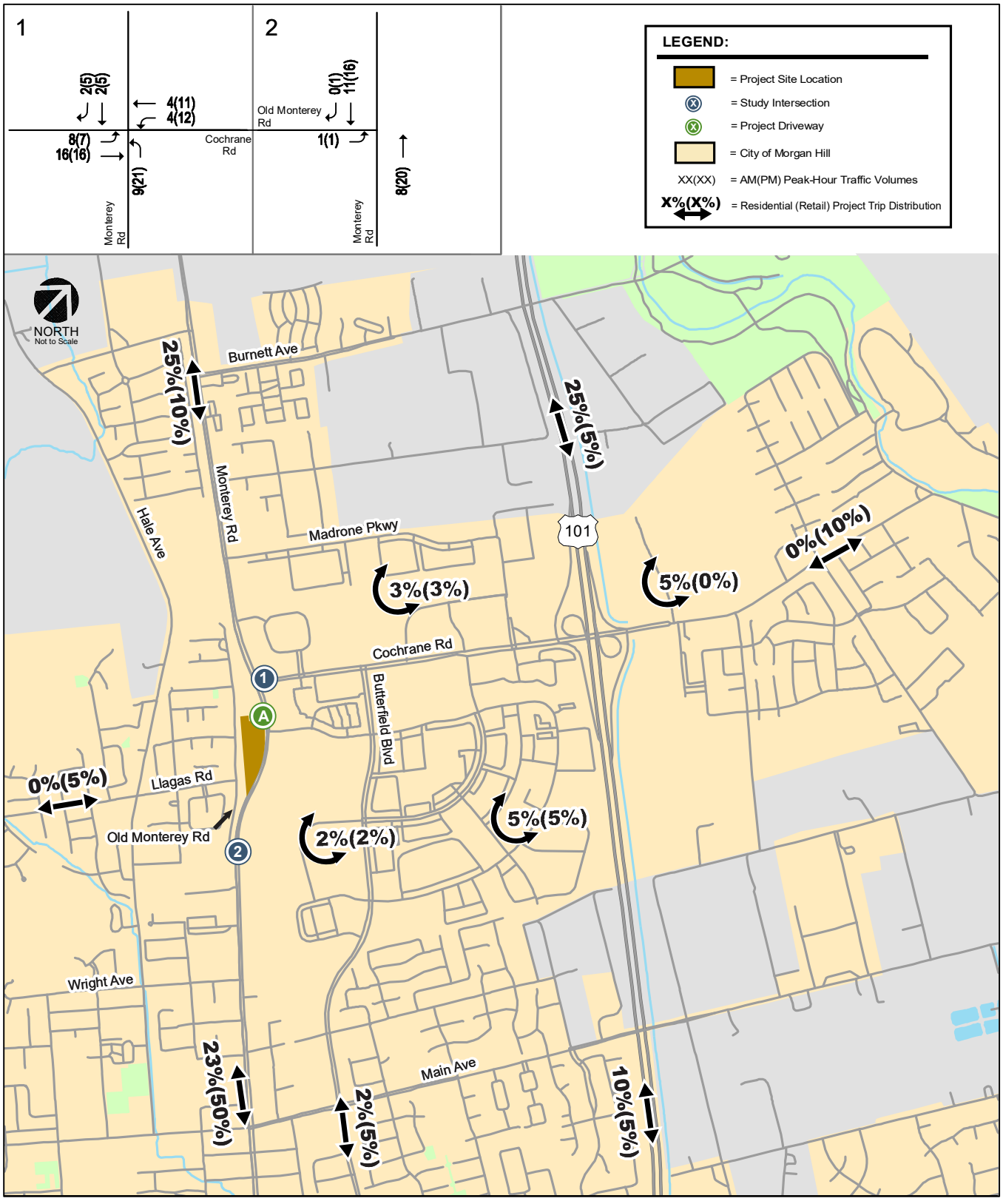
1. Monterey Road and Cochrane Road
2. Monterey Road and Old Monterey Road

Other intersections in the project area were not studied because the addition of project trips will be minimal, less than 10 peak hour trips per lane. The weekday AM peak hour of traffic generally falls within the 7:00 AM to 9:00 AM period and the weekday PM peak hour is typically in the 4:00 PM to 6:00 PM period. It is during these times that the most congested traffic conditions occur on a typical weekday.

Signalized Intersection Analysis

Signalized study intersections are subject to the City of Morgan Hill's level of service standards. The City of Morgan Hill's level of service methodology is TRAFFIX, which is based on the 2000 *Highway Capacity Manual* (HCM) method for signalized intersections. TRAFFIX evaluates signalized intersections operations based on average delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersection level of service methodology, the City of Morgan Hill methodology employs the CMP defaults values for the analysis parameters, which include adjusted saturation flow rates to reflect conditions in Santa Clara County. All intersections within the City of Morgan Hill are required to meet the City's LOS standard of LOS D, with the exception of the following:

Figure 3
Project Trip Distribution and Project Trip Assignment



- **LOS F** for Downtown intersections and segments including at Main/Monterey, along Monterey Road between Main and Fifth Street, and along Depot Street at First through Fifth Street;
- **LOS E** for the following intersections and freeway zones:
  - Main Avenue and Del Monte Avenue
  - Main Avenue and Depot Street
  - Dunne Avenue and Del Monte Avenue
  - Dunne Avenue and Monterey Avenue
  - Dunne Avenue and Church Street
  - Dunne Avenue and Depot Street
  - Cochrane Road and Monterey Road
  - Tennant Avenue and Monterey Road
  - Tennant Avenue and Butterfield Boulevard
  - Cochrane Road Freeway Zone: from Madrone Parkway/Cochrane Plaza to Cochrane Road/DePaul Drive
  - Dunne Avenue Freeway Zone: from Walnut Grove Drive/East Dunne Avenue to Condit Road/East Dunne Avenue
  - Tennant Avenue Freeway Zone: from Butterfield Boulevard/Tennant Avenue to Condit Road/Tennant Avenue

According to the City of Morgan Hill level of service guidelines, a development is said to create a significant adverse effect on traffic conditions at a signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from an acceptable level (LOS D or LOS E as identified above) under no project conditions to an unacceptable level (LOS E or F) under project conditions, or
2. The level of service at the intersection is an unacceptable level (LOS E or F as identified above) under no project conditions and the addition of project trips causes the average critical delay to increase by four (4) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by 0.01.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by 0.01 or more.

Level of Service Results

The results of the intersection level of service analysis show that both signalized study intersections currently operate at an acceptable LOS D or better conditions under existing conditions, and the addition of project traffic would not result in the degradation of the study intersections' levels of service during the AM and PM peak hours.

Under Year 2035 General Plan conditions, the intersection of Monterey Road and Cochrane Road would operate at an unacceptable LOS F during the AM peak-hour. However, the addition of project traffic would not result in the degradation of the level of service during the AM and PM peak hours. The intersection of Monterey Road and Old Monterey Road would continue to operate at an acceptable LOS B.

Based on the results of the intersection level of service analysis, the project would not have an adverse effect on operations at the study intersections. The results of level of service analysis are summarized in Table 2.

Table 2
Intersection Level of Service Summary

Int. #	Intersection	LOS Std	Peak Hour	Count Date	Existing		Existing Plus Project				Year 2035 General Plan		Year 2035 General Plan with Project			
					Delay[1]	LOS	Delay[1]	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Delay[1]	LOS	Delay[1]	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Monterey Road and Cochrane Road	E	AM	05/08/18	37.3	D	37.6	D	0.5	0.005	**93.7**	**F**	**93.7**	**F**	**0.6**	**0.005**
			PM	05/08/18	26.3	C	26.7	C	1.5	0.046	60.5	E	60.2	E	-0.1	0.005
2	Monterey Road and Old Monterey Road	D	AM	05/08/18	10.5	B	10.4	B	-0.1	0.004	10.1	B	10.1	B	0.0	0.003
			PM	05/08/18	13.2	B	13.1	B	-0.1	0.005	16.2	B	16.1	B	0.0	0.005

Notes:
[1]The reported delay and corresponding level of service for signalized intersections represent the average delay for all approaches at the intersection.

Site Access

The evaluation of site access is based on the site plan prepared by MH Engineering Company dated April 5, 2022. Site access was evaluated to determine the adequacy of the site's access points with regard to the following: traffic volume, geometric design, and sight distance. Site access was evaluated in accordance with generally accepted traffic engineering standards and transportation planning principles.

As shown on Figure 2, vehicular access to the project site would be provided via a right-in and right-out access driveway on southbound Monterey Road. The driveway would be located approximately 450 feet south of Cochrane Road. An existing landscaped median along Monterey Road that runs between Cochrane Road and Jarvis Drive would prohibit inbound and outbound left-turns to and from the project driveway.

An internal drive aisle also would provide a connection through the adjacent commercial uses located north of the project site and access to the signalized Monterey Road/Cochrane Road intersection. The commercial plaza is currently accessible via the west leg of the Monterey Road/Cochrane Road intersection and a right-in and right-out access driveway along Monterey Road, approximately 200 feet south of Cochrane Road. The Monterey Road/Cochrane Road intersection will provide access to northbound Monterey Road and Cochrane Road from the project site.

Driveway Operations and Design

Based on the project trip generation and trip assignment, a total of 55 gross vehicle trips (20 inbound and 35 outbound) are expected during the AM peak hour and 92 gross vehicle trips (53 inbound and 39 outbound) are expected during the PM peak hour. Figure 2 shows the estimated project trips at the project driveways and the internal connecting drive aisle. Due to limited access operations at the Monterey Road driveway, significant vehicle delay and queuing are not expected to occur at the project site driveway.

Currently, southbound Monterey Road narrows from two travel lanes to one travel lane just north of the project frontage. The outer travel lane transitions into a merging lane starting approximately 150 feet north of the proposed project driveway and merges into a single lane at the location of the proposed driveway. The project proposes to extend the outer travel lane so that it transitions into a 250-foot merging lane starting just south of the project driveway. Therefore, the proposed lane configuration would provide outbound project traffic an opportunity to first turn right onto the outer travel lane, before merging into a single lane south of the driveway.

It should be noted that the proposed new project driveway along Monterey Road would be located 150 feet south of an existing driveway. The City Street Design Standards require a minimum of 26 feet of separation between two driveway transitions. However, the City Design Standards do not provide specific requirements for driveway spacing based on the characteristics of adjacent roadways. The proposed project driveway will be located along a major arterial roadway. The City standards do require a minimum of 100 feet between a driveway approach and the nearest intersecting street along arterial roadways. The intent of the driveway spacing near intersection is to minimize turn movement conflicts to and from driveways with those through adjacent intersections. When considering the City's required driveway spacing requirements for adjacent driveways and near intersections, the 150 feet of separation between the project and existing driveway to the north should be adequate.

The City's Design Standards specify a minimum driveway width of 16 feet for residential uses and a maximum driveway width of 36 feet for commercial uses. The site plan indicates that the project driveway would be 26 feet wide. Therefore, the width of the proposed Monterey Road driveway would meet City standards.

Sight Distance

The project driveway should be free and clear of any obstructions to provide adequate sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on Monterey Road. Landscaping and signage should be located in such a way to ensure an unobstructed view for drivers existing the site. Sight distance generally should be provided in accordance with Caltrans standards. The minimum acceptable sight distance is most often the stopping sight distance.

Monterey Road has a posted speed limit of 35 mph. For a design speed of 35 mph, the recommended Caltrans stopping sight distance is 250 feet. Based on the project site plan and observations in the field, vehicles exiting the project site driveway would have sight distance of more than 250 feet to the north along southbound Monterey Road.

Emergency and Truck Vehicle Access

The proposed site access points along Monterey Road and via the internal drive aisle would allow access to firetrucks and garbage collection trucks. Truck turning templates are shown on Figures 4 and 5.

Parking

Vehicular Parking

According to the City of Morgan Hill Zoning Regulations (Table 18.72-2), multi-family residential developments are required to provide on-site vehicular parking as specified below:

- Studio or One-Bedroom - 1 covered and 0.5 uncovered per unit
- Two Bedroom - 1 covered and 1 uncovered per unit
- Three Bedroom - 1 covered and 1.5 uncovered per units
- Guest parking - 1 space per 3 units

The project proposes a total of 49 three-bedroom units. Therefore, the residential component of the project would require a total of 140 vehicular parking spaces consisting of 123 parking spaces for residents (49 covered spaces and 74 uncovered spaces) and 17 guest spaces. Per the site plan, the project proposes to provide a total of 141 parking spaces consisting of 123 parking spaces for residents (98 covered spaces and 25 uncovered spaces) and 18 guest spaces. Therefore, residential vehicle parking as proposed by the project will meet City vehicle parking requirements.

The commercial component would be required to provide parking at a rate of 1 parking space per 250 square feet of floor area. The proposed 4,016 s.f. of commercial space would require a total of 17 parking spaces. Per the site plan, the project proposes to provide 8 new on-site parking spaces for the commercial use and an additional 12 existing parking spaces would be shared with the adjacent commercial plaza. Therefore, commercial vehicle parking as proposed by the project will meet City vehicle parking requirements. An agreement for the shared use of parking spaces should be provided to the City.

Figure 4
Fire Truck Turning Template

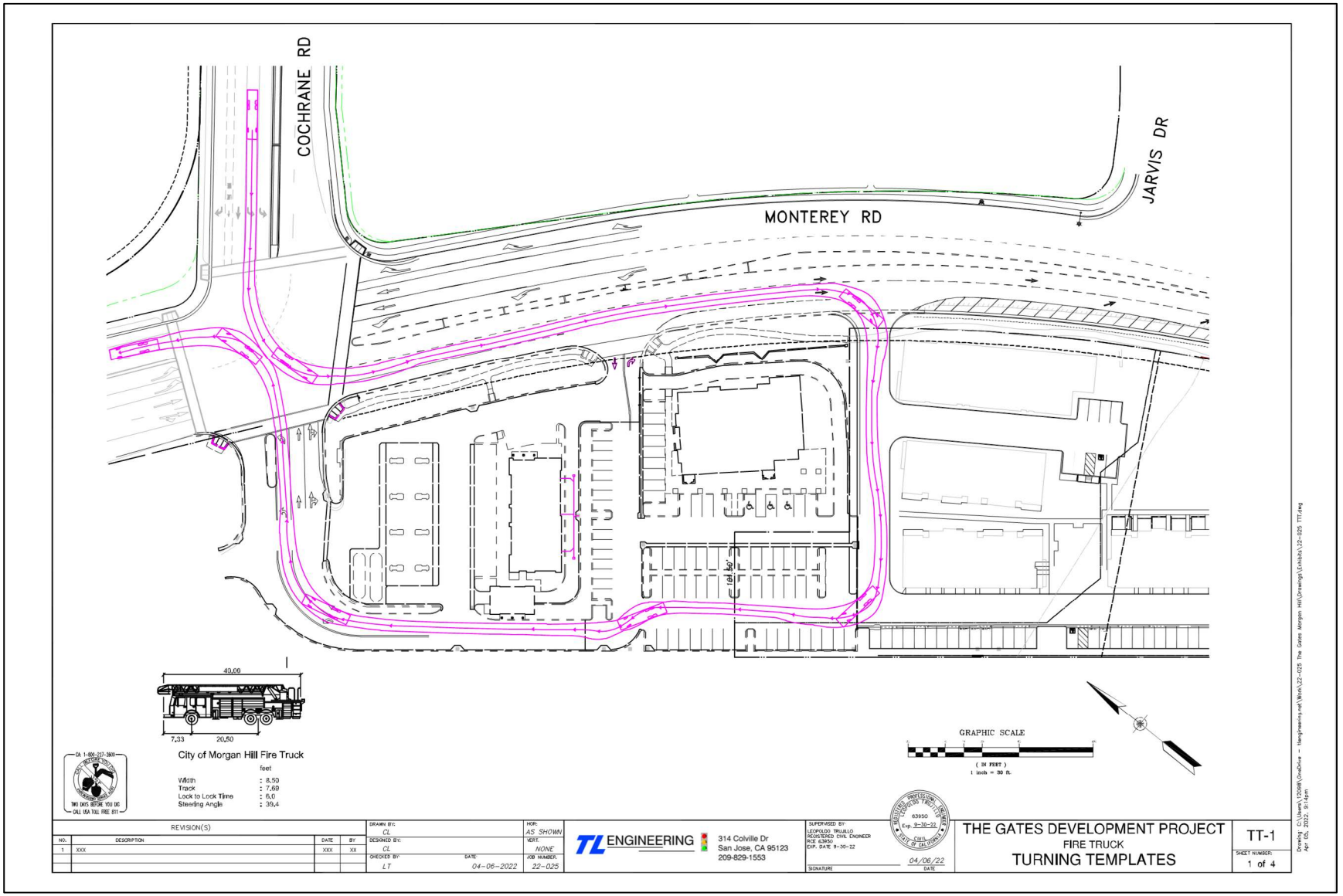


Figure 5 (continued)
Fire Truck Turning Template

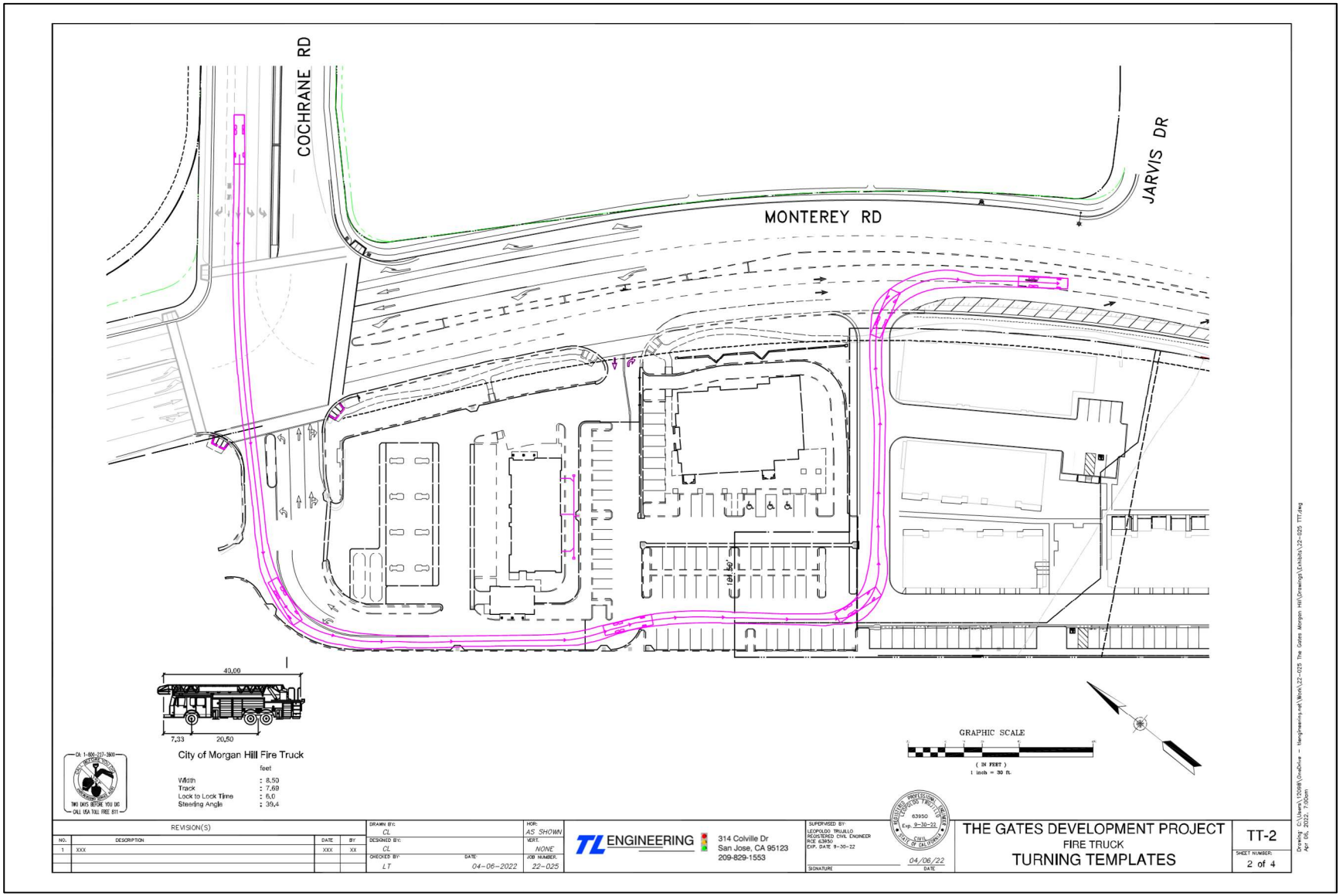


Figure 6
Garbage Truck Turning Template

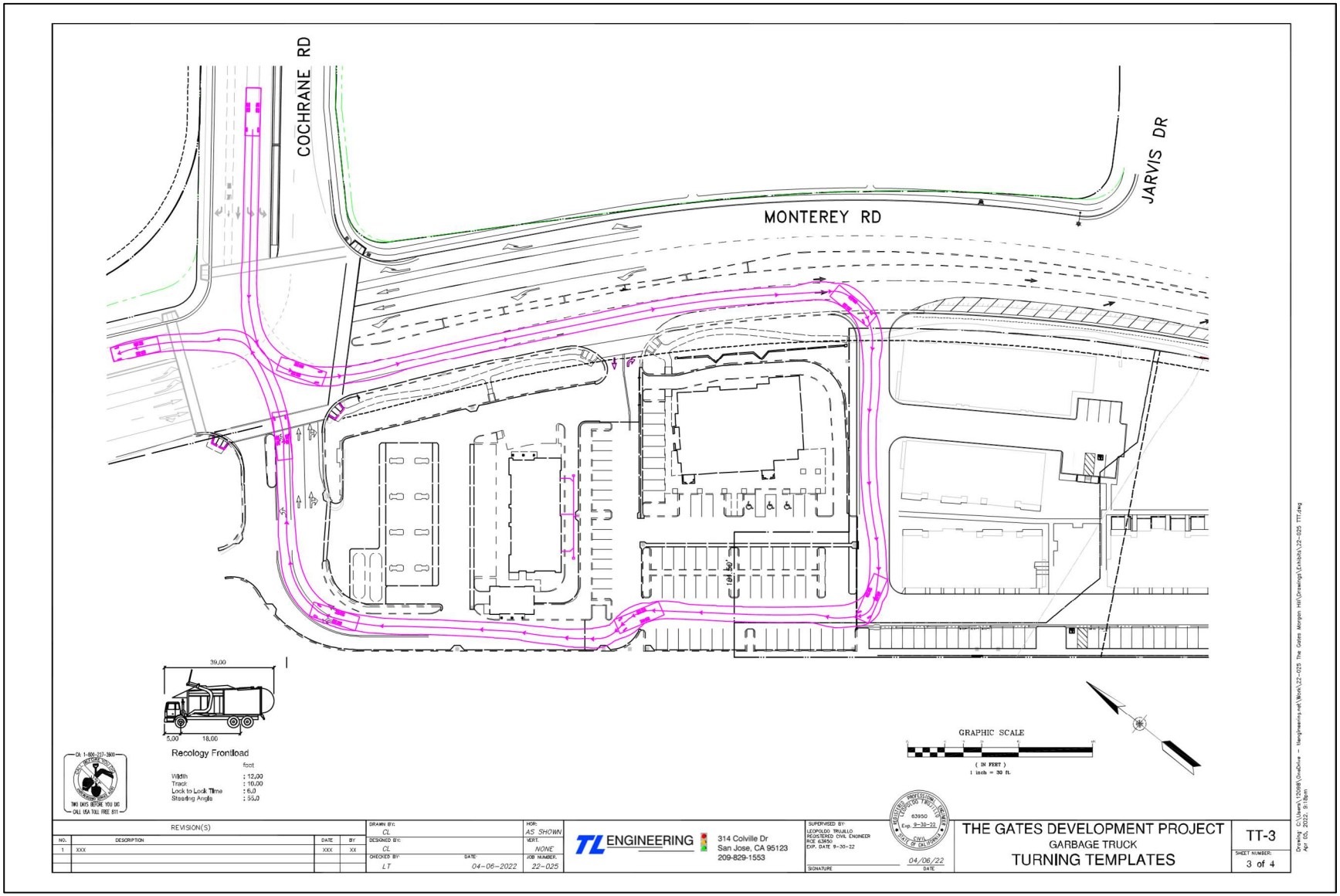
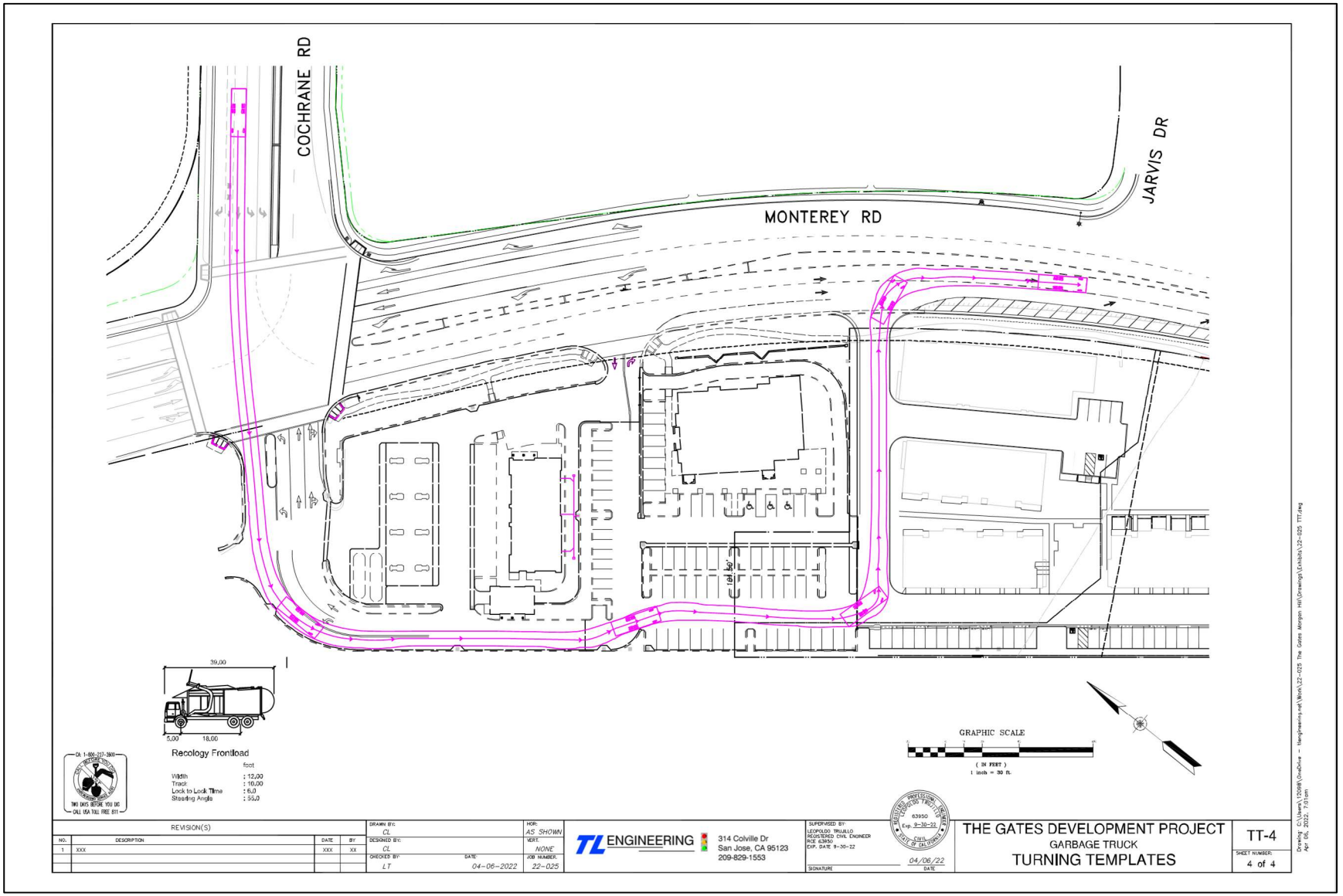


Figure 7 (continued)
Garbage Truck Turning Template



Bicycle Parking

According to the City of Morgan Hill Zoning Regulations (Table 18.72-7), multi-family residential developments are required to provide on-site bicycle parking as specified below:

- Short-term spaces – 10% of required automobile spaces; minimum of 4 spaces
- Long-term spaces – 1 per 5 units

Commercial uses are required to provide on-site bicycle parking as specified below:

- Short-term spaces – 10% of required automobile spaces
- Long-term spaces – 1 per 20 required automobile spaces for uses 10,000 sq. ft. or greater

Based on these requirements, the project will be required to provide a total of 23 bicycle parking spaces for the residential use (13 short-term spaces and 10 long-term spaces) and 2 short-term spaces for the commercial use.

The site plan does not indicate the number and location of proposed bicycle parking. The project should provide bicycle parking that meets City bicycle parking requirements.

Transit, Pedestrian, and Bicycle Facility Evaluation

Transit Facilities

The project site is served by VTA bus routes that run along Monterey Road, Cochrane Road and Hale Avenue.

- Express Route 568 (Gilroy Transit Center to San Jose Diridon Transit Center) serves bus stops at the intersection of Cochrane Road and Cochrane Circle, approximately 1000 feet walking distance from the project site.
- Frequent Route 68 (Gilroy Transit Center to San Jose Diridon Transit Center) serves bus stops at the intersection of Hale Avenue and Llagas Road, approximately 0.8-mile walking distance from the project site.
- Local Route 87 (Morgan Hill Civic Center to Burnett Avenue) serves bus stops at the intersection of Cochrane Road and Cochrane Circle, approximately 1000 feet walking distance from the project site.

A typical mode split in Morgan Hill would be a three percent transit share. Assuming up to three percent transit mode share for the project equates to no more than three transit riders during each of the peak hours. The transit ridership demands of the proposed project can be accommodated by the existing transit facilities.

Pedestrian Facilities

In the vicinity of the project site, there are sidewalks along the following roadway segments:

- Southbound Monterey Road, between Cochrane Road and 420 feet south of Cochrane Road (along the existing commercial plaza)
- Northbound Monterey Road, until 450 feet north of Cochrane Road
- Westbound Cochrane Road, between Cochrane Circle and Monterey Road
- Eastbound Cochrane Road, east of Monterey Road

Crosswalks with protected crossing phases are provided at the following signalized intersections:

- Monterey Road/Cochrane Road – all four legs
- Monterey Road/Old Monterey Road – south leg

Pedestrian generators in the project vicinity include commercial uses along Monterey Road (including Downtown Morgan Hill) and Cochrane Road, Ann Sobrato High School, and bus stops discussed above. Access to nearby pedestrian generators is described below:

- Downtown Morgan Hill – Continuous sidewalks provided along northbound Monterey Road between Downtown and Cochrane Road. An east-west crossing across Monterey Road is provided at Monterey Road/Cochrane Road.
- Commercial Uses along Cochrane Road – Continuous sidewalks provided along eastbound Cochrane Road, east of Monterey Road. An east-west crossing across Monterey Road is provided at Monterey Road/Cochrane Road.
- Ann Sobrato High School – No continuous pedestrian route due to missing sidewalk segments along both sides of Monterey Road between Cochrane Road and Burnett Avenue.
- Route 87 and 568 Bus Stop at Cochrane Road/Cochrane Circle – Continuous sidewalks provided along both sides of Cochrane Road between Monterey Road and Cochrane Circle. An east-west crossing across Monterey Road is provided at Monterey Road/Cochrane Road.
- Route 68 Bus Stop at Hale Avenue/Llagas Road – Continuous pedestrian route provided via sidewalks along northbound Monterey Road, southbound Old Monterey Road, and both sides of Llagas Road. Users must cross Monterey Road at Cochrane Road and again at Old Monterey Road.

The project proposes to construct an approximately 5-foot wide sidewalk along its Monterey Road frontage. Multiple access points from the sidewalks are provided to on-site walkways. Upon construction, the project sidewalks would connect to existing sidewalks to the north along the adjacent commercial plaza. However, there are no existing sidewalks located south of the project site along the westside of Monterey Road. Therefore, pedestrian travel south of the project site will require the use of the controlled-crosswalks at the Monterey Road/Cochrane Road intersection to access the sidewalks along the eastside of Monterey Road.

The construction of a sidewalk along the westside of Monterey Road south of the project site is beyond the means of the proposed project since its construction would require widening and/or reconstruction of the railroad overcrossing of Monterey Road and acquisition of right-of-way that is not controlled by the project applicant.

It should be noted that only the northeastern curb ramp at the Monterey Road/Cochrane Road intersection is ADA-compliant. The City may require that the project contribute to construction of ADA-compliant ramps at the intersection.

Bicycle Facilities

In the project vicinity, there are bike lanes located along Monterey Road (including along the project frontage) and Cochrane Road. The project is not expected to generate a significant amount of bicycle trips. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site. Additionally, the project as proposed will not conflict with any existing or planned bicycle facilities.

Traffic Study Requirements

The need for the preparation of a comprehensive traffic impact analysis for a particular development is based on its estimated trip generation and its effect on surrounding transportation facilities. The City of Morgan Hill requires the completion of a full traffic impact analysis if one of the following criteria are met:

1. Generates 100 or more net new peak hour trips; except that projects located in the 14-block Downtown Core area are exempt from this requirement. Net new peak hour trips are defined as the number of trips generated by the proposed development minus trips generated by existing development on the project site. (This threshold is consistent with the Valley Transportation Authority (VTA) policy.)

2. Adds 50 to 99 net new peak hour trips to the roadway system where nearby intersections are currently operating at or below the City's LOS standard, or projected to operate at or below the City's LOS standard with traffic added by approved developments; except that projects located in the 14-block Downtown Core area are exempt from this requirement. Adjacent or nearby intersections are defined as intersections to which the proposed development or proposed land use change adds 10 or more vehicle peak hour trips per lane.

3. Creates a transportation issue that City staff requests to have analyzed.

The proposed project will result in the addition of 55 net new AM peak-hour trips and 84 net new PM peak-hour trips to the roadway system under existing plus project conditions.

The results of the intersection level of service analysis show that the study intersections are currently operating at better than the City's LOS standard and the addition of project traffic would not result in the degradation of the study intersections' levels of service during the AM and PM peak hours.

Therefore, the evaluation of trip generation and intersection operations concludes that the proposed project will not result in an adverse effect on operations to intersections in the project area and is consistent with the *Morgan Hill 2035 General Plan* goals and policies. However, City staff ultimately determines the need for traffic studies for new developments.

The Gates Mixed-Use Development

Technical Appendices

July 1, 2022

Appendix A

Volume Summary

Intersection Number: 1
Traffix Node Number: 101
Intersection Name: Monterey Road and Cochrane Road
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	**44**	**221**	**278**	**582**	**59**	**141**	**320**	**623**	**110**	**6**	**65**	**87**	**2,536**
Existing Conditions (with 1.5% com growth if older than 2 years)	**47**	**235**	**296**	**618**	**63**	**150**	**340**	**662**	**117**	**7**	**69**	**93**	**2,697**
Project Trips	2	2	0	0	4	4	0	0	9	0	16	8	45
Existing Plus Project	**49**	**237**	**296**	**618**	**67**	**154**	**340**	**662**	**126**	**7**	**85**	**101**	**2,742**
2015 Model	1	331	556	906	2	142	263	462	1	0	1	0	2,665
2035 without Project Model	1	430	956	1057	2	191	246	906	1	0	1	1	3,792
2035 Cumulative without Project	**47**	**334**	**696**	**769**	**63**	**199**	**340**	**1106**	**117**	**7**	**69**	**94**	**3,841**
2035 Cumulative with Project	**49**	**336**	**696**	**769**	**67**	**203**	**340**	**1106**	**126**	**7**	**85**	**102**	**3,886**

Intersection Number: 2
Traffix Node Number: 116
Intersection Name: Monterey Road and Old Monterey Road
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	**76**	**319**	**0**	**0**	**0**	**0**	**0**	**845**	**85**	**95**	**0**	**161**	**1,581**
Existing Conditions (with 1.5% com growth if older than 2 years)	**81**	**339**	**0**	**0**	**0**	**0**	**0**	**897**	**91**	**101**	**0**	**171**	**1,680**
Project Trips	0	11	0	0	0	0	0	8	0	0	0	1	20
Existing Plus Project	**81**	**350**	**0**	**0**	**0**	**0**	**0**	**905**	**91**	**101**	**0**	**172**	**1,700**
2015 Model	45	394	0	0	0	0	0	556	18	65	0	189	1,267
2035 without Project Model	55	530	0	0	0	0	0	1006	32	93	0	273	1,989
2035 Cumulative without Project	**91**	**475**	**0**	**0**	**0**	**0**	**0**	**1347**	**105**	**129**	**0**	**255**	**2,402**
2035 Cumulative with Project	**91**	**486**	**0**	**0**	**0**	**0**	**0**	**1355**	**105**	**129**	**0**	**256**	**2,422**

Intersection Number: 3
Traffix Node Number: 901
Intersection Name: Monterey Road and Project Driveway
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	**0**	**395**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**395**
Existing Conditions (with 1.5% com growth if older than 2 years)	**0**	**420**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**420**
Project Trips	10	0	0	0	0	0	0	0	0	11	0	0	21
Existing Plus Project	**10**	**420**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**441**
2015 Model	0	439	0	0	0	0	0	0	0	0	0	0	439
2035 without Project Model	0	585	0	0	0	0	0	0	0	0	0	0	585
2035 Cumulative without Project	**0**	**566**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**566**
2035 Cumulative with Project	**10**	**566**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**587**

Intersection Number: 1
Traffix Node Number: 101
Intersection Name: Monterey Road and Cochrane Road
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	**111**	**783**	**1074**	**180**	**50**	**243**	**198**	**157**	**36**	**24**	**77**	**26**	**2,959**
Existing Conditions (with 1.5% com growth if older than 2 years)	**118**	**832**	**1140**	**192**	**54**	**258**	**211**	**167**	**39**	**26**	**82**	**28**	**3,147**
Project Trips	5	5	0	0	11	12	0	0	21	0	16	7	77
Existing Plus Project	**123**	**837**	**1140**	**192**	**65**	**270**	**211**	**167**	**60**	**26**	**98**	**35**	**3,224**
2015 Model	1	629	813	621	2	227	155	130	1	2	3	1	2,585
2035 without Project Model	1	849	1113	1017	2	369	206	229	1	2	3	1	3,793
2035 Cumulative without Project	**118**	**1052**	**1440**	**588**	**54**	**400**	**262**	**266**	**39**	**26**	**82**	**28**	**4,355**
2035 Cumulative with Project	**123**	**1057**	**1440**	**588**	**65**	**412**	**262**	**266**	**60**	**26**	**98**	**35**	**4,432**

Intersection Number: 2
Traffix Node Number: 116
Intersection Name: Monterey Road and Old Monterey Road
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	**121**	**993**	**0**	**0**	**0**	**0**	**0**	**327**	**88**	**128**	**0**	**83**	**1,740**
Existing Conditions (with 1.5% com growth if older than 2 years)	**129**	**1054**	**0**	**0**	**0**	**0**	**0**	**348**	**94**	**136**	**0**	**89**	**1,850**
Project Trips	1	16	0	0	0	0	0	20	0	0	0	1	38
Existing Plus Project	**130**	**1070**	**0**	**0**	**0**	**0**	**0**	**368**	**94**	**136**	**0**	**90**	**1,888**
2015 Model	148	716	0	0	0	0	0	215	17	39	0	53	1,188
2035 without Project Model	222	1001	0	0	0	0	0	367	52	147	0	76	1,865
2035 Cumulative without Project	**203**	**1339**	**0**	**0**	**0**	**0**	**0**	**500**	**129**	**244**	**0**	**112**	**2,527**
2035 Cumulative with Project	**204**	**1355**	**0**	**0**	**0**	**0**	**0**	**520**	**129**	**244**	**0**	**113**	**2,565**

Intersection Number: 3
Traffix Node Number: 901
Intersection Name: Monterey Road and Project Driveway
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Counts	**0**	**1114**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,114**
Existing Conditions (with 1.5% com growth if older than 2 years)	**0**	**1183**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,183**
Project Trips	27	0	0	0	0	0	0	0	0	17	0	0	44
Existing Plus Project	**27**	**1183**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**0**	**1,227**
2015 Model	0	864	0	0	0	0	0	0	0	0	0	0	864
2035 without Project Model	0	1223	0	0	0	0	0	0	0	0	0	0	1,223
2035 Cumulative without Project	**0**	**1542**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,542**
2035 Cumulative with Project	**27**	**1542**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**0**	**1,586**

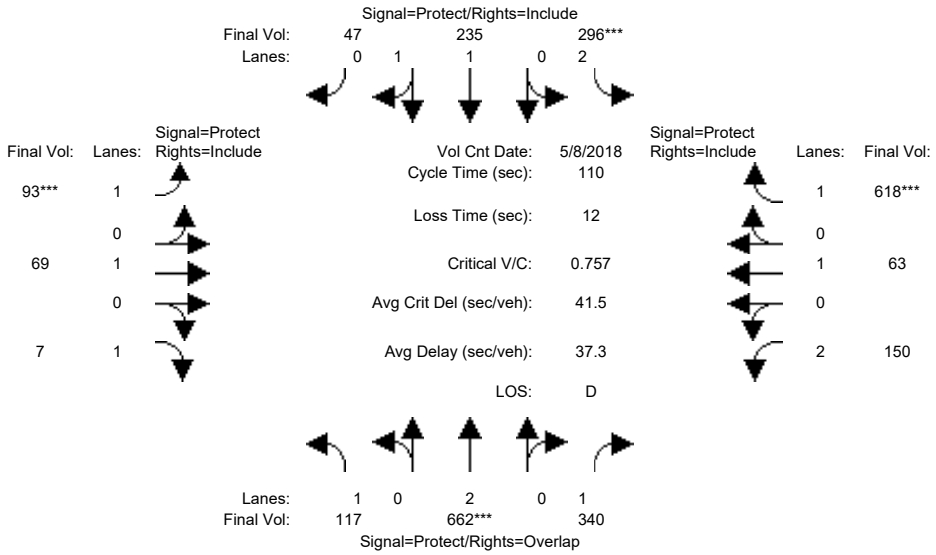
Appendix B

Level of Service Calculations

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #101: Monterey Road and Cochrane Road



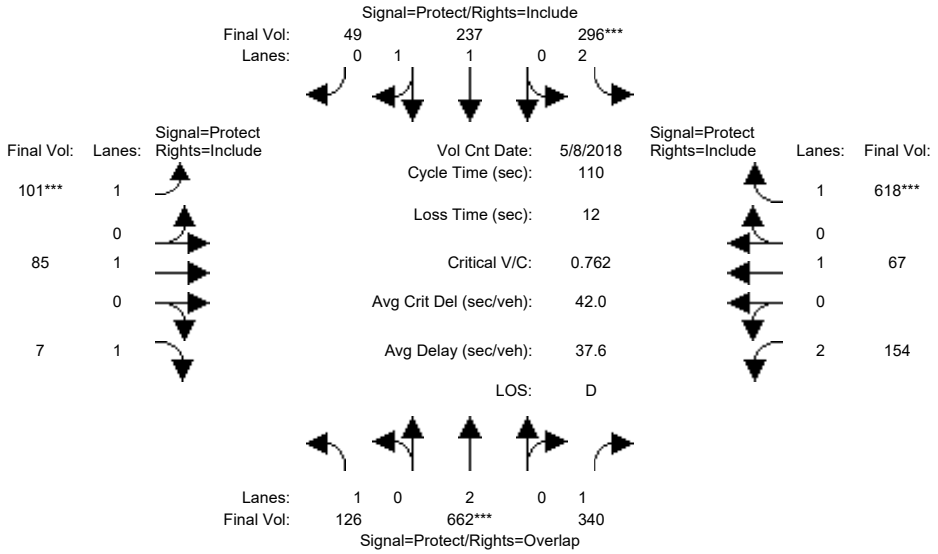
Street Name:	Monterey Road						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	117	662	340	296	235	47	93	69	7	150	63	618
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	662	340	296	235	47	93	69	7	150	63	618
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	662	340	296	235	47	93	69	7	150	63	618
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	662	340	296	235	47	93	69	7	150	63	618
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	662	340	296	235	47	93	69	7	150	63	618
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	662	340	296	235	47	93	69	7	150	63	618
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.98	0.95	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	2.00	1.66	0.34	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1750	3800	1750	3150	3083	617	1750	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.19	0.09	0.08	0.08	0.05	0.04	0.00	0.05	0.03	0.35
Crit Moves:		****		****			****					****
Green Time:	16.5	25.3	49.6	13.7	22.5	22.5	7.7	34.7	34.7	24.3	51.3	51.3
Volume/Cap:	0.45	0.76	0.43	0.76	0.37	0.37	0.76	0.12	0.01	0.22	0.07	0.76
Delay/Veh:	43.8	43.3	20.9	54.8	38.0	38.0	73.5	26.8	25.9	35.2	16.2	28.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.8	43.3	20.9	54.8	38.0	38.0	73.5	26.8	25.9	35.2	16.2	28.3
LOS by Move:	D	D	C	D	D	D	E	C	C	D	B	C
HCM2kAvgQ:	4	12	8	6	4	4	5	2	0	2	1	19

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #101: Monterey Road and Cochrane Road



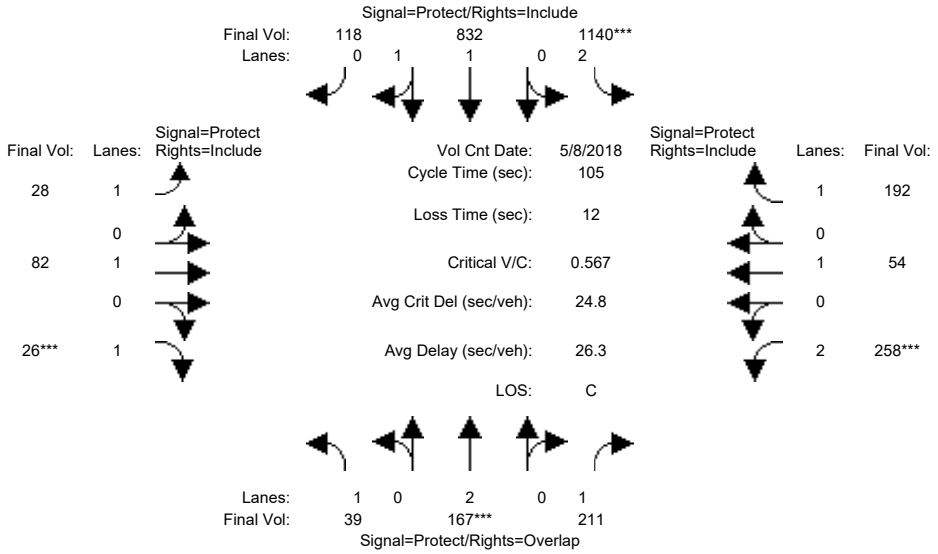
Street Name:	Monterey Road						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	117	662	340	296	235	47	93	69	7	150	63	618
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	662	340	296	235	47	93	69	7	150	63	618
Added Vol:	9	0	0	0	2	2	8	16	0	4	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	126	662	340	296	237	49	101	85	7	154	67	618
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	126	662	340	296	237	49	101	85	7	154	67	618
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	662	340	296	237	49	101	85	7	154	67	618
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	126	662	340	296	237	49	101	85	7	154	67	618
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.98	0.95	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	2.00	1.65	0.35	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1750	3800	1750	3150	3066	634	1750	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.19	0.09	0.08	0.08	0.06	0.04	0.00	0.05	0.04	0.35
Crit Moves:		****		****			****					****
Green Time:	17.1	25.1	49.6	13.6	21.6	21.6	8.3	34.9	34.9	24.4	51.0	51.0
Volume/Cap:	0.46	0.76	0.43	0.76	0.39	0.39	0.76	0.14	0.01	0.22	0.08	0.76
Delay/Veh:	43.5	43.7	21.0	55.3	38.9	38.9	72.4	27.0	25.8	35.2	16.5	28.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.5	43.7	21.0	55.3	38.9	38.9	72.4	27.0	25.8	35.2	16.5	28.8
LOS by Move:	D	D	C	E	D	D	E	C	C	D	B	C
HCM2kAvgQ:	5	12	8	6	4	4	5	2	0	2	1	19

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #101: Monterey Road and Cochrane Road



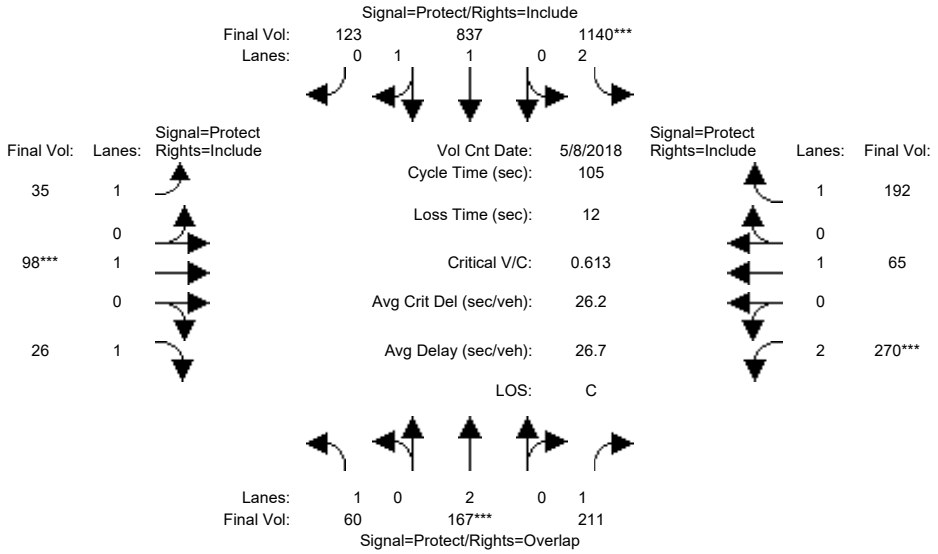
Street Name:	Monterey Road						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	39	167	211	1140	832	118	28	82	26	258	54	192
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	167	211	1140	832	118	28	82	26	258	54	192
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	167	211	1140	832	118	28	82	26	258	54	192
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	167	211	1140	832	118	28	82	26	258	54	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	167	211	1140	832	118	28	82	26	258	54	192
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	167	211	1140	832	118	28	82	26	258	54	192
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.98	0.95	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	2.00	1.74	0.26	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1750	3800	1750	3150	3240	460	1750	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.12	0.36	0.26	0.26	0.02	0.04	0.01	0.08	0.03	0.11
Crit Moves:		****		****					****	****		
Green Time:	14.3	10.0	23.5	59.5	55.2	55.2	8.9	10.0	10.0	13.5	14.6	14.6
Volume/Cap:	0.16	0.46	0.54	0.64	0.49	0.49	0.19	0.45	0.16	0.64	0.20	0.79
Delay/Veh:	40.4	45.9	37.5	16.2	16.1	16.1	45.3	46.7	44.1	46.8	40.4	59.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.4	45.9	37.5	16.2	16.1	16.1	45.3	46.7	44.1	46.8	40.4	59.5
LOS by Move:	D	D	D	B	B	B	D	D	D	D	D	E
HCM2kAvgQ:	1	3	7	14	9	9	1	3	1	5	1	7

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #101: Monterey Road and Cochrane Road



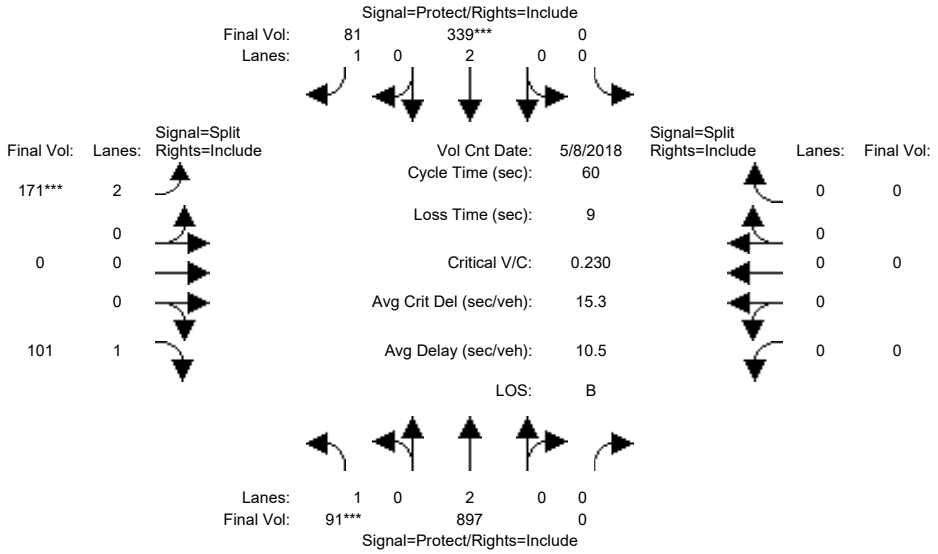
Street Name:	Monterey Road						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	39	167	211	1140	832	118	28	82	26	258	54	192
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	167	211	1140	832	118	28	82	26	258	54	192
Added Vol:	21	0	0	0	5	5	7	16	0	12	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	60	167	211	1140	837	123	35	98	26	270	65	192
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	167	211	1140	837	123	35	98	26	270	65	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	167	211	1140	837	123	35	98	26	270	65	192
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	167	211	1140	837	123	35	98	26	270	65	192
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.98	0.95	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	2.00	1.74	0.26	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1750	3800	1750	3150	3226	474	1750	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.04	0.12	0.36	0.26	0.26	0.02	0.05	0.01	0.09	0.03	0.11
Crit Moves:		****		****				****		****		
Green Time:	14.1	10.0	24.0	59.0	54.9	54.9	9.1	10.0	10.0	14.0	14.9	14.9
Volume/Cap:	0.26	0.46	0.53	0.64	0.50	0.50	0.23	0.54	0.16	0.64	0.24	0.77
Delay/Veh:	41.3	45.9	36.9	16.6	16.3	16.3	45.5	48.6	44.1	46.6	40.5	57.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	45.9	36.9	16.6	16.3	16.3	45.5	48.6	44.1	46.6	40.5	57.3
LOS by Move:	D	D	D	B	B	B	D	D	D	D	D	E
HCM2kAvgQ:	2	3	7	14	10	10	1	4	1	5	2	7

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #116: Monterey Road and Old Monterey Road



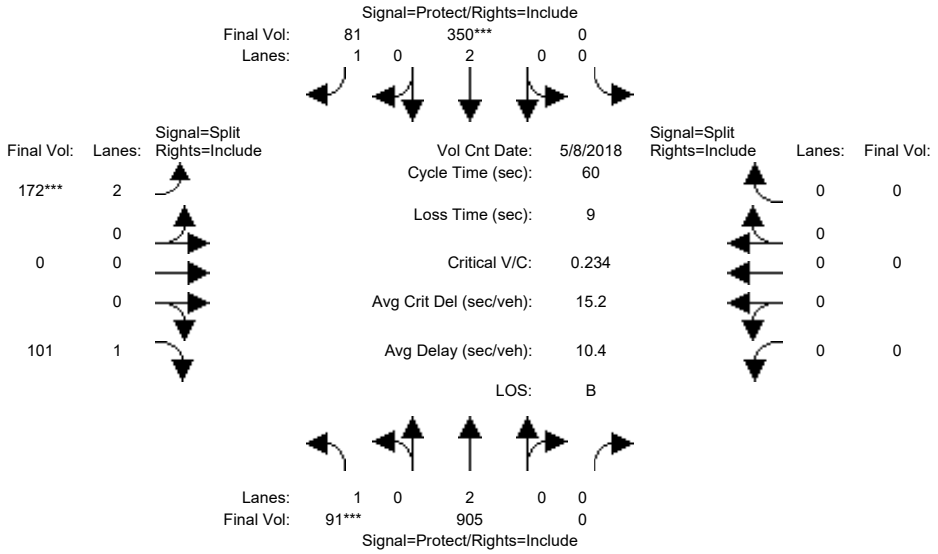
Street Name:	Monterey Road						Old Monterey Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	91	897	0	0	339	81	171	0	101	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	91	897	0	0	339	81	171	0	101	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	91	897	0	0	339	81	171	0	101	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	91	897	0	0	339	81	171	0	101	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	897	0	0	339	81	171	0	101	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	91	897	0	0	339	81	171	0	101	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1750	3800	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.24	0.00	0.00	0.09	0.05	0.05	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	13.3	36.2	0.0	0.0	22.9	22.9	14.8	0.0	14.8	0.0	0.0	0.0
Volume/Cap:	0.23	0.39	0.00	0.00	0.23	0.12	0.22	0.00	0.23	0.00	0.00	0.00
Delay/Veh:	19.5	6.3	0.0	0.0	12.7	12.1	18.1	0.0	18.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.5	6.3	0.0	0.0	12.7	12.1	18.1	0.0	18.4	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	B	A	B	A	A	A
HCM2kAvgQ:	1	4	0	0	2	1	2	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #116: Monterey Road and Old Monterey Road



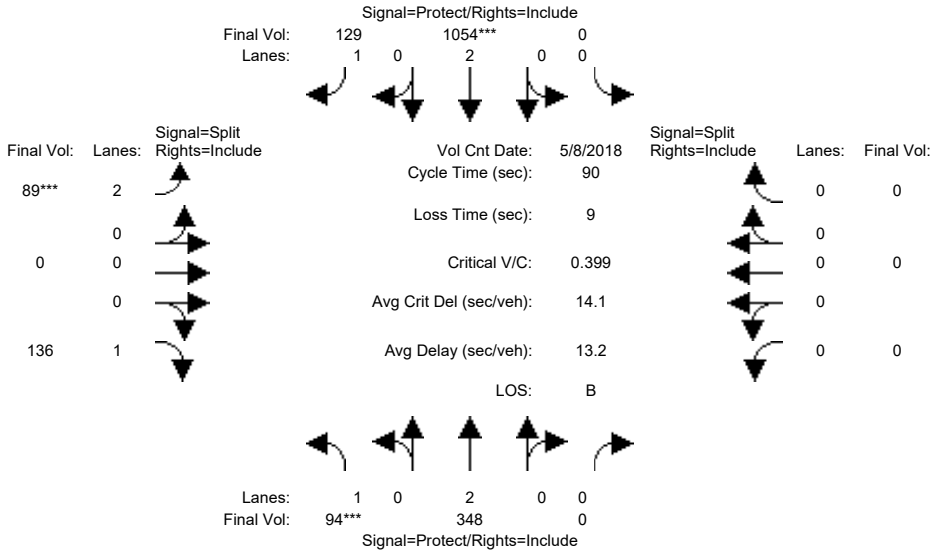
Street Name:	Monterey Road						Old Monterey Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	91	897	0	0	339	81	171	0	101	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	91	897	0	0	339	81	171	0	101	0	0	0
Added Vol:	0	8	0	0	11	0	1	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	91	905	0	0	350	81	172	0	101	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	91	905	0	0	350	81	172	0	101	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	905	0	0	350	81	172	0	101	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	91	905	0	0	350	81	172	0	101	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1750	3800	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.24	0.00	0.00	0.09	0.05	0.05	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	13.1	36.4	0.0	0.0	23.3	23.3	14.6	0.0	14.6	0.0	0.0	0.0
Volume/Cap:	0.24	0.39	0.00	0.00	0.24	0.12	0.22	0.00	0.24	0.00	0.00	0.00
Delay/Veh:	19.6	6.2	0.0	0.0	12.5	11.9	18.3	0.0	18.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.6	6.2	0.0	0.0	12.5	11.9	18.3	0.0	18.5	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	B	A	B	A	A	A
HCM2kAvgQ:	1	4	0	0	2	1	2	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #116: Monterey Road and Old Monterey Road



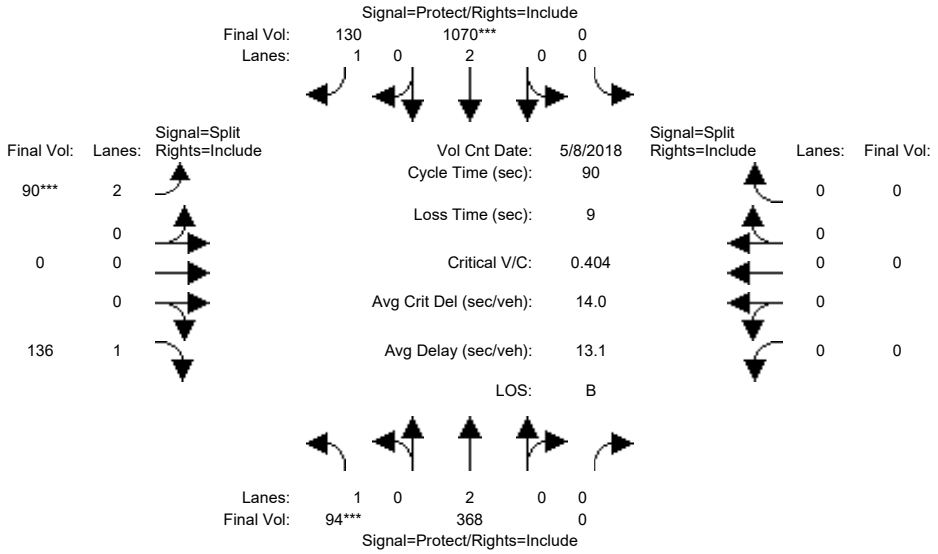
Street Name:	Monterey Road						Old Monterey Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	94	348	0	0	1054	129	89	0	136	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	94	348	0	0	1054	129	89	0	136	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	94	348	0	0	1054	129	89	0	136	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	94	348	0	0	1054	129	89	0	136	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	348	0	0	1054	129	89	0	136	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	94	348	0	0	1054	129	89	0	136	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1750	3800	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.09	0.00	0.00	0.28	0.07	0.03	0.00	0.08	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	10.3	63.5	0.0	0.0	53.2	53.2	17.5	0.0	17.5	0.0	0.0	0.0
Volume/Cap:	0.47	0.13	0.00	0.00	0.47	0.12	0.15	0.00	0.40	0.00	0.00	0.00
Delay/Veh:	39.0	4.3	0.0	0.0	10.6	8.2	30.1	0.0	32.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.0	4.3	0.0	0.0	10.6	8.2	30.1	0.0	32.4	0.0	0.0	0.0
LOS by Move:	D	A	A	A	B	A	C	A	C	A	A	A
HCM2kAvgQ:	3	2	0	0	8	2	1	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #116: Monterey Road and Old Monterey Road



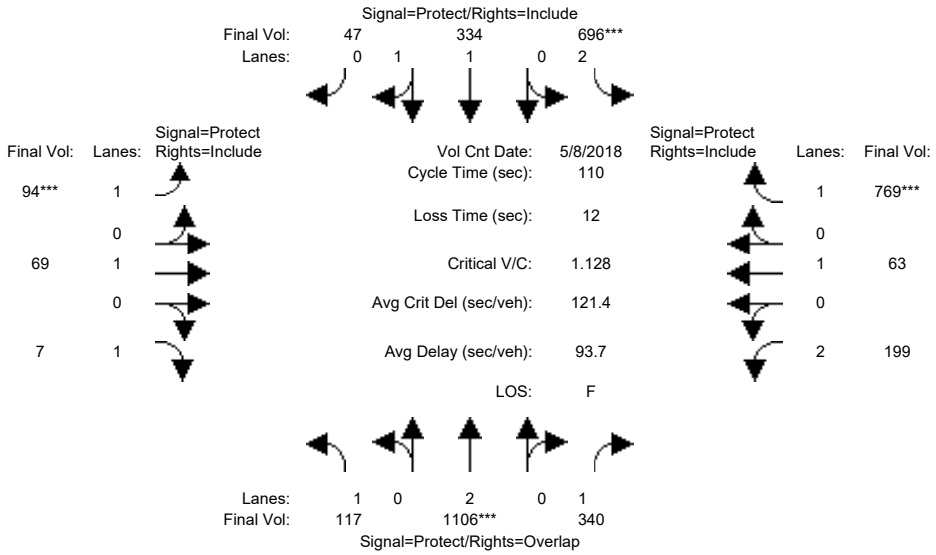
Street Name:	Monterey Road						Old Monterey Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	94	348	0	0	1054	129	89	0	136	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	94	348	0	0	1054	129	89	0	136	0	0	0
Added Vol:	0	20	0	0	16	1	1	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	94	368	0	0	1070	130	90	0	136	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	94	368	0	0	1070	130	90	0	136	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	368	0	0	1070	130	90	0	136	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	94	368	0	0	1070	130	90	0	136	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1750	3800	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.10	0.00	0.00	0.28	0.07	0.03	0.00	0.08	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	10.2	63.7	0.0	0.0	53.5	53.5	17.3	0.0	17.3	0.0	0.0	0.0
Volume/Cap:	0.47	0.14	0.00	0.00	0.47	0.12	0.15	0.00	0.40	0.00	0.00	0.00
Delay/Veh:	39.2	4.3	0.0	0.0	10.5	8.1	30.3	0.0	32.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.2	4.3	0.0	0.0	10.5	8.1	30.3	0.0	32.6	0.0	0.0	0.0
LOS by Move:	D	A	A	A	B	A	C	A	C	A	A	A
HCM2kAvgQ:	3	2	0	0	8	2	1	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #101: Monterey Road and Cochrane Road



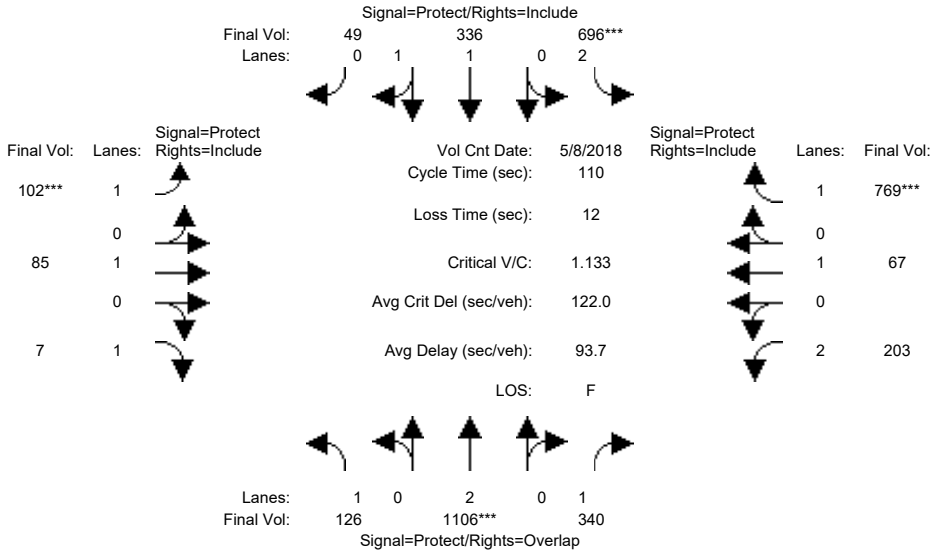
Street Name:	Monterey Road						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	117	1106	340	696	334	47	94	69	7	199	63	769
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	1106	340	696	334	47	94	69	7	199	63	769
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	1106	340	696	334	47	94	69	7	199	63	769
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	1106	340	696	334	47	94	69	7	199	63	769
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	1106	340	696	334	47	94	69	7	199	63	769
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	1106	340	696	334	47	94	69	7	199	63	769
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.98	0.95	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	2.00	1.75	0.25	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1750	3800	1750	3150	3243	456	1750	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.29	0.19	0.22	0.10	0.10	0.05	0.04	0.00	0.06	0.03	0.44
Crit Moves:		****		****			****					****
Green Time:	19.3	27.8	48.0	21.1	29.7	29.7	7.0	28.8	28.8	20.2	42.0	42.0
Volume/Cap:	0.38	1.15	0.44	1.15	0.38	0.38	0.84	0.14	0.02	0.34	0.09	1.15
Delay/Veh:	40.9	121	22.1	130.0	32.9	32.9	92.3	31.2	30.1	39.5	21.8	118.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.9	121	22.1	130.0	32.9	32.9	92.3	31.2	30.1	39.5	21.8	118.1
LOS by Move:	D	F	C	F	C	C	F	C	C	D	C	F
HCM2kAvgQ:	4	31	9	22	5	5	6	2	0	3	1	43

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #101: Monterey Road and Cochrane Road



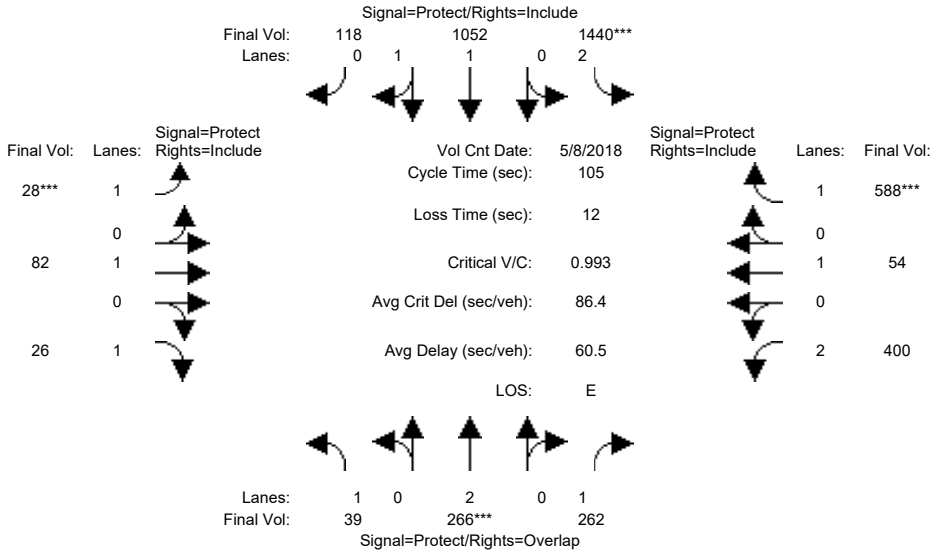
Street Name:	Monterey Road						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	117	1106	340	696	334	47	94	69	7	199	63	769
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	1106	340	696	334	47	94	69	7	199	63	769
Added Vol:	9	0	0	0	2	2	8	16	0	4	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	126	1106	340	696	336	49	102	85	7	203	67	769
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	126	1106	340	696	336	49	102	85	7	203	67	769
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	1106	340	696	336	49	102	85	7	203	67	769
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	126	1106	340	696	336	49	102	85	7	203	67	769
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.98	0.95	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	2.00	1.74	0.26	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1750	3800	1750	3150	3229	471	1750	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.29	0.19	0.22	0.10	0.10	0.06	0.04	0.00	0.06	0.04	0.44
Crit Moves:		****		****			****					****
Green Time:	20.0	27.8	48.2	21.1	28.9	28.9	7.0	28.7	28.7	20.3	42.0	42.0
Volume/Cap:	0.40	1.15	0.44	1.15	0.40	0.40	0.92	0.17	0.02	0.35	0.09	1.15
Delay/Veh:	40.5	121	22.0	130.0	33.6	33.6	110.5	31.6	30.2	39.4	21.8	118.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.5	121	22.0	130.0	33.6	33.6	110.5	31.6	30.2	39.4	21.8	118.1
LOS by Move:	D	F	C	F	C	C	F	C	C	D	C	F
HCM2kAvgQ:	4	31	9	22	5	5	7	2	0	3	1	43

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #101: Monterey Road and Cochrane Road



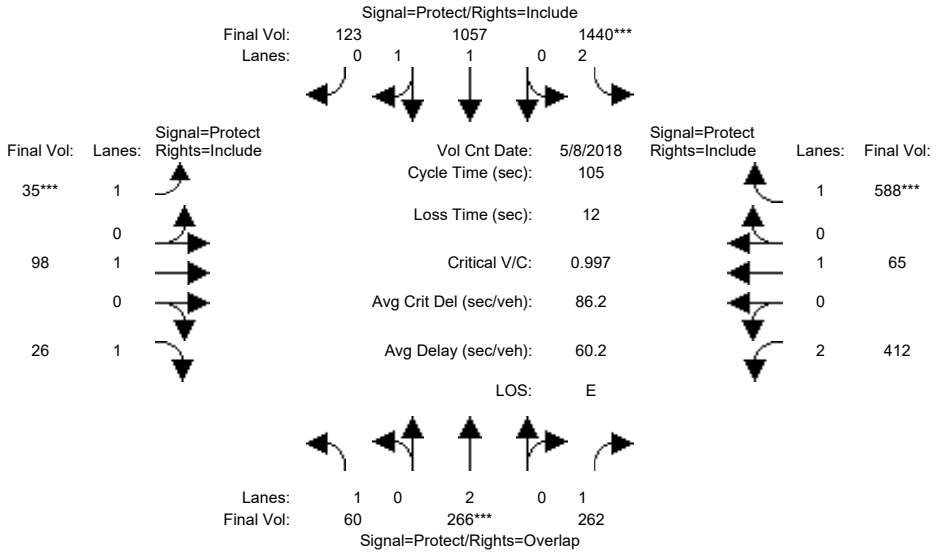
Street Name:	Monterey Road						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	39	266	262	1440	1052	118	28	82	26	400	54	588
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	266	262	1440	1052	118	28	82	26	400	54	588
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	266	262	1440	1052	118	28	82	26	400	54	588
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	266	262	1440	1052	118	28	82	26	400	54	588
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	266	262	1440	1052	118	28	82	26	400	54	588
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	266	262	1440	1052	118	28	82	26	400	54	588
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.98	0.95	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	2.00	1.79	0.21	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1750	3800	1750	3150	3327	373	1750	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.07	0.15	0.46	0.32	0.32	0.02	0.04	0.01	0.13	0.03	0.34
Crit Moves:		****		****			****					****
Green Time:	9.4	10.0	32.4	43.8	44.4	44.4	7.0	16.8	16.8	22.4	32.2	32.2
Volume/Cap:	0.25	0.74	0.49	1.10	0.75	0.75	0.24	0.27	0.09	0.60	0.09	1.10
Delay/Veh:	45.4	53.8	30.2	85.9	27.6	27.6	47.5	39.2	37.7	38.7	26.0	104.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	53.8	30.2	85.9	27.6	27.6	47.5	39.2	37.7	38.7	26.0	104.0
LOS by Move:	D	D	C	F	C	C	D	D	D	D	C	F
HCM2kAvgQ:	1	6	8	37	15	15	1	2	1	7	1	29

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #101: Monterey Road and Cochrane Road



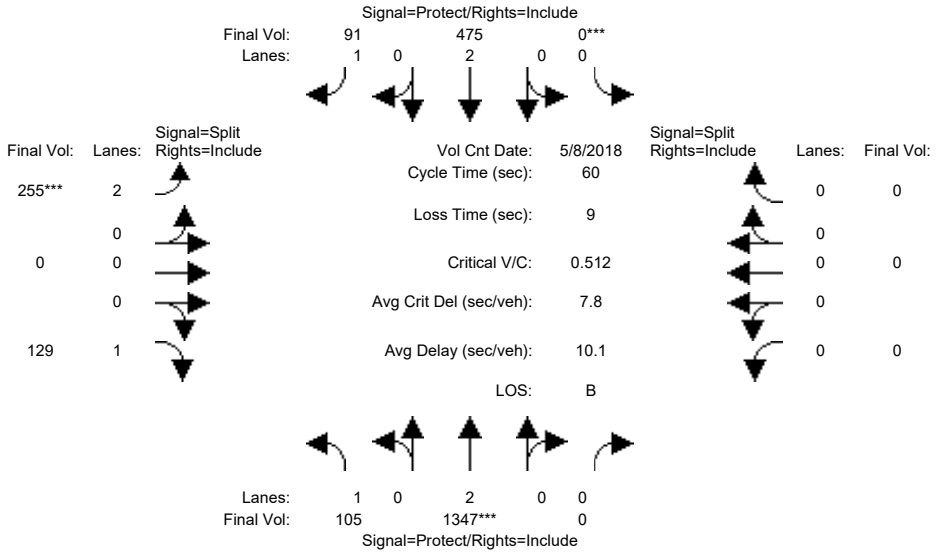
Street Name:	Monterey Road						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	39	266	262	1440	1052	118	28	82	26	400	54	588
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	266	262	1440	1052	118	28	82	26	400	54	588
Added Vol:	21	0	0	0	5	5	7	16	0	12	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	60	266	262	1440	1057	123	35	98	26	412	65	588
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	266	262	1440	1057	123	35	98	26	412	65	588
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	266	262	1440	1057	123	35	98	26	412	65	588
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	266	262	1440	1057	123	35	98	26	412	65	588
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.98	0.95	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	2.00	1.79	0.21	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1750	3800	1750	3150	3314	386	1750	1900	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.15	0.46	0.32	0.32	0.02	0.05	0.01	0.13	0.03	0.34
Crit Moves:		****		****			****					****
Green Time:	9.3	10.0	32.7	43.8	44.5	44.5	7.0	16.5	16.5	22.7	32.2	32.2
Volume/Cap:	0.39	0.74	0.48	1.10	0.75	0.75	0.30	0.33	0.09	0.61	0.11	1.10
Delay/Veh:	46.8	53.8	30.0	85.9	27.7	27.7	48.1	40.0	38.0	38.7	26.2	104.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.8	53.8	30.0	85.9	27.7	27.7	48.1	40.0	38.0	38.7	26.2	104.0
LOS by Move:	D	D	C	F	C	C	D	D	D	D	C	F
HCM2kAvgQ:	2	6	8	37	15	15	1	3	1	7	1	29

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #116: Monterey Road and Old Monterey Road



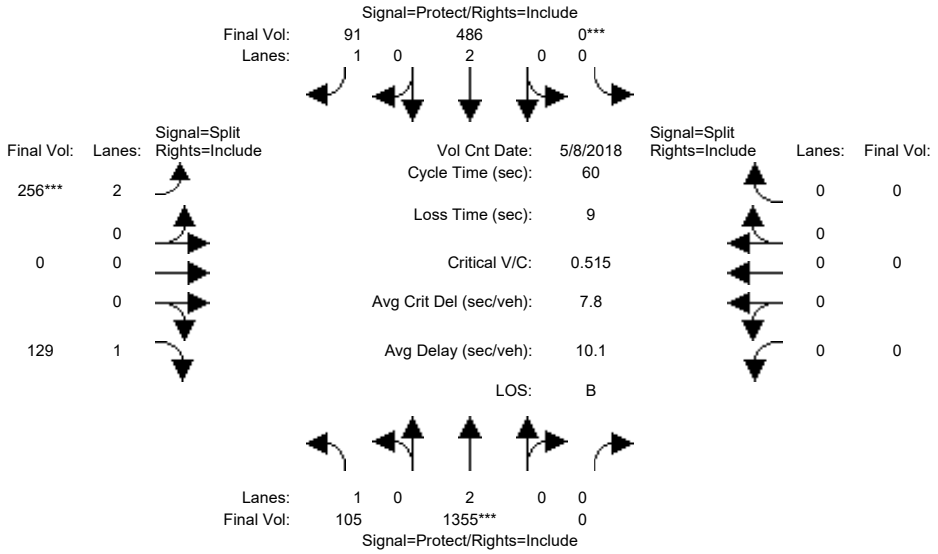
Street Name:	Monterey Road						Old Monterey Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	105	1347	0	0	475	91	255	0	129	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	1347	0	0	475	91	255	0	129	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	1347	0	0	475	91	255	0	129	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	105	1347	0	0	475	91	255	0	129	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	1347	0	0	475	91	255	0	129	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	105	1347	0	0	475	91	255	0	129	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1750	3800	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.35	0.00	0.00	0.13	0.05	0.08	0.00	0.07	0.00	0.00	0.00
Crit Moves:		****		****			****					
Green Time:	16.9	41.0	0.0	0.0	24.1	24.1	10.0	0.0	10.0	0.0	0.0	0.0
Volume/Cap:	0.21	0.52	0.00	0.00	0.31	0.13	0.49	0.00	0.44	0.00	0.00	0.00
Delay/Veh:	16.7	4.8	0.0	0.0	12.4	11.4	23.4	0.0	23.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.7	4.8	0.0	0.0	12.4	11.4	23.4	0.0	23.6	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	2	6	0	0	3	1	3	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #116: Monterey Road and Old Monterey Road



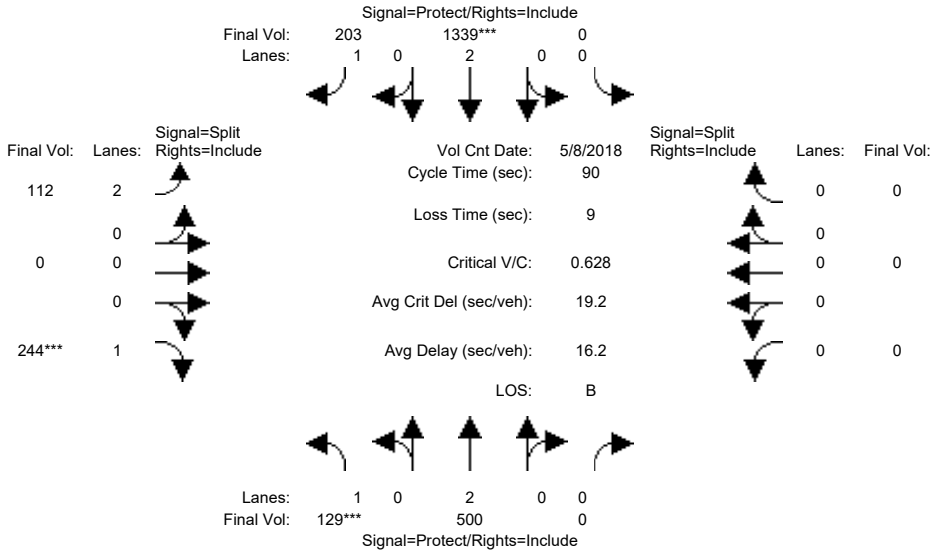
Street Name:	Monterey Road						Old Monterey Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	105	1347	0	0	475	91	255	0	129	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	1347	0	0	475	91	255	0	129	0	0	0
Added Vol:	0	8	0	0	11	0	1	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	1355	0	0	486	91	256	0	129	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	105	1355	0	0	486	91	256	0	129	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	1355	0	0	486	91	256	0	129	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	105	1355	0	0	486	91	256	0	129	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1750	3800	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.36	0.00	0.00	0.13	0.05	0.08	0.00	0.07	0.00	0.00	0.00
Crit Moves:		****		****			****					
Green Time:	16.9	41.0	0.0	0.0	24.1	24.1	10.0	0.0	10.0	0.0	0.0	0.0
Volume/Cap:	0.21	0.52	0.00	0.00	0.32	0.13	0.49	0.00	0.44	0.00	0.00	0.00
Delay/Veh:	16.7	4.9	0.0	0.0	12.4	11.4	23.4	0.0	23.6	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.7	4.9	0.0	0.0	12.4	11.4	23.4	0.0	23.6	0.0	0.0	0.0
LOS by Move:	B	A	A	A	B	B	C	A	C	A	A	A
HCM2kAvgQ:	2	6	0	0	3	1	3	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #116: Monterey Road and Old Monterey Road



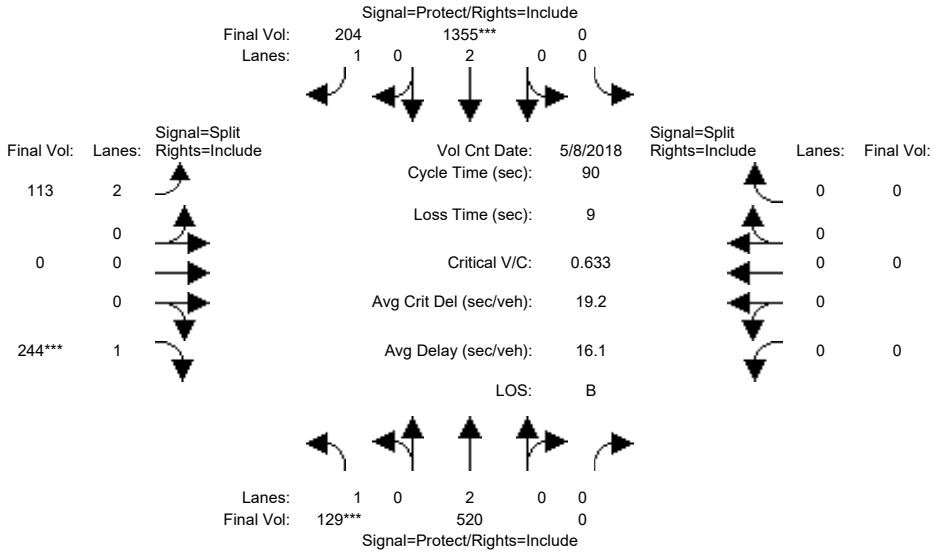
Street Name:	Monterey Road						Old Monterey Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	129	500	0	0	1339	203	112	0	244	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	500	0	0	1339	203	112	0	244	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	500	0	0	1339	203	112	0	244	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	500	0	0	1339	203	112	0	244	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	500	0	0	1339	203	112	0	244	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	500	0	0	1339	203	112	0	244	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1750	3800	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.00	0.00	0.35	0.12	0.04	0.00	0.14	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	10.6	61.0	0.0	0.0	50.5	50.5	20.0	0.0	20.0	0.0	0.0	0.0
Volume/Cap:	0.63	0.19	0.00	0.00	0.63	0.21	0.16	0.00	0.63	0.00	0.00	0.00
Delay/Veh:	43.9	5.4	0.0	0.0	14.0	9.9	28.4	0.0	34.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.9	5.4	0.0	0.0	14.0	9.9	28.4	0.0	34.9	0.0	0.0	0.0
LOS by Move:	D	A	A	A	B	A	C	A	C	A	A	A
HCM2kAvgQ:	4	2	0	0	13	3	2	0	8	0	0	0

Note: Queue reported is the number of cars per lane.

City of Morgan Hill
Monterey Townhomes Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #116: Monterey Road and Old Monterey Road



Street Name:	Monterey Road						Old Monterey Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	129	500	0	0	1339	203	112	0	244	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	500	0	0	1339	203	112	0	244	0	0	0
Added Vol:	0	20	0	0	16	1	1	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	520	0	0	1355	204	113	0	244	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	520	0	0	1355	204	113	0	244	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	520	0	0	1355	204	113	0	244	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	520	0	0	1355	204	113	0	244	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1750	3800	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.07	0.14	0.00	0.00	0.36	0.12	0.04	0.00	0.14	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	10.5	61.2	0.0	0.0	50.7	50.7	19.8	0.0	19.8	0.0	0.0	0.0
Volume/Cap:	0.63	0.20	0.00	0.00	0.63	0.21	0.16	0.00	0.63	0.00	0.00	0.00
Delay/Veh:	44.3	5.4	0.0	0.0	14.0	9.8	28.5	0.0	35.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.3	5.4	0.0	0.0	14.0	9.8	28.5	0.0	35.2	0.0	0.0	0.0
LOS by Move:	D	A	A	A	B	A	C	A	D	A	A	A
HCM2kAvgQ:	4	3	0	0	13	3	2	0	8	0	0	0

Note: Queue reported is the number of cars per lane.

Hexagon Transportation Consultants, Inc.

Memorandum

Date: July 1, 2022

To: Nick Pappani, Raney Planning & Management

From: Robert Del Rio, T.E., Luis Descanzo

Subject: VMT Assessment for the Proposed The Gates Mixed-Use Development in Morgan Hill, California

Hexagon Transportation Consultants, Inc. has completed a vehicle-miles traveled (VMT) assessment for The Gates Mixed-Use Development project located at 18545-18565 Monterey Road (APNs 764-10-013, -015) in Morgan Hill, California (see Figure 1). The project as proposed would consist of 49 townhome units and 4,016 square feet (s.f.) of ground-floor retail space on a vacant lot located along the westside of Monterey Road just north of Jarvis Drive. Approximately 15% of the units will be affordable residential units. The purpose of this memorandum is to provide an assessment of the project's effect on VMT. The VMT assessment methodology and results are discussed below.

VMT Assessment Methodology and Results

Pursuant to Senate Bill (SB) 743, the California Environmental Quality Act (CEQA) 2019 Update Guidelines Section 15064.3, subdivision (b) states that VMT will be the metric in analyzing transportation impacts for land use projects for CEQA purposes. VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle-trips with one end within the project.

The City of Morgan Hill, at the time of this report, is undertaking a process of updating its General Plan policies to incorporate VMT methodologies and significance thresholds to be consistent with SB 743 but has not released draft thresholds. In the absence of an adopted, or a draft, City policy with impact standards and thresholds, this assessment relies on the Governor's Office of Planning and Research (OPR) guidelines in analyzing the project's effects on VMT.

OPR Screening Recommendations

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* published by OPR in December 2018 provides recommendations regarding VMT evaluation methodology, significance thresholds, and screening thresholds for the evaluation of land use projects.

The OPR provides screening threshold recommendations that are intended to identify when a project should be expected to cause a less-than-significant impact without conducting a detailed VMT evaluation. The OPR screening thresholds recommendations are based on project size, maps, transit availability, and provision of affordable housing. The OPR recommendations include the screening threshold criteria listed below:

Figure 1
Site Location

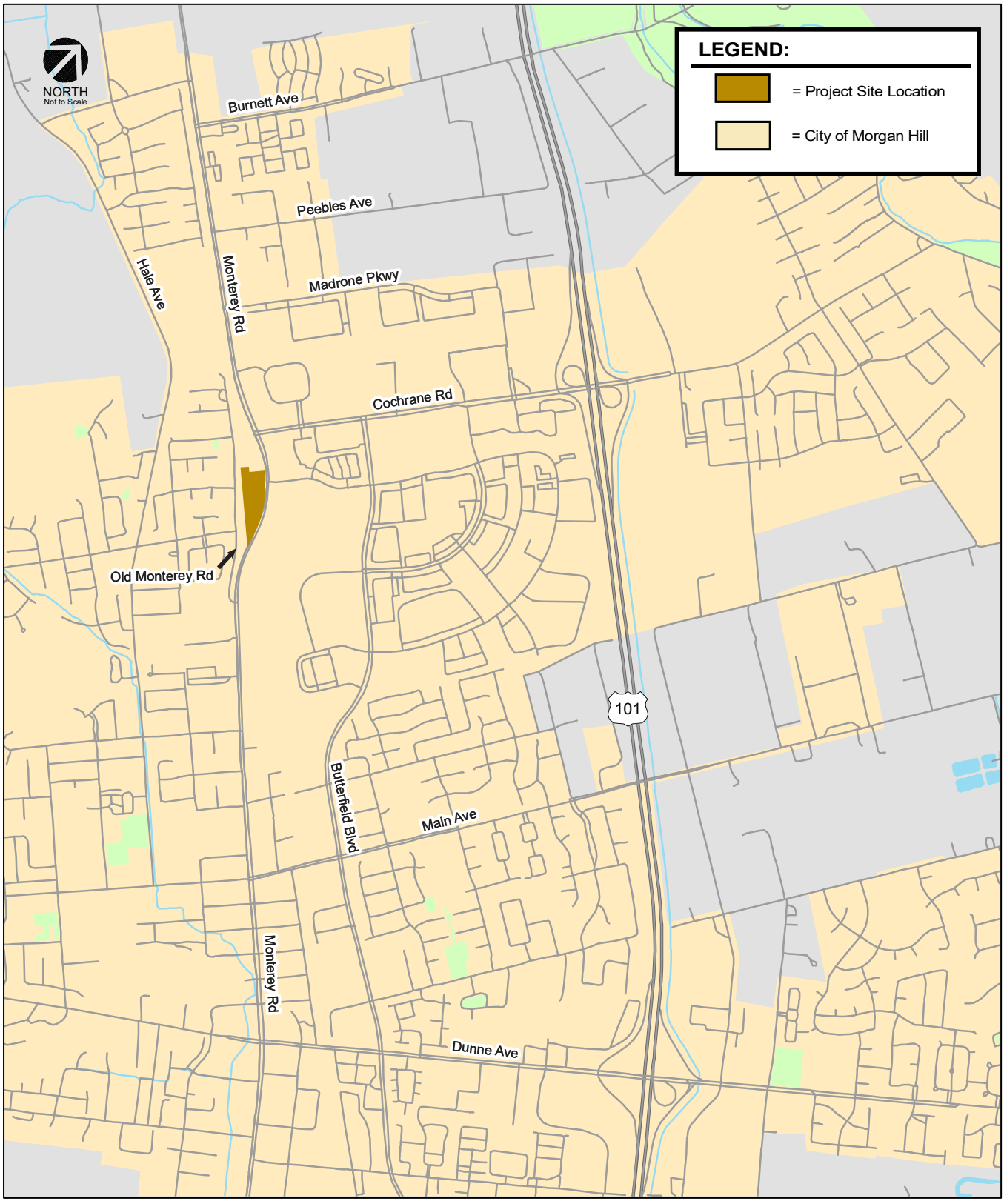
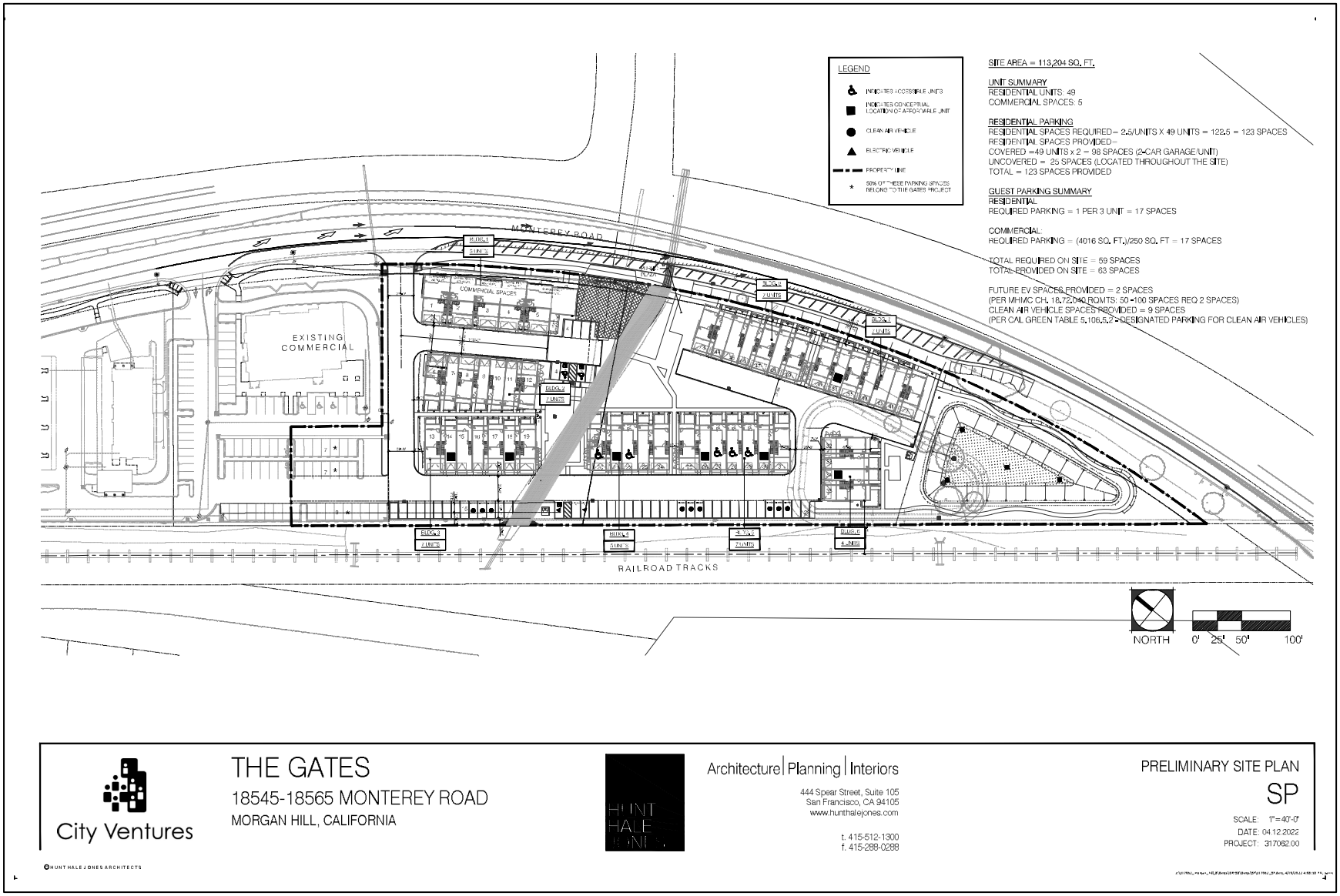


Figure 2
Site Plan



- ***OPR recommends that office or residential projects not exceeding a level of 15 percent below existing VMT per capita and employee may indicate a less-than-significant impact on VMT.***
- OPR recommends that projects (including office, residential, retail, and mixed-use developments) proposed within ½ mile of an existing major transit stop or within ¼ mile of an existing stop along a high-quality transit corridor may be presumed to have a less-than-significant impact on VMT.
- OPR recommends that 100 percent affordable residential development in infill locations be presumed to have a less-than-significant impact on VMT.
- OPR recommends that projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant impact on VMT.
- ***OPR recommends that local-serving retail developments (considered to be less than 50,000 s.f. in size) may be assumed to cause a less-than-significant impact on VMT.***

Residential VMT Evaluation

Per OPR's technical advisory, VMT per resident (capita) is the recommended metric to evaluate CEQA-related transportation impacts for the project's residential component. As stated in the technical advisory, OPR recommends an impact threshold of 15% below the existing VMT levels for residential land uses. OPR allows the existing VMT to be measured as regional or citywide VMT per capita. Therefore, 15% below the citywide residential VMT per capita is established as the impact threshold for residential uses.

The evaluation of the project's effects on VMT was completed using *VTA's VMT Evaluation Tool.* The VMT tool identifies the existing average VMT per capita and VMT per employee for the project area based on the assessor's parcel number (APN) of a project. Based on the project location, type of development, project description, and proposed trip reduction measures, the evaluation tool calculates the project VMT. Projects located in areas where the existing VMT is above the established threshold are referred to as being in "high-VMT areas". Projects in high-VMT areas are required to include a set of VMT reduction measures that would reduce the project VMT to the greatest extent possible.

Baseline VMT

The VTA's VMT Evaluation Tool indicates that the citywide average VMT per capita is currently 24.64. Therefore, the OPR recommended impact threshold of 15% below the citywide average VMT per capita equates to 20.94 VMT per capita.

Project VMT

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT (20.09) per capita for residential uses in the project vicinity is less than the citywide average VMT per capita.

The results also indicate that the project is projected to generate VMT per capita (19.4), that would not exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the residential component of the project would not result in an impact on the transportation system based on OPR's VMT impact criteria.

The VTA VMT Evaluation Tool output sheets are shown in Figure 3.

Retail VMT Evaluation

The project's retail component consists of 4,016 s.f. of ground-floor retail space. Since the proposed retail use would be less than 50,000 s.f. in size, it may be presumed to be a local-serving facility and would therefore have a less-than-significant impact on VMT. The OPR guidelines suggest that by adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. As a result of the project having trip-making characteristics of a local-serving retail facility, it can be presumed that the retail component of the project would have a less-than-significant impact on VMT.

Figure 3
VTA VMT Evaluation Tool Output

Santa Clara Countywide VMT Evaluation Tool - Version 2 - Report

Valley Transportation Authority

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Metric 1:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1 / Threshold Value 1:	-15% / 20.94
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	20.09	19.4	19.4
Low VMT Screening Analysis	Yes (Pass)	Yes (Pass)	Yes (Pass)