

ATTACHMENT 8

RESULTS OF LIMITED PHASE II SITE INVESTIGATION REPORT



September 2, 2014

Mr. Jay D. Coles
Development Associate
St. Anton Capital
1801 I Street, Suite 200
Sacramento, California 95811

Subject: **Results of Limited Phase II Site Investigation Report**
Commercial/Industrial Property
226, 232, 238, 264, 259, 261, 300, 310, 320, 328 and 330, Railway Avenue
APNs 412-03-007, 412-03-006, 412-03-005, 412-08-006, 412-08-054, 412-08-056, 412-
08-061, 412-08-062, 412-08-065, and 412-07-042
Campbell, California 95008

Dear Mr. Coles:

EEI has prepared the following Limited Phase II Site Investigation Report for the subsurface investigation completed at the subject property identified above (**Figure 1**). This report summarizes the results of soil vapor sampling and soil matrix sampling conducted on-site, in an effort to identify potential subsurface contamination that may impact future redevelopment.

BACKGROUND

The subject property is generally located along Railway Avenue west of Highway 17, approximately a quarter of a mile south of East Campbell Avenue, in the City of Campbell, Santa Clara County, California (**Figure 2**). The subject property occupies approximately 3-acres, on ten parcels identified by Assessor Parcel Numbers (APNs) 412-03-007, 412-03-006 and 412-03-005, 412-08-006, 412-08-054, 412-08-056, 412-08-061, 412-08-062, 412-08-065, and 412-07-042 (**Appendix B**). The subject property encompasses a central 1.55-acre parcel addressed 300 Railway Avenue (APN 412-08-065), adjoining parcels to the south addressed 310, 320 and 328/330 Railway Avenue (APNs 412-03-007, 412-03-006 and 412-03-005, respectively); and adjoining parcels to the north addressed 226, 232, 238, and 264 Railway Avenue (APNs 412-08-006, 412-08-054, 412-08-56, and 412-08-061/-62, respectively). Also included in the subject property is a single parcel located immediately across Railway Avenue to the northwest of the central parcel identified as 259 and 261 Railway Avenue (APN 412-07-042).

EEI completed a Phase I Environmental Site Assessment on the subject property in April/May 2014. The following environmental concerns were identified:

- Automotive repair facilities have operated on the subject property since the 1950's. Based on the presence of the on-site automotive repair facilities, the potential for petroleum hydrocarbons and chemicals of concern to have impacted the subsurface beneath the subject property is considered likely. Therefore, additional investigation appears to be warranted. Areas of concern included in the vicinity of the sump and oil drum storage at FBM (261 Railway Avenue); the exterior storage area at B&J Automotive (300 Railway Avenue); stained surface of the concrete floor at the south side storage areas within both Swedish Auto Service and B&J Automotive (300 Railway Avenue); stained surfaces from parked vehicles at the Henry Little's property (310/320 Railway Avenue); and multiple areas of soil staining within the unpaved storage yard at 328/330 Railway Avenue. EEI recommends additional soil vapor and soil matrix sampling to assess the extent of any subsurface impacts.
- In December 1986, a 1,000-gallon underground storage tank (UST) located at the southeastern edge of the subject property (261 Railway Avenue) was closed in place. Results from a soil sample taken from beneath the tank indicated non-detectable levels of total petroleum hydrocarbons as gasoline, and benzene, toluene, ethylbenzene, xylenes (BTEX). Based on these analytical results the Campbell Fire Department allowed the tank to be slurry filled and abandoned in place. The presence of the former UST and subsequent site assessment represents a historical recognized environmental concern (REC).
- In March 1987, a 500-gallon waste oil UST was removed from the subject property (Swedish Auto Service - 300 D Railway Avenue). Based on soil sampling during tank removal, it was determined that the soil was impacted by waste oil in low concentrations. The County of Santa Clara Environmental Health (CSCDEH) reported that low levels of residual soil contamination were left in-place at the site, and the case was closed on November 14, 1995. The presence of the former UST and subsequent site assessment and case closure represents a historical REC.
- In 1988, a 550-gallon gasoline UST was decommissioned, filled with concrete and closed in-place at the subject property (Railway Distributing - 264 Railway Avenue). Based on soil sampling conducting in 1997 under the direction of the Santa Clara County Fire Department (SCCFD), it was determined that there was likely no significant release of gasoline hydrocarbon constituents from the UST and the case was closed on August 15, 1997. The presence of the former UST and subsequent site assessment and case closure represents a historical REC.
- In January 1988, a single 1,000 gallon gasoline UST was removed from the subject property (328/330 Railway Avenue). An April 1988 Tank Removal Report indicated that no product and no groundwater were encountered during excavation. Two samples were taken from the bottom of the excavation (south end SS-1, north end SS-2); and collected from one-foot below the bottom of the tank excavation. Results of the laboratory analyses indicated that the levels of TPH as gasoline were below the action levels of the Regional Water Quality Control Board (RWQCB). No indication of a closure letter was provided in the fire department files. The presence of the former UST and subsequent site assessment represents a historical REC.

- In November 1990, two 4,000-gallon and one 2,000-gallon gasoline and diesel USTs were removed from the subject property (Henry Little Tractor Service – 310/320 Railway Avenue). Based on soil sampling performed during tank removal, it was determined that the soil was impacted by petroleum hydrocarbons. CSCDEH indicates that minor concentrations of contamination were left in-place below one of the 4,000-gallon tanks and the case was closed on January 1, 1995. The presence of the former UST and subsequent site assessment and case closure represents a historical REC.

Based on the presence of the former USTs, on-site soil staining, as well as the off-site automotive repair facilities, the potential for petroleum hydrocarbons and chemicals of concern to have impacted the subsurface beneath the subject property is considered likely. EEI recommended additional soil vapor and soil matrix sampling to assess the extent of any subsurface impacts. Based on the environmental concerns summarized above, EEI performed a Limited Site Investigation ESA. The following report documents our investigation efforts.

FIELD ACTIVITIES

Prior to conducting field activities, EEI staff coordinated site access with the property owner's contact, and mobilized to the subject property for orientation and boring mark-out. Soil boring and vapor probe installation (i.e., drilling) was provided by Cascade Drilling and laboratory analytical services were provided by American Analytics, Inc. and SunStar Laboratories, Inc.

Soil Vapor Sampling

On May 29th and June 11th, 2014, EEI supervised the installation and sampling of eight soil vapor probes (V-1 and V-8) beneath the subject property to a depth of 5 feet below ground surface (bgs). A truck-mounted Geoprobe™ Direct Push drill rig was used to install the soil vapor probes. **Figure 2** illustrates the soil vapor probe locations, identified by the letter "V" preceding the number.

Vapor probes V 1 and V 2 were located within the Henry Little Tractor yard at 310/320 Railway Avenue. V1 was located in the equipment storage area, amid heavily stained surface soils, while V2 was located near the former UST location.

V3 and V6 were located at the Mark Brading property at 330 Railway Ave. V3 was located in front (west side) of the shop building, while V6 was located in the former UST location.

V4 was located at 261 Railway adjacent to the former UST location.

V5 was located at 264 Railway adjacent to the former UST location.

V7 and V8 were located at 300 Railway Avenue. V7 was located adjacent to the wash rack and clarifier locations, while V8 was located adjacent to the shop building and former UST location.

After advancing the boring to five-feet bgs ¼-inch diameter Nylaflo™ tubing fitted with a porous sampling tip (to assist in recovering a representative soil gas sample) was placed into each boring. A one-foot thick sand pack, consisting of #3 Monterey™ sand was placed into the borehole covering the sampling tip which in turn was followed by placement of hydrated bentonite chips to the surface. Probe surface completion consisted of a two-way gas tight sample valve.

Prior to sample collection, the probes were left in the ground for a minimum of 30 minutes to allow equilibration of subsurface conditions. The sample tubing was then purged of three volumes of ambient air and soil gas using a hand pump. A 1,200-milliliter Summa™ canister, provided by American Analytics, Inc. was then attached to the gas tight sample valve using the negative pressure of the Summa™ canister to extract the soil gas from the subsurface. Immediately after sample collection, the Summa™ canister was labeled with a number unique to the sample location and delivered to American Analytics, Inc. under proper Chain-of-Custody (COC) documentation.

Note: soil gas probe installation generally followed the Department of Toxic Substances Control (DTSC)/California Regional Water Quality Control Board - Los Angeles Region “*Advisory - Active Soil Gas Investigations*” guidance, dated April 2012.

Soil Sampling

On May 29th, June 11th, and June 25th, 2014, EEI conducted soil matrix sampling at 17 locations distributed across the subject site. Five of the sampling locations were in close proximity (i.e., within one foot) of soil vapor probe locations (i.e., V-3 and V-5 through V-8). Soil sampling was conducted to evaluate the potential presence of petroleum hydrocarbons, Volatile Organic Compounds (VOCs), organochlorine pesticides, and/or metal contaminants. The soil borings were identified as S-1 through S-8, 9 through 13, and 21 through 24 (**Figure 2**).

Soil samples were collected from varying depths, including 0.5, 1, 2, 4, 5, 7, 8, and 12 feet below ground surface (bgs). Discrete sampling intervals were tailored to meet the varying site conditions, particularly when using the hand auger. Generally, geoprobe soil borings were sampled at depths of 1, 5, and 12 feet bgs. A total of 36 soil samples were collected and submitted for laboratory analytical testing. Soil sampling was performed using one of three methods; surface grab sampling via shovel, a hand auger, or a Geoprobe™ depending on the depth required. The shovel and hand auger samples were preserved in metal sampling tubes and the Geoprobe™ samples in acetate liners, both were then sealed with Teflon™ tape covered by rubberized caps. Each sample was labeled with a number unique to the sample and placed in a chilled cooler, pending delivery to a California-certified laboratory under COC documentation.

Soils encountered during this investigation generally consisted of clay, sandy clay, and sandy silt; gravel became more common with increasing depth. No free or perched water was observed during drilling. Physical evidence of contamination (i.e., visible staining or a noticeable odor) was restricted to the surface samples collected from the Henry Little Tractor yard at 310/320 Railway Avenue.

LABORATORY ANALYTICAL PROGRAM

All eight soil vapor samples collected during this investigation were submitted for laboratory analytical testing of VOCs by United States Environmental Protection Agency (USEPA) Test Method TO-15.

Each of the 36 soil samples collected during this investigation were submitted for laboratory analysis of Total Petroleum Hydrocarbons (TPH) carbon range C6-C44 by USEPA Test Method 8015M, in addition, 24 samples were submitted for VOCs by USEPA Test Method 8260B, five samples were tested for Organochloride Pesticides (OCP's) by USEPA Test Method 8081A, and 19 samples for Title 22 Metals by USEPA Test Method 6000/7000/7471.

FINDINGS

The following section discusses laboratory analytical results for soil vapor and soil matrix samples collected during this investigation. The two attached **Tables** summarize the results, while complete laboratory analytical reports with COC documentation are included in **Appendix A**.

Soil Vapor Samples

Reported soil gas concentrations were compared to the California Human Health Screening Levels (CHHSLs) for Shallow Soil Gas - Residential Land Use Only values (Cal-EPA, 2005) and to Environmental Screening Levels (ESL) - soil gas values; Residential Land Use Scenario (San Francisco Bay Region Water Quality Control Board). **Table 1** summarizes the laboratory analytical results. The following bulleted items summarize specific compounds reported and the corresponding CHHSL or ESL values:

- Benzene was detected in the soil vapor sample collected from V-3 at a concentration of 76 $\mu\text{g}/\text{m}^3$. The reported concentration was above the residential CHHSL of 36.2 $\mu\text{g}/\text{m}^3$. Benzene was not reported in the other seven soil vapor samples.
- PCE was detected in three soil vapor samples (V-1, V-2, and V-8). The V-1 sample concentration of 55,000 $\mu\text{g}/\text{m}^3$ exceeded the residential CHHSL of 180 $\mu\text{g}/\text{m}^3$. The V-2 and V-8 values were below CHHSLs.
- No other VOCs were reported at concentrations exceeding CHHSLs or ESLs.

Soil Samples

Detectable analytes reported in the soil samples were compared to the CHHSLs for Residential Land Use Only values (DTSC, 2005). **Table 2** summarizes the laboratory analytical results. The following bulleted items summarize specific compounds reported and the corresponding CHHSL values:

- TPH within the range of C12 to C44 was reported in 16 samples. No TPH of the gasoline range (C6-C12) was reported. In general the highest values were associated with TPH of the motor oil range; the highest concentration was 27,010 mg/kg from sample S-4 collected at a depth of one foot bgs (320 Railway). Values exceeding the residential ESL of 100 mg/kg were reported in samples collected between depths of 0.5 feet to one foot bgs at locations S-1, S-2, S-3, S-4 and S-22 (310/320 Railway Avenue – surface spillage), as well as S-7 (261 Railway Avenue – near surface drain), and S-10 (300 Railway Avenue – adjacent to wash rack). Below a depth of five feet the highest concentration was 16.6 mg/kg at a depth of 12 feet in boring S-11. A steep vertical attenuation gradient was observed resulting in rapidly decreasing concentrations with depth.
- VOCs were generally below detection limits with the exception of trace concentrations of xylenes and/or PCE in four locations (i.e., S-5, S-8, S-23, and S-24). None of the reported VOC concentrations exceeded residential CHHSLs.
- OCPs were detected in two of the five Samples tested (i.e., S-1 and S-4); however, none of the reported concentrations exceeded residential CHHSLs. DDT and its daughter products (DDD, DDE) and chlordane were the only analytes reported.

- Metals were detected in each of the 19 samples tested; however, none of the reported concentrations exceeded their respective CHHSLs or ESL thresholds, except arsenic. However, reported arsenic concentrations appeared to be within levels normally considered naturally occurring or background, and were below the threshold of between 10 and 12 mg/kg identified by DTSC (2009) and Duvergé (2011).

CONCLUSIONS and RECOMMENDATIONS

Based on the information in this report, EEI provides the following conclusions and recommendations:

- Based on the results of our investigation activities, vapor concentrations of PCE (310/320 Railway Avenue) and Benzene (330 Railway Avenue) exceeding residential CHHSL were detected at two specific locations beneath the subject property. However, no corresponding soil impacts approaching the CHHSL threshold were found for either PCE or Benzene in either of those locations. Since these areas shall be subject remedial excavation (in the case of 310/320 Railway Avenue) and subsequent earthwork and grading (in the case of both 310/320 and 330 Railway), EEI recommends that soil vapor in these two areas be retested post excavation to determine if further action is necessary to mitigate potential vapor impacts.
- If elevated levels of PCE remain in soil gas after remedial excavation and grading, future development of the property at 310/320 Railway Avenue may need to incorporate design elements to protect site occupants from possible PCE inhalation exposure. These measures could include such engineering controls as sub slab vapor barriers or venting systems.
- TPH-impacted soil has been identified in the upper 5 feet of soil at 310/320 Railway Avenue, near the former surface drain at 261 Railway Avenue, and adjacent to the wash rack at 300 Railways Avenue. These areas should be targeted for remedial excavation and removal post demolition. Further, if suspected contaminated soil is encountered during normal grading and construction activities, EEI recommends that the soil be excavated and segregated/sampled under the supervision of an environmental professional. Upon verification, any contaminated soil should be properly characterized and disposed of off-site. Please note that additional laboratory testing of soils may be required prior to acceptance at an approved disposal or soil recycling facility.

LIMITATIONS

Findings provided herein have been derived in accordance with current standards of practice, and no warranty is expressed or implied. Standards of practice are subject to change with time. This report has been prepared for the sole use of St. Anton Capital (Client), dated September 2, 2014, within a reasonable time from its authorization. Site conditions, land use (both onsite and offsite), or other factors may change as a result of manmade influences, and additional work may be required with the passage of time.

This evaluation should not be relied upon by other parties without the express written consent of EEI or the Client; therefore, any use or reliance upon this environmental evaluation by a party other than the Client, shall be solely at the risk of such third party and without legal recourse against EEI, its employees, officers, or directors, regardless of whether the action in which recovery of damages is brought or based upon contract, tort, statute, or otherwise.

The Client has the responsibility to see that all parties to the project, including the designer, contractor, subcontractor, and building official, etc. are aware of this report in its complete form. This report contains information which may be used in the preparation of contract specifications; however, the report is not designed as a specification document, and may not contain sufficient information for use without additional assessment. EEI assumes no responsibility or liability for work or testing performed by others.

EEI appreciates the opportunity to provide services associated with this project site. If you have any questions or comments, please contact the undersigned at (760) 431-3747.

Sincerely,

EEI



Bernard A. Sentianin, PG 5530
Principal Geologist

FIGURES:

- Figure 1 – Site Location Map
- Figure 2 – Aerial Site Map

TABLES:

- Table 1 – Soil Vapor Sample Results
- Table 2 – Analytical Results of Soil Sample

APPENDICES:

- Appendix A – Laboratory Analytical Results/Chain-of-Custody (COC) Documentation (redacted)

Distribution: (2) Addressee

REFERENCES

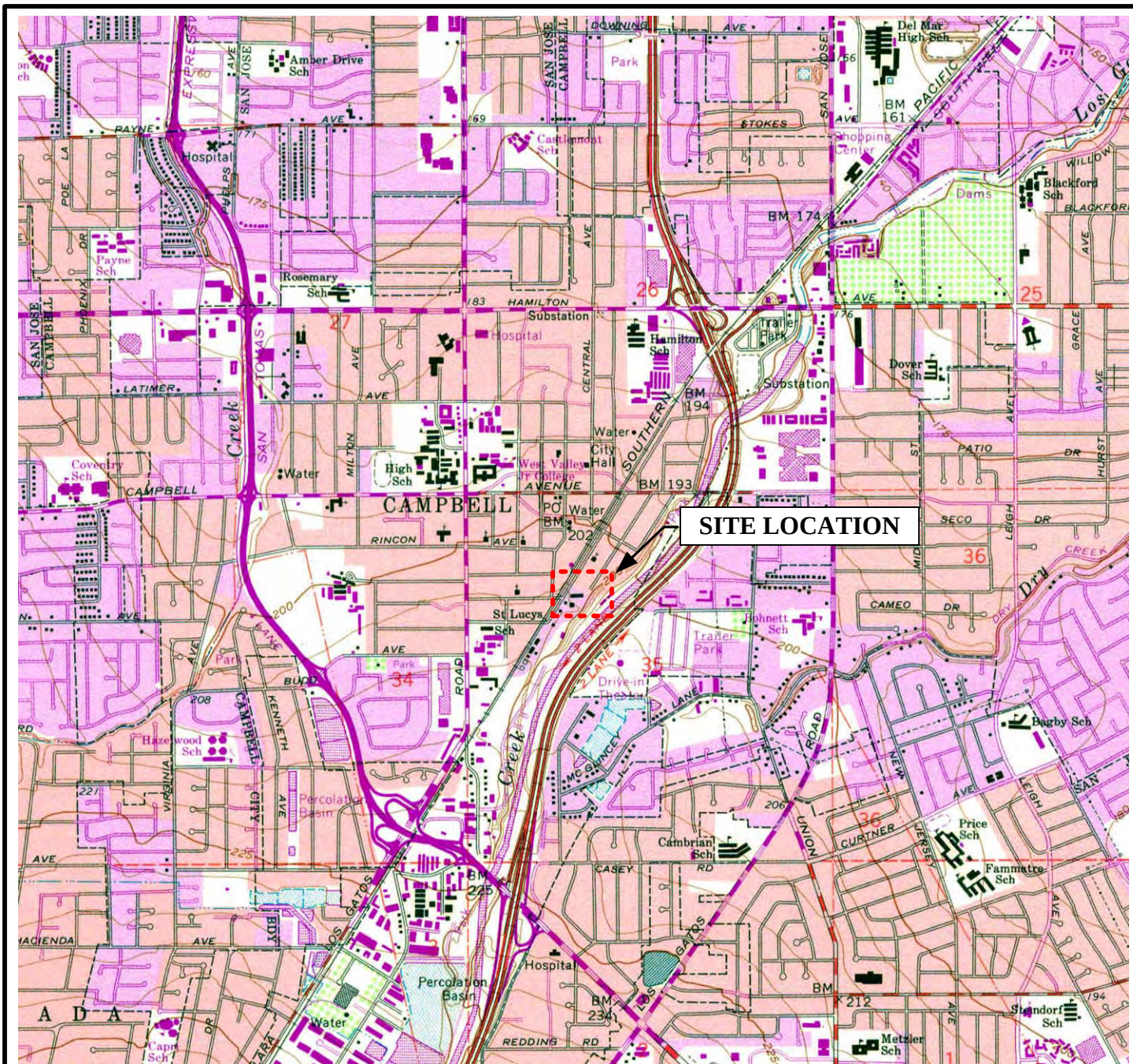
California Environmental Protection Agency (Cal-EPA), 2005, "Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties. Table 2 California Human Health Screening Levels for Indoor Air and Soil Gas." Dated January 2005.

California Regional Water Quality Control Board (CRWQCB), San Francisco Bay Region, "Screening For Environmental Concerns at Sites with Contaminated Soil and Groundwater," Interim Final – November 2007 (Revised May 2008 and December 2013).

Department of Toxic Substances Control (DTSC), 2009, Arsenic Strategies: Determination of Arsenic Remediation, Development of Arsenic Cleanup Goals, dated January 16, 2009.

Duvergé, D.J., 2011, Establish Background Arsenic in Soil of the Urbanized San Francisco Bay Region, Master's Thesis, San Francisco State University.

FIGURES

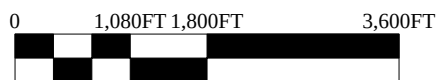


Map Source: USGS, San Jose, California 7.5 Minute Quadrangle map (USGS, 1980)

LEGEND



Scale: 1" = 1,800'



Note: All Locations Are Approximate

SITE LOCATION MAP

ST. ANTON CAPITAL

Commercial/Industrial Property

226 through 330 Railway Avenue

Multiple APNs

City of Campbell, Santa Clara County, California 95008

EEI Project No. STA-71881.1

Created April 2014



FIGURE 1



Source: Google Earth, Accessed 2014; Image Date: September 11, 2012

LEGEND

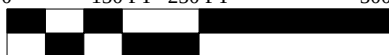
● V-6/S-9

Vapor Sample/Soil Sample Location



Scale: 1" = 250'

0 150 FT 250 FT 500 FT



Note: All Locations Are Approximate

AERIAL SITE MAP

ST. ANTON CAPITAL

Commercial/Industrial Property

226 through 330 Railway Avenue

Multiple APNs

City of Campbell, Santa Clara County, California 95008

EEI Project No. STA-71881.1

Created April 2014



FIGURE 2

TABLES

TABLE 1
Soil Vapor Sample Results
EPA Method TO-15
(reported as µg/m³)

SAMPLE ID	DATE	DEPTH (ft bgs)	Acetone	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	cis-DCE	VC
V-1	5/29/2014	5	<100	<100	<100	<100	440	55,000	<100	<100	<100
V-2	5/29/2014	5	49	<10	14	<10	<10	110	<10	<10	<10
V-3	5/29/2014	5	<10	76	<10	<10	<10	<10	<10	<10	<10
V-4	5/29/2014	5	55	<10	11	<10	<10	<10	<10	<10	<10
V-5	5/29/2014	5	55	<10	<10	<10	<10	<10	<10	<10	<10
V-6	6/11/2014	5	34	<10	<10	<10	16	<10	<10	<10	<10
V-7	6/11/2014	5	42	<10	<10	<10	21	<10	<10	<10	<10
V-8	6/11/2014	5	19	<10	<10	<10	12	34	<10	<10	<10
Residential CHHSLs/*ESLs			*330,000	36.2	135,000	1,100	315,000	180	528	15,900	13.3

bgs = below ground surface; cis-DCE = cis-1,2-Dichloroethene; ft = feet; ID = identification; PCE = Tetrachloroethene; TCE = Trichloroethene; µg/m³ = micrograms per cubic meter; VC = Vinyl Chloride. CHHSLs = California Human Health Screening Levels (soil gas values; residential land use scenario; CalEPA, 2005); * = Environmental Screening Levels (ESLs) (soil gas values; residential land use scenario; SFBROWQCB, 2008). < value = less than the laboratory reporting limit (i.e., "non-detect").

TABLE 2 Analytical Results of Soil Samples														
SAMPLE ID	DATE	DEPTH (ft bgs)	OCF	TPH (C6-C44)			Title 22 Metals	VOC's						
			EPA 8081A (ug/kg)	EPA 8015M (mg/kg)			EPA 6000/7000/7471 (mg/kg)	EPA 8260B (µg/kg)						
				GRO	DRO	MORO		Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	PCE	TCE
S-1-1	5/29/2014	0.5	*	<10	1,798	9,120	NA	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
S-2-1	5/29/2014	1	NA	<1.0	10.7	427.8	**	NA	NA	NA	NA	NA	NA	NA
S-2-2	5/29/2014	5	NA	<1.0	3.5	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
S-3-1	5/29/2014	0.5	*	<50	2,311	26,210	NA	NA	NA	NA	NA	NA	NA	NA
S-4-1	5/29/2014	0.5	*	<50	1,850	27,010	NA	NA	NA	NA	NA	NA	NA	NA
S-5-1	5/29/2014	1	NA	<1.0	2.2	<1.0	**	<2.0	<2.0	<2.0	<2.0	<5.0	8.0	<5.0
S-5-2	5/29/2014	5	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
S-6-1	5/29/2014	1	*	<1.0	<1.0	43.7	**	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
S-6-2	5/29/2014	5	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
S-7-1	5/29/2014	1	NA	<1.0	6.2	114.2	**	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
S-7-2	5/29/2014	5	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
S-8-1	5/29/2014	1	*	<1.0	<1.0	26.6	**	<2.0	<2.0	<2.0	2.5	<5.0	<5.0	<5.0
S-8-2	5/29/2014	5	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
9-1	6/11/2014	1	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
9-2	6/11/2014	5	NA	<1.0	<1.0	<1.0	NA	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
9-3	6/11/2014	12	NA	<1.0	<1.0	<1.0	NA	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
10-1	6/11/2014	1	NA	<10	74	1,126	**	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
10-2	6/11/2014	5	NA	<1.0	<1.0	<1.0	NA	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
10-3	6/11/2014	12	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
11-1	6/11/2014	1	NA	<1.0	<1.0	<1.0	**	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
11-2	6/11/2014	5	NA	<1.0	<1.0	7.8	NA	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
11-3	6/11/2014	12	NA	<1.0	<1.0	16.6	NA	NA	NA	NA	NA	NA	NA	NA
12-1	6/11/2014	1	NA	<1.0	<1.0	52.9	**	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
12-2	6/11/2014	5	NA	<1.0	<1.0	<1.0	NA	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0
13-3	6/11/2014	12	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
21-1	6/25/2014	1	NA	<10	<10	<10	**	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0
21-2	6/25/2014	4	NA	<10	25	72	**	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0
22-1	6/25/2014	2	NA	<10	35	260	**	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0
22-2	6/25/2014	5	NA	<10	<10	<10	**	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0
22-3	6/25/2014	7	NA	<10	<10	<10	**	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0
23-1	6/25/2014	1	NA	<10	<10	<10	**	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0
23-2	6/25/2014	5	NA	<10	<10	<10	**	<5.0	<5.0	<5.0	<10	NA	7.8	<5.0
23-3	6/25/2014	8	NA	<10	<10	<10	**	<5.0	<5.0	<5.0	<10	NA	8.5	<5.0
24-1	6/25/2014	1	NA	<10	<10	17	**	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0
24-2	6/25/2014	5	NA	<10	<10	<10	**	<5.0	<5.0	<5.0	<10	NA	6.0	<5.0
24-3	6/25/2014	7	NA	<10	<10	<10	**	<5.0	<5.0	<5.0	<10	NA	<5.0	<5.0
Residential CHHSL/ESL*			Varies	100	100	100	Varies	440	2,900	3,300	2,300	-	550	460
bgs = below ground surface; mg/kg = milligrams per kilogram, ug/kg = micrograms per kilogram; * = All organochlorine pesticide concentrations below residential CHHSL; ** = All reported metals levels below residential CHHSL or within ranges normally considered "naturally-occurring" or Background, NA = Not Analyzed/Applicable; PCE = Tetrachloroethene; TCE = Trichloroethene; µg/kg = micrograms per kilogram; GRO = Gasolining Range Organics; DRO = Diesel Range Organics; MORO = Motor Oil Range Organics; OCP = Organochlorine Pesticides; MTBE = Methyl-tert-Butyl Ether; CHHSLs = California Human Health Screening Levels (DTSC, 2005). < value = less than the laboratory reporting limit (i.e., "non-detect").														

**APPENDIX A
LABORATORY ANALYTICAL RESULTS AND
CHAIN-OF-CUSTODY (COC) DOCUMENTATION**



9765 Eton Avenue
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June 05, 2014

Bernie Sentianin
EEI
1358 Oakhurst Ct.
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Re : STA-Campbell / STA-71881.2
A89716 / 4E30004

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received on 05/30/14 10:36 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report or require additional information please call me at American Analytics.

Sincerely,

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
<u>8081A OCPs</u>					
S-1-1 (0.5')	4E30004-06	Soil	3	05/29/14 00:00	05/30/14 10:36
S-3-1 (0.5')	4E30004-10	Soil	3	05/29/14 00:00	05/30/14 10:36
S-4-1 (0.5')	4E30004-11	Soil	3	05/29/14 00:00	05/30/14 10:36
S-6-1 (1')	4E30004-15	Soil	5	05/29/14 00:00	05/30/14 10:36
S-8-1 (1')	4E30004-21	Soil	5	05/29/14 00:00	05/30/14 10:36
<u>8260B</u>					
S-2-1 (1')	4E30004-07	Soil	3	05/29/14 00:00	05/30/14 10:36
S-5-1 (1')	4E30004-12	Soil	3	05/29/14 00:00	05/30/14 10:36
S-6-1 (1')	4E30004-15	Soil	5	05/29/14 00:00	05/30/14 10:36
S-7-1 (1')	4E30004-18	Soil	5	05/29/14 00:00	05/30/14 10:36
S-8-1 (1')	4E30004-21	Soil	5	05/29/14 00:00	05/30/14 10:36
<u>CAM Metals Less Hg 6000/7000</u>					
S-2-1 (1')	4E30004-07	Soil	3	05/29/14 00:00	05/30/14 10:36
S-5-1 (1')	4E30004-12	Soil	3	05/29/14 00:00	05/30/14 10:36
S-6-1 (1')	4E30004-15	Soil	5	05/29/14 00:00	05/30/14 10:36
S-7-1 (1')	4E30004-18	Soil	5	05/29/14 00:00	05/30/14 10:36
S-8-1 (1')	4E30004-21	Soil	5	05/29/14 00:00	05/30/14 10:36

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

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Date Received: 05/30/14
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Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received

Carbon Chain Characterization 8015M

S-1-1 (0.5')	4E30004-06	Soil	3	05/29/14 00:00	05/30/14 10:36
S-2-1 (1')	4E30004-07	Soil	3	05/29/14 00:00	05/30/14 10:36
S-2-2 (5')	4E30004-08	Soil	3	05/29/14 00:00	05/30/14 10:36
S-3-1 (0.5')	4E30004-10	Soil	3	05/29/14 00:00	05/30/14 10:36
S-4-1 (0.5')	4E30004-11	Soil	3	05/29/14 00:00	05/30/14 10:36
S-5-1 (1')	4E30004-12	Soil	3	05/29/14 00:00	05/30/14 10:36
S-5-2 (5')	4E30004-13	Soil	3	05/29/14 00:00	05/30/14 10:36
S-6-1 (1')	4E30004-15	Soil	5	05/29/14 00:00	05/30/14 10:36
S-6-2 (5')	4E30004-16	Soil	5	05/29/14 00:00	05/30/14 10:36
S-7-1 (1')	4E30004-18	Soil	5	05/29/14 00:00	05/30/14 10:36
S-7-2 (5')	4E30004-19	Soil	5	05/29/14 00:00	05/30/14 10:36
S-8-1 (1')	4E30004-21	Soil	5	05/29/14 00:00	05/30/14 10:36
S-8-2 (5')	4E30004-22	Soil	5	05/29/14 00:00	05/30/14 10:36

Mercury Total EPA 7470A/7471A

S-2-1 (1')	4E30004-07	Soil	3	05/29/14 00:00	05/30/14 10:36
S-5-1 (1')	4E30004-12	Soil	3	05/29/14 00:00	05/30/14 10:36
S-6-1 (1')	4E30004-15	Soil	5	05/29/14 00:00	05/30/14 10:36
S-7-1 (1')	4E30004-18	Soil	5	05/29/14 00:00	05/30/14 10:36

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**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
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Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
S-8-1 (1')	4E30004-21	Soil	5	05/29/14 00:00	05/30/14 10:36
<u>TO-15 (ug/m3)</u>					
V-1	4E30004-01	Vapor	3	05/29/14 00:00	05/30/14 10:36
V-2	4E30004-02	Vapor	3	05/29/14 00:00	05/30/14 10:36
V-3	4E30004-03	Vapor	5	05/29/14 00:00	05/30/14 10:36
V-4	4E30004-04	Vapor	5	05/29/14 00:00	05/30/14 10:36
V-5	4E30004-05	Vapor	5	05/29/14 00:00	05/30/14 10:36

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AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Carbon Chain by GC/FID								
C14-C16	S-1-1 (0.5')	28	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C16-C18	S-1-1 (0.5')	200	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C18-C20	S-1-1 (0.5')	370	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C20-C22	S-1-1 (0.5')	1200	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C22-C24	S-1-1 (0.5')	1200	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C24-C26	S-1-1 (0.5')	1800	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C26-C28	S-1-1 (0.5')	1900	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C28-C32	S-1-1 (0.5')	2600	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C32-C34	S-1-1 (0.5')	600	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C34-C36	S-1-1 (0.5')	480	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C36-C40	S-1-1 (0.5')	290	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C40-C44	S-1-1 (0.5')	250	10	mg/kg	10	06/02/14	06/03/14	EPA 8015M
TPH (C6-C44)	S-1-1 (0.5')	11000	100	mg/kg	10	06/02/14	06/03/14	EPA 8015M
C18-C20	S-2-1 (1')	2.5	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C20-C22	S-2-1 (1')	8.2	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C22-C24	S-2-1 (1')	15	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C24-C26	S-2-1 (1')	24	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C26-C28	S-2-1 (1')	44	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C28-C32	S-2-1 (1')	70	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C32-C34	S-2-1 (1')	28	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C34-C36	S-2-1 (1')	13	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C36-C40	S-2-1 (1')	12	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C40-C44	S-2-1 (1')	1.8	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
TPH (C6-C44)	S-2-1 (1')	220	10	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C14-C16	S-2-2 (5')	3.5	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C16-C18	S-3-1 (0.5')	51	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C18-C20	S-3-1 (0.5')	260	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C20-C22	S-3-1 (0.5')	2000	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C22-C24	S-3-1 (0.5')	4500	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C24-C26	S-3-1 (0.5')	5800	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C26-C28	S-3-1 (0.5')	5400	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C28-C32	S-3-1 (0.5')	6700	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C32-C34	S-3-1 (0.5')	1500	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C34-C36	S-3-1 (0.5')	960	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C36-C40	S-3-1 (0.5')	790	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C40-C44	S-3-1 (0.5')	560	50	mg/kg	50	06/02/14	06/03/14	EPA 8015M
TPH (C6-C44)	S-3-1 (0.5')	29000	500	mg/kg	50	06/02/14	06/03/14	EPA 8015M
C18-C20	S-4-1 (0.5')	250	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C20-C22	S-4-1 (0.5')	1600	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C22-C24	S-4-1 (0.5')	4200	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C24-C26	S-4-1 (0.5')	5800	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C26-C28	S-4-1 (0.5')	5700	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C28-C32	S-4-1 (0.5')	7800	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C32-C34	S-4-1 (0.5')	1600	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C34-C36	S-4-1 (0.5')	870	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C36-C40	S-4-1 (0.5')	570	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C40-C44	S-4-1 (0.5')	470	50	mg/kg	50	06/02/14	06/02/14	EPA 8015M
TPH (C6-C44)	S-4-1 (0.5')	30000	500	mg/kg	50	06/02/14	06/02/14	EPA 8015M
C14-C16	S-5-1 (1')	2.2	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C22-C24	S-6-1 (1')	1.3	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C24-C26	S-6-1 (1')	2.1	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C26-C28	S-6-1 (1')	5.4	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C28-C32	S-6-1 (1')	11	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C32-C34	S-6-1 (1')	4.3	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C34-C36	S-6-1 (1')	4.9	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C36-C40	S-6-1 (1')	7.1	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C40-C44	S-6-1 (1')	7.6	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
TPH (C6-C44)	S-6-1 (1')	43	10	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C12-C14	S-7-1 (1')	2.6	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C18-C20	S-7-1 (1')	1.2	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
C20-C22	S-7-1 (1')	2.4	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C22-C24	S-7-1 (1')	7.4	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C24-C26	S-7-1 (1')	13	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C26-C28	S-7-1 (1')	31	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C28-C32	S-7-1 (1')	50	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C32-C34	S-7-1 (1')	7.5	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C34-C36	S-7-1 (1')	5.3	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
TPH (C6-C44)	S-7-1 (1')	120	10	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C22-C24	S-8-1 (1')	1.2	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C24-C26	S-8-1 (1')	1.4	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C26-C28	S-8-1 (1')	4.0	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C28-C32	S-8-1 (1')	10	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C32-C34	S-8-1 (1')	3.8	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C34-C36	S-8-1 (1')	3.3	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
C36-C40	S-8-1 (1')	2.9	1.0	mg/kg	1	06/02/14	06/02/14	EPA 8015M
TPH (C6-C44)	S-8-1 (1')	27	10	mg/kg	1	06/02/14	06/02/14	EPA 8015M

Organochlorine Pesticides by GC EPA 8081A

4,4'-DDD	S-1-1 (0.5')	44	40	ug/kg	10	06/02/14	06/04/14	EPA 8081A
4,4'-DDE	S-1-1 (0.5')	56	40	ug/kg	10	06/02/14	06/04/14	EPA 8081A
gamma-Chlordane	S-1-1 (0.5')	64	40	ug/kg	10	06/02/14	06/04/14	EPA 8081A
alpha-Chlordane	S-1-1 (0.5')	71	40	ug/kg	10	06/02/14	06/04/14	EPA 8081A
Chlordane	S-1-1 (0.5')	240	200	ug/kg	10	06/02/14	06/04/14	EPA 8081A
4,4'-DDD	S-4-1 (0.5')	5.9	4.0	ug/kg	1	06/02/14	06/04/14	EPA 8081A
4,4'-DDE	S-4-1 (0.5')	15	4.0	ug/kg	1	06/02/14	06/04/14	EPA 8081A
4,4'-DDT	S-4-1 (0.5')	9.2	4.0	ug/kg	1	06/02/14	06/04/14	EPA 8081A
gamma-Chlordane	S-4-1 (0.5')	5.5	4.0	ug/kg	1	06/02/14	06/04/14	EPA 8081A
alpha-Chlordane	S-4-1 (0.5')	7.6	4.0	ug/kg	1	06/02/14	06/04/14	EPA 8081A
Chlordane	S-4-1 (0.5')	21	20	ug/kg	1	06/02/14	06/04/14	EPA 8081A

Total Metals CAM 17

Allen Aminian
QA/QC Manager

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Client: EEI
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Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Mercury	S-2-1 (1')	0.060	0.020	mg/kg	1	05/30/14	05/30/14	EPA 7471A
Mercury	S-5-1 (1')	0.062	0.020	mg/kg	1	05/30/14	05/30/14	EPA 7471A
Mercury	S-6-1 (1')	0.066	0.020	mg/kg	1	05/30/14	05/30/14	EPA 7471A
Mercury	S-7-1 (1')	0.13	0.020	mg/kg	1	05/30/14	05/30/14	EPA 7471A
Mercury	S-8-1 (1')	0.32	0.020	mg/kg	1	05/30/14	05/30/14	EPA 7471A
<u>Total Metals CAM 17</u>								
Arsenic	S-2-1 (1')	2.2	0.50	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Barium	S-2-1 (1')	150	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Chromium	S-2-1 (1')	160	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Cobalt	S-2-1 (1')	24	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Copper	S-2-1 (1')	250	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Lead	S-2-1 (1')	58	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Nickel	S-2-1 (1')	300	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Vanadium	S-2-1 (1')	36	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Zinc	S-2-1 (1')	230	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Arsenic	S-5-1 (1')	4.3	0.50	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Barium	S-5-1 (1')	110	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Chromium	S-5-1 (1')	33	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Cobalt	S-5-1 (1')	9.8	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

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Date Received: 05/30/14
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ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Copper	S-5-1 (1')	23	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Lead	S-5-1 (1')	6.3	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Nickel	S-5-1 (1')	52	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Vanadium	S-5-1 (1')	30	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Zinc	S-5-1 (1')	55	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Arsenic	S-6-1 (1')	3.9	0.50	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Barium	S-6-1 (1')	100	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Chromium	S-6-1 (1')	29	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Cobalt	S-6-1 (1')	8.9	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Copper	S-6-1 (1')	21	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Lead	S-6-1 (1')	6.1	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Nickel	S-6-1 (1')	46	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Vanadium	S-6-1 (1')	28	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Zinc	S-6-1 (1')	47	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Arsenic	S-7-1 (1')	5.5	0.50	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Barium	S-7-1 (1')	81	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Chromium	S-7-1 (1')	34	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Cobalt	S-7-1 (1')	9.1	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Copper	S-7-1 (1')	24	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Lead	S-7-1 (1')	8.5	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Nickel	S-7-1 (1')	53	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Vanadium	S-7-1 (1')	31	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Zinc	S-7-1 (1')	55	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Arsenic	S-8-1 (1')	5.6	0.50	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Barium	S-8-1 (1')	150	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Chromium	S-8-1 (1')	35	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Cobalt	S-8-1 (1')	10	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Copper	S-8-1 (1')	35	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Lead	S-8-1 (1')	77	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Nickel	S-8-1 (1')	53	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Vanadium	S-8-1 (1')	32	10	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
Zinc	S-8-1 (1')	160	3.0	mg/kg	1	05/30/14	05/30/14	EPA 6010B/7000
<u>VOCs by GC/MS</u>								
Tetrachloroethylene (PCE)	S-5-1 (1')	8.0	5.0	ug/kg	1	05/30/14	05/30/14	EPA 8260B
m,p-Xylenes	S-8-1 (1')	2.5	2.0	ug/kg	1	06/02/14	06/02/14	EPA 8260B

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
VOCs by GCMS EPA TO-15								
Tetrachloroethylene (PCE)	V-1	15000	1000	ug/m ³	200	06/02/14	06/03/14	TO-15
1,2,4-Trimethylbenzene	V-1	140	100	ug/m ³	20	06/02/14	06/03/14	TO-15
o-Xylene	V-1	180	100	ug/m ³	20	06/02/14	06/03/14	TO-15
m,p-Xylenes	V-1	260	100	ug/m ³	20	06/02/14	06/03/14	TO-15
Acetone	V-2	49	10	ug/m ³	2	06/02/14	06/02/14	TO-15
2-Butanone (MEK)	V-2	13	10	ug/m ³	2	06/02/14	06/02/14	TO-15
Cyclohexane	V-2	11	10	ug/m ³	2	06/02/14	06/02/14	TO-15
Heptane	V-2	33	10	ug/m ³	2	06/02/14	06/02/14	TO-15
n-Hexane	V-2	21	10	ug/m ³	2	06/02/14	06/02/14	TO-15
Propylene	V-2	15	10	ug/m ³	2	06/02/14	06/02/14	TO-15
Tetrachloroethylene (PCE)	V-2	110	10	ug/m ³	2	06/02/14	06/02/14	TO-15
Toluene	V-2	14	10	ug/m ³	2	06/02/14	06/02/14	TO-15
Benzene	V-3	76	10	ug/m ³	2	06/02/14	06/03/14	TO-15
Cyclohexane	V-3	92	10	ug/m ³	2	06/02/14	06/03/14	TO-15
Heptane	V-3	68	10	ug/m ³	2	06/02/14	06/03/14	TO-15
n-Hexane	V-3	150	10	ug/m ³	2	06/02/14	06/03/14	TO-15
Acetone	V-4	55	10	ug/m ³	2	06/02/14	06/03/14	TO-15
2-Butanone (MEK)	V-4	14	10	ug/m ³	2	06/02/14	06/03/14	TO-15
Cyclohexane	V-4	11	10	ug/m ³	2	06/02/14	06/03/14	TO-15
Toluene	V-4	11	10	ug/m ³	2	06/02/14	06/03/14	TO-15
Acetone	V-5	55	10	ug/m ³	2	06/02/14	06/03/14	TO-15
2-Butanone (MEK)	V-5	16	10	ug/m ³	2	06/02/14	06/03/14	TO-15

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Organochlorine Pesticides by GC EPA 8081A

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/kg

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	06/02/14	06/02/14	06/02/14	06/02/14
Date Analyzed:	06/04/14	06/04/14	06/04/14	06/04/14
AA ID No:	4E30004-06	4E30004-10	4E30004-11	4E30004-15
Client ID No:	S-1-1 (0.5')	S-3-1 (0.5')	S-4-1 (0.5')	S-6-1 (1')
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	10	10	1	1
				MRL

8081A OCPs (EPA 8081A)

4,4'-DDD	44	<40	5.9	<4.0	4.0
4,4'-DDE	56	<40	15	<4.0	4.0
4,4'-DDT	<40	<40	9.2	<4.0	4.0
Aldrin	<20	<20	<2.0	<2.0	2.0
beta-BHC	<20	<20	<2.0	<2.0	2.0
delta-BHC	<20	<20	<2.0	<2.0	2.0
alpha-BHC	<20	<20	<2.0	<2.0	2.0
gamma-BHC (Lindane)	<40	<40	<4.0	<4.0	4.0
gamma-Chlordane	64	<40	5.5	<4.0	4.0
alpha-Chlordane	71	<40	7.6	<4.0	4.0
Chlordane	240	<200	21	<20	20
Dieldrin	<20	<20	<2.0	<2.0	2.0
Endosulfan I	<20	<20	<2.0	<2.0	2.0
Endosulfan II	<40	<40	<4.0	<4.0	4.0
Endosulfan sulfate	<40	<40	<4.0	<4.0	4.0
Endrin	<40	<40	<4.0	<4.0	4.0
Endrin aldehyde	<40	<40	<4.0	<4.0	4.0
Endrin ketone	<40	<40	<4.0	<4.0	4.0
Heptachlor	<20	<20	<2.0	<2.0	2.0
Heptachlor epoxide	<20	<20	<2.0	<2.0	2.0
Methoxychlor	<200	<200	<20	<20	20
Toxaphene	<1000	<1000	<100	<100	100

Surrogates

					%REC Limits
Decachlorobiphenyl	0.0 [3]	72%	95%	110%	50-150
Tetrachloro-meta-xylene	0.0 [3]	0.0 [3]	91%	121%	50-150

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Organochlorine Pesticides by GC EPA 8081A

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/kg

Date Sampled:	05/29/14	
Date Prepared:	06/02/14	
Date Analyzed:	06/04/14	
AA ID No:	4E30004-21	
Client ID No:	S-8-1 (1')	
Matrix:	Soil	
Dilution Factor:	1	MRL

8081A OCPs (EPA 8081A)

4,4'-DDD	<4.0	4.0
4,4'-DDE	<4.0	4.0
4,4'-DDT	<4.0	4.0
Aldrin	<2.0	2.0
beta-BHC	<2.0	2.0
delta-BHC	<2.0	2.0
alpha-BHC	<2.0	2.0
gamma-BHC (Lindane)	<4.0	4.0
gamma-Chlordane	<4.0	4.0
alpha-Chlordane	<4.0	4.0
Chlordane	<20	20
Dieldrin	<2.0	2.0
Endosulfan I	<2.0	2.0
Endosulfan II	<4.0	4.0
Endosulfan sulfate	<4.0	4.0
Endrin	<4.0	4.0
Endrin aldehyde	<4.0	4.0
Endrin ketone	<4.0	4.0
Heptachlor	<2.0	2.0
Heptachlor epoxide	<2.0	2.0
Methoxychlor	<20	20
Toxaphene	<100	100

<u>Surrogates</u>		<u>%REC Limits</u>
Decachlorobiphenyl	77%	50-150
Tetrachloro-meta-xylene	104%	50-150

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/kg

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	05/30/14	05/30/14	05/30/14	05/30/14
Date Analyzed:	05/30/14	05/30/14	05/30/14	05/30/14
AA ID No:	4E30004-07	4E30004-12	4E30004-15	4E30004-18
Client ID No:	S-2-1 (1')	S-5-1 (1')	S-6-1 (1')	S-7-1 (1')
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1
				MRL

8260B (EPA 8260B)

Acetone	<50	<50	<50	<50	50
Benzene	<2.0	<2.0	<2.0	<2.0	2.0
Bromobenzene	<5.0	<5.0	<5.0	<5.0	5.0
Bromochloromethane	<5.0	<5.0	<5.0	<5.0	5.0
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0	5.0
Bromoform	<5.0	<5.0	<5.0	<5.0	5.0
Bromomethane	<5.0	<5.0	<5.0	<5.0	5.0
2-Butanone (MEK)	<50	<50	<50	<50	50
sec-Butylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
n-Butylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
tert-Butylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
Carbon Disulfide	<5.0	<5.0	<5.0	<5.0	5.0
Carbon Tetrachloride	<5.0	<5.0	<5.0	<5.0	5.0
Chlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
Chloroethane	<5.0	<5.0	<5.0	<5.0	5.0
Chloroform	<5.0	<5.0	<5.0	<5.0	5.0
Chloromethane	<5.0	<5.0	<5.0	<5.0	5.0
4-Chlorotoluene	<5.0	<5.0	<5.0	<5.0	5.0
2-Chlorotoluene	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dibromo-3-chloropropane	<10	<10	<10	<10	10
Dibromochloromethane	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dibromoethane (EDB)	<5.0	<5.0	<5.0	<5.0	5.0
Dibromomethane	<5.0	<5.0	<5.0	<5.0	5.0
1,3-Dichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,4-Dichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
Dichlorodifluoromethane (R12)	<5.0	<5.0	<5.0	<5.0	5.0

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/kg

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	05/30/14	05/30/14	05/30/14	05/30/14
Date Analyzed:	05/30/14	05/30/14	05/30/14	05/30/14
AA ID No:	4E30004-07	4E30004-12	4E30004-15	4E30004-18
Client ID No:	S-2-1 (1')	S-5-1 (1')	S-6-1 (1')	S-7-1 (1')
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1
				MRL

8260B (EPA 8260B) (continued)

1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dichloroethane (EDC)	<5.0	<5.0	<5.0	<5.0	5.0
1,1-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	5.0
trans-1,2-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	5.0
cis-1,2-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	5.0
2,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,3-Dichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,1-Dichloropropylene	<5.0	<5.0	<5.0	<5.0	5.0
cis-1,3-Dichloropropylene	<5.0	<5.0	<5.0	<5.0	5.0
trans-1,3-Dichloropropylene	<5.0	<5.0	<5.0	<5.0	5.0
Ethylbenzene	<2.0	<2.0	<2.0	<2.0	2.0
Hexachlorobutadiene	<10	<10	<10	<10	10
2-Hexanone (MBK)	<50	<50	<50	<50	50
Isopropylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
4-Isopropyltoluene	<5.0	<5.0	<5.0	<5.0	5.0
Methyl-tert-Butyl Ether (MTBE)	<5.0	<5.0	<5.0	<5.0	5.0
Methylene Chloride	<50	<50	<50	<50	50
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	50
Naphthalene	<10	<10	<10	<10	10
n-Propylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
Styrene	<5.0	<5.0	<5.0	<5.0	5.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	5.0
1,1,1,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	5.0
Tetrachloroethylene (PCE)	<5.0	8.0	<5.0	<5.0	5.0
Toluene	<2.0	<2.0	<2.0	<2.0	2.0
1,2,4-Trichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/kg

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	05/30/14	05/30/14	05/30/14	05/30/14
Date Analyzed:	05/30/14	05/30/14	05/30/14	05/30/14
AA ID No:	4E30004-07	4E30004-12	4E30004-15	4E30004-18
Client ID No:	S-2-1 (1')	S-5-1 (1')	S-6-1 (1')	S-7-1 (1')
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1
				MRL

8260B (EPA 8260B) (continued)

1,2,3-Trichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0	5.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0	5.0
Trichloroethylene (TCE)	<5.0	<5.0	<5.0	<5.0	5.0
Trichlorofluoromethane (R11)	<5.0	<5.0	<5.0	<5.0	5.0
1,2,3-Trichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<5.0	<5.0	<5.0	<5.0	5.0
1,2,4-Trimethylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,3,5-Trimethylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
Vinyl chloride	<5.0	<5.0	<5.0	<5.0	5.0
o-Xylene	<2.0	<2.0	<2.0	<2.0	2.0
m,p-Xylenes	<2.0	<2.0	<2.0	<2.0	2.0

<u>Surrogates</u>					<u>%REC Limits</u>
4-Bromofluorobenzene	122%	112%	98%	130%	70-140
Dibromofluoromethane	114%	118%	120%	115%	70-140
Toluene-d8	108%	105%	98%	99%	70-140

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/kg

Date Sampled:	05/29/14	
Date Prepared:	06/02/14	
Date Analyzed:	06/02/14	
AA ID No:	4E30004-21	
Client ID No:	S-8-1 (1')	
Matrix:	Soil	
Dilution Factor:	1	MRL

8260B (EPA 8260B)

Acetone	<50	50
Benzene	<2.0	2.0
Bromobenzene	<5.0	5.0
Bromochloromethane	<5.0	5.0
Bromodichloromethane	<5.0	5.0
Bromoform	<5.0	5.0
Bromomethane	<5.0	5.0
2-Butanone (MEK)	<50	50
sec-Butylbenzene	<5.0	5.0
n-Butylbenzene	<5.0	5.0
tert-Butylbenzene	<5.0	5.0
Carbon Disulfide	<5.0	5.0
Carbon Tetrachloride	<5.0	5.0
Chlorobenzene	<5.0	5.0
Chloroethane	<5.0	5.0
Chloroform	<5.0	5.0
Chloromethane	<5.0	5.0
4-Chlorotoluene	<5.0	5.0
2-Chlorotoluene	<5.0	5.0
1,2-Dibromo-3-chloropropane	<10	10
Dibromochloromethane	<5.0	5.0
1,2-Dibromoethane (EDB)	<5.0	5.0
Dibromomethane	<5.0	5.0
1,3-Dichlorobenzene	<5.0	5.0
1,2-Dichlorobenzene	<5.0	5.0
1,4-Dichlorobenzene	<5.0	5.0
Dichlorodifluoromethane (R12)	<5.0	5.0

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/kg

Date Sampled:	05/29/14	
Date Prepared:	06/02/14	
Date Analyzed:	06/02/14	
AA ID No:	4E30004-21	
Client ID No:	S-8-1 (1')	
Matrix:	Soil	
Dilution Factor:	1	MRL

8260B (EPA 8260B) (continued)

1,1-Dichloroethane	<5.0	5.0
1,2-Dichloroethane (EDC)	<5.0	5.0
1,1-Dichloroethylene	<5.0	5.0
trans-1,2-Dichloroethylene	<5.0	5.0
cis-1,2-Dichloroethylene	<5.0	5.0
2,2-Dichloropropane	<5.0	5.0
1,2-Dichloropropane	<5.0	5.0
1,3-Dichloropropane	<5.0	5.0
1,1-Dichloropropylene	<5.0	5.0
cis-1,3-Dichloropropylene	<5.0	5.0
trans-1,3-Dichloropropylene	<5.0	5.0
Ethylbenzene	<2.0	2.0
Hexachlorobutadiene	<10	10
2-Hexanone (MBK)	<50	50
Isopropylbenzene	<5.0	5.0
4-Isopropyltoluene	<5.0	5.0
Methyl-tert-Butyl Ether (MTBE)	<5.0	5.0
Methylene Chloride	<50	50
4-Methyl-2-pentanone (MIBK)	<50	50
Naphthalene	<10	10
n-Propylbenzene	<5.0	5.0
Styrene	<5.0	5.0
1,1,2,2-Tetrachloroethane	<5.0	5.0
1,1,1,2-Tetrachloroethane	<5.0	5.0
Tetrachloroethylene (PCE)	<5.0	5.0
Toluene	<2.0	2.0
1,2,4-Trichlorobenzene	<5.0	5.0

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/kg

Date Sampled:	05/29/14		
Date Prepared:	06/02/14		
Date Analyzed:	06/02/14		
AA ID No:	4E30004-21		
Client ID No:	S-8-1 (1')		
Matrix:	Soil		
Dilution Factor:	1		MRL

8260B (EPA 8260B) (continued)

1,2,3-Trichlorobenzene	<5.0	5.0
1,1,2-Trichloroethane	<5.0	5.0
1,1,1-Trichloroethane	<5.0	5.0
Trichloroethylene (TCE)	<5.0	5.0
Trichlorofluoromethane (R11)	<5.0	5.0
1,2,3-Trichloropropane	<5.0	5.0
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<5.0	5.0
1,2,4-Trimethylbenzene	<5.0	5.0
1,3,5-Trimethylbenzene	<5.0	5.0
Vinyl chloride	<5.0	5.0
o-Xylene	<2.0	2.0
m,p-Xylenes	2.5	2.0

<u>Surrogates</u>		<u>%REC Limits</u>
4-Bromofluorobenzene	112%	70-140
Dibromofluoromethane	106%	70-140
Toluene-d8	97%	70-140

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Carbon Chain by GC/FID

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: mg/kg

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	06/02/14	06/02/14	06/02/14	06/02/14
Date Analyzed:	06/03/14	06/02/14	06/02/14	06/03/14
AA ID No:	4E30004-06	4E30004-07	4E30004-08	4E30004-10
Client ID No:	S-1-1 (0.5')	S-2-1 (1')	S-2-2 (5')	S-3-1 (0.5')
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	10	1	1	50
				MRL

Carbon Chain Characterization 8015M (EPA 8015M)

C6-C8	<10	<1.0	<1.0	<50	1.0
C8-C10	<10	<1.0	<1.0	<50	1.0
C10-C12	<10	<1.0	<1.0	<50	1.0
C12-C14	<10	<1.0	<1.0	<50	1.0
C14-C16	28	<1.0	3.5	<50	1.0
C16-C18	200	<1.0	<1.0	51	1.0
C18-C20	370	2.5	<1.0	260	1.0
C20-C22	1200	8.2	<1.0	2000	1.0
C22-C24	1200	15	<1.0	4500	1.0
C24-C26	1800	24	<1.0	5800	1.0
C26-C28	1900	44	<1.0	5400	1.0
C28-C32	2600	70	<1.0	6700	1.0
C32-C34	600	28	<1.0	1500	1.0
C34-C36	480	13	<1.0	960	1.0
C36-C40	290	12	<1.0	790	1.0
C40-C44	250	1.8	<1.0	560	1.0
TPH (C6-C44)	11000	220	<10	29000	10

<u>Surrogates</u>					<u>%REC Limits</u>
o-Terphenyl	141%	120%	121%	69%	50-150

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Carbon Chain by GC/FID

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: mg/kg

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	06/02/14	06/02/14	06/02/14	06/02/14
Date Analyzed:	06/02/14	06/02/14	06/02/14	06/02/14
AA ID No:	4E30004-11	4E30004-12	4E30004-13	4E30004-15
Client ID No:	S-4-1 (0.5')	S-5-1 (1')	S-5-2 (5')	S-6-1 (1')
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	50	1	1	1

MRL

Carbon Chain Characterization 8015M (EPA 8015M)

C6-C8	<50	<1.0	<1.0	<1.0	1.0
C8-C10	<50	<1.0	<1.0	<1.0	1.0
C10-C12	<50	<1.0	<1.0	<1.0	1.0
C12-C14	<50	<1.0	<1.0	<1.0	1.0
C14-C16	<50	2.2	<1.0	<1.0	1.0
C16-C18	<50	<1.0	<1.0	<1.0	1.0
C18-C20	250	<1.0	<1.0	<1.0	1.0
C20-C22	1600	<1.0	<1.0	<1.0	1.0
C22-C24	4200	<1.0	<1.0	1.3	1.0
C24-C26	5800	<1.0	<1.0	2.1	1.0
C26-C28	5700	<1.0	<1.0	5.4	1.0
C28-C32	7800	<1.0	<1.0	11	1.0
C32-C34	1600	<1.0	<1.0	4.3	1.0
C34-C36	870	<1.0	<1.0	4.9	1.0
C36-C40	570	<1.0	<1.0	7.1	1.0
C40-C44	470	<1.0	<1.0	7.6	1.0
TPH (C6-C44)	30000	<10	<10	43	10

Surrogates

o-Terphenyl	79%	108%	117%	116%	%REC Limits 50-150

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Carbon Chain by GC/FID

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: mg/kg

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	06/02/14	06/02/14	06/02/14	06/02/14
Date Analyzed:	06/02/14	06/02/14	06/02/14	06/02/14
AA ID No:	4E30004-16	4E30004-18	4E30004-19	4E30004-21
Client ID No:	S-6-2 (5')	S-7-1 (1')	S-7-2 (5')	S-8-1 (1')
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1

MRL

Carbon Chain Characterization 8015M (EPA 8015M)

C6-C8	<1.0	<1.0	<1.0	<1.0	1.0
C8-C10	<1.0	<1.0	<1.0	<1.0	1.0
C10-C12	<1.0	<1.0	<1.0	<1.0	1.0
C12-C14	<1.0	2.6	<1.0	<1.0	1.0
C14-C16	<1.0	<1.0	<1.0	<1.0	1.0
C16-C18	<1.0	<1.0	<1.0	<1.0	1.0
C18-C20	<1.0	1.2	<1.0	<1.0	1.0
C20-C22	<1.0	2.4	<1.0	<1.0	1.0
C22-C24	<1.0	7.4	<1.0	1.2	1.0
C24-C26	<1.0	13	<1.0	1.4	1.0
C26-C28	<1.0	31	<1.0	4.0	1.0
C28-C32	<1.0	50	<1.0	10	1.0
C32-C34	<1.0	7.5	<1.0	3.8	1.0
C34-C36	<1.0	5.3	<1.0	3.3	1.0
C36-C40	<1.0	<1.0	<1.0	2.9	1.0
C40-C44	<1.0	<1.0	<1.0	<1.0	1.0
TPH (C6-C44)	<10	120	<10	27	10

Surrogates

o-Terphenyl	115%	124%	124%	114%	%REC Limits 50-150

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Carbon Chain by GC/FID

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: mg/kg

Date Sampled:	05/29/14	
Date Prepared:	06/02/14	
Date Analyzed:	06/02/14	
AA ID No:	4E30004-22	
Client ID No:	S-8-2 (5')	
Matrix:	Soil	
Dilution Factor:	1	MRL

Carbon Chain Characterization 8015M (EPA 8015M)

C6-C8	<1.0	1.0
C8-C10	<1.0	1.0
C10-C12	<1.0	1.0
C12-C14	<1.0	1.0
C14-C16	<1.0	1.0
C16-C18	<1.0	1.0
C18-C20	<1.0	1.0
C20-C22	<1.0	1.0
C22-C24	<1.0	1.0
C24-C26	<1.0	1.0
C26-C28	<1.0	1.0
C28-C32	<1.0	1.0
C32-C34	<1.0	1.0
C34-C36	<1.0	1.0
C36-C40	<1.0	1.0
C40-C44	<1.0	1.0
TPH (C6-C44)	<10	10

<u>Surrogates</u>		<u>%REC Limits</u>
o-Terphenyl	117%	50-150

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Total Metals CAM 17

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: mg/kg

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	05/30/14	05/30/14	05/30/14	05/30/14
Date Analyzed:	05/30/14	05/30/14	05/30/14	05/30/14
AA ID No:	4E30004-07	4E30004-12	4E30004-15	4E30004-18
Client ID No:	S-2-1 (1')	S-5-1 (1')	S-6-1 (1')	S-7-1 (1')
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1

MRL

CAM Metals Less Hg 6000/7000 (EPA 6010B/7000)

Antimony	<10	<10	<10	<10	10
Arsenic	2.2	4.3	3.9	5.5	0.50
Barium	150	110	100	81	10
Beryllium	<1.0	<1.0	<1.0	<1.0	1.0
Cadmium	<1.0	<1.0	<1.0	<1.0	1.0
Chromium	160	33	29	34	3.0
Cobalt	24	9.8	8.9	9.1	3.0
Copper	250	23	21	24	3.0
Lead	58	6.3	6.1	8.5	3.0
Molybdenum	<5.0	<5.0	<5.0	<5.0	5.0
Nickel	300	52	46	53	3.0
Selenium	<0.50	<0.50	<0.50	<0.50	0.50
Silver	<1.0	<1.0	<1.0	<1.0	1.0
Thallium	<5.0	<5.0	<5.0	<5.0	5.0
Vanadium	36	30	28	31	10
Zinc	230	55	47	55	3.0

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Total Metals CAM 17

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: mg/kg

Date Sampled:	05/29/14	
Date Prepared:	05/30/14	
Date Analyzed:	05/30/14	
AA ID No:	4E30004-21	
Client ID No:	S-8-1 (1')	
Matrix:	Soil	
Dilution Factor:	1	MRL

CAM Metals Less Hg 6000/7000 (EPA 6010B/7000)

Antimony	<10	10
Arsenic	5.6	0.50
Barium	150	10
Beryllium	<1.0	1.0
Cadmium	<1.0	1.0
Chromium	35	3.0
Cobalt	10	3.0
Copper	35	3.0
Lead	77	3.0
Molybdenum	<5.0	5.0
Nickel	53	3.0
Selenium	<0.50	0.50
Silver	<1.0	1.0
Thallium	<5.0	5.0
Vanadium	32	10
Zinc	160	3.0

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Total Metals CAM 17

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: mg/kg

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	05/30/14	05/30/14	05/30/14	05/30/14
Date Analyzed:	05/30/14	05/30/14	05/30/14	05/30/14
AA ID No:	4E30004-07	4E30004-12	4E30004-15	4E30004-18
Client ID No:	S-2-1 (1')	S-5-1 (1')	S-6-1 (1')	S-7-1 (1')
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1

MRL

Mercury Total EPA 7470A/7471A (EPA 7471A)

Mercury	0.060	0.062	0.066	0.13	0.020

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Total Metals CAM 17

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: mg/kg

Date Sampled:	05/29/14	
Date Prepared:	05/30/14	
Date Analyzed:	05/30/14	
AA ID No:	4E30004-21	
Client ID No:	S-8-1 (1')	
Matrix:	Soil	
Dilution Factor:	1	MRL

Mercury Total EPA 7470A/7471A (EPA 7471A)

Mercury	0.32	0.020

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GCMS EPA TO-15

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/m³

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	06/02/14	06/02/14	06/02/14	06/02/14
Date Analyzed:	06/03/14	06/02/14	06/03/14	06/03/14
AA ID No:	4E30004-01	4E30004-02	4E30004-03	4E30004-04
Client ID No:	V-1	V-2	V-3	V-4
Matrix:	Vapor	Vapor	Vapor	Vapor
Dilution Factor:	20	2	2	2

MRL

TO-15 (ug/m3) (TO-15)

Acetone	<100	49	<10	55	5.0
Allyl chloride	<100	<10	<10	<10	5.0
Benzene	<100	<10	76	<10	5.0
Benzyl chloride	<100	<10	<10	<10	5.0
Bromodichloromethane	<100	<10	<10	<10	5.0
Bromoform	<100	<10	<10	<10	5.0
Bromomethane	<100	<10	<10	<10	5.0
1,3-Butadiene	<100	<10	<10	<10	5.0
2-Butanone (MEK)	<100	13	<10	14	5.0
Carbon Disulfide	<100	<10	<10	<10	5.0
Carbon Tetrachloride	<100	<10	<10	<10	5.0
Chlorobenzene	<100	<10	<10	<10	5.0
Chloroethane	<100	<10	<10	<10	5.0
Chloroform	<100	<10	<10	<10	5.0
Chloromethane	<100	<10	<10	<10	5.0
Cyclohexane	<100	11	92	11	5.0
Dibromochloromethane	<100	<10	<10	<10	5.0
1,2-Dibromoethane (EDB)	<100	<10	<10	<10	5.0
1,2-Dichlorobenzene	<100	<10	<10	<10	5.0
1,3-Dichlorobenzene	<100	<10	<10	<10	5.0
1,4-Dichlorobenzene	<100	<10	<10	<10	5.0
Dichlorodifluoromethane (R12)	<100	<10	<10	<10	5.0
1,1-Dichloroethane	<100	<10	<10	<10	5.0
1,2-Dichloroethane (EDC)	<100	<10	<10	<10	5.0
cis-1,2-Dichloroethylene	<100	<10	<10	<10	5.0
1,1-Dichloroethylene	<100	<10	<10	<10	5.0
trans-1,2-Dichloroethylene	<100	<10	<10	<10	5.0

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GCMS EPA TO-15

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/m³

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	06/02/14	06/02/14	06/02/14	06/02/14
Date Analyzed:	06/03/14	06/02/14	06/03/14	06/03/14
AA ID No:	4E30004-01	4E30004-02	4E30004-03	4E30004-04
Client ID No:	V-1	V-2	V-3	V-4
Matrix:	Vapor	Vapor	Vapor	Vapor
Dilution Factor:	20	2	2	2
				MRL

TO-15 (ug/m3) (TO-15) (continued)

1,2-Dichloropropane	<100	<10	<10	<10	5.0
trans-1,3-Dichloropropylene	<100	<10	<10	<10	5.0
cis-1,3-Dichloropropylene	<100	<10	<10	<10	5.0
Dichlorotetrafluoroethane	<100	<10	<10	<10	5.0
1,4-Dioxane	<100	<10	<10	<10	5.0
Ethyl Acetate	<100	<10	<10	<10	5.0
Ethylbenzene	<100	<10	<10	<10	5.0
4-Ethyltoluene	<100	<10	<10	<10	5.0
Heptane	<100	33	68	<10	5.0
Hexachlorobutadiene	<100	<10	<10	<10	5.0
n-Hexane	<100	21	150	<10	5.0
2-Hexanone (MBK)	<100	<10	<10	<10	5.0
Isopropanol (IPA)	<100	<10	<10	<10	5.0
Methyl-tert-Butyl Ether (MTBE)	<100	<10	<10	<10	5.0
Methylene Chloride	<100	<10	<10	<10	5.0
4-Methyl-2-pentanone (MIBK)	<100	<10	<10	<10	5.0
Propylene	<100	15	<10	<10	5.0
Styrene	<100	<10	<10	<10	5.0
1,1,2,2-Tetrachloroethane	<100	<10	<10	<10	5.0
Tetrachloroethylene (PCE)	15000	110	<10	<10	5.0
Tetrahydrofuran (THF)	<100	<10	<10	<10	5.0
Toluene	<100	14	<10	11	5.0
1,2,4-Trichlorobenzene	<100	<10	<10	<10	5.0
1,1,2-Trichloroethane	<100	<10	<10	<10	5.0
1,1,1-Trichloroethane	<100	<10	<10	<10	5.0
Trichloroethylene (TCE)	<100	<10	<10	<10	5.0
Trichlorofluoromethane (R11)	<100	<10	<10	<10	5.0

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GCMS EPA TO-15

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/m³

Date Sampled:	05/29/14	05/29/14	05/29/14	05/29/14
Date Prepared:	06/02/14	06/02/14	06/02/14	06/02/14
Date Analyzed:	06/03/14	06/02/14	06/03/14	06/03/14
AA ID No:	4E30004-01	4E30004-02	4E30004-03	4E30004-04
Client ID No:	V-1	V-2	V-3	V-4
Matrix:	Vapor	Vapor	Vapor	Vapor
Dilution Factor:	20	2	2	2

MRL

TO-15 (ug/m3) (TO-15) (continued)

1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<100	<10	<10	<10	5.0
1,3,5-Trimethylbenzene	<100	<10	<10	<10	5.0
1,2,4-Trimethylbenzene	140	<10	<10	<10	5.0
2,2,4-Trimethylpentane	<100	<10	<10	<10	5.0
Vinyl acetate	<100	<10	<10	<10	5.0
Vinyl bromide	<100	<10	<10	<10	5.0
Vinyl chloride	<100	<10	<10	<10	5.0
o-Xylene	180	<10	<10	<10	5.0
m,p-Xylenes	260	<10	<10	<10	5.0

Surrogates

4-Bromofluorobenzene	98%	97%	104%	94%

%REC Limits

70-130

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GCMS EPA TO-15

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/m³

Date Sampled:	05/29/14	
Date Prepared:	06/02/14	
Date Analyzed:	06/03/14	
AA ID No:	4E30004-05	
Client ID No:	V-5	
Matrix:	Vapor	
Dilution Factor:	2	MRL

TO-15 (ug/m3) (TO-15)

Acetone	55	5.0
Allyl chloride	<10	5.0
Benzene	<10	5.0
Benzyl chloride	<10	5.0
Bromodichloromethane	<10	5.0
Bromoform	<10	5.0
Bromomethane	<10	5.0
1,3-Butadiene	<10	5.0
2-Butanone (MEK)	16	5.0
Carbon Disulfide	<10	5.0
Carbon Tetrachloride	<10	5.0
Chlorobenzene	<10	5.0
Chloroethane	<10	5.0
Chloroform	<10	5.0
Chloromethane	<10	5.0
Cyclohexane	<10	5.0
Dibromochloromethane	<10	5.0
1,2-Dibromoethane (EDB)	<10	5.0
1,2-Dichlorobenzene	<10	5.0
1,3-Dichlorobenzene	<10	5.0
1,4-Dichlorobenzene	<10	5.0
Dichlorodifluoromethane (R12)	<10	5.0
1,1-Dichloroethane	<10	5.0
1,2-Dichloroethane (EDC)	<10	5.0
cis-1,2-Dichloroethylene	<10	5.0
1,1-Dichloroethylene	<10	5.0
trans-1,2-Dichloroethylene	<10	5.0

Allen Aminian
 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GCMS EPA TO-15

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/m³

Date Sampled:	05/29/14	
Date Prepared:	06/02/14	
Date Analyzed:	06/03/14	
AA ID No:	4E30004-05	
Client ID No:	V-5	
Matrix:	Vapor	
Dilution Factor:	2	MRL

TO-15 (ug/m3) (TO-15) (continued)

1,2-Dichloropropane	<10	5.0
trans-1,3-Dichloropropylene	<10	5.0
cis-1,3-Dichloropropylene	<10	5.0
Dichlorotetrafluoroethane	<10	5.0
1,4-Dioxane	<10	5.0
Ethyl Acetate	<10	5.0
Ethylbenzene	<10	5.0
4-Ethyltoluene	<10	5.0
Heptane	<10	5.0
Hexachlorobutadiene	<10	5.0
n-Hexane	<10	5.0
2-Hexanone (MBK)	<10	5.0
Isopropanol (IPA)	<10	5.0
Methyl-tert-Butyl Ether (MTBE)	<10	5.0
Methylene Chloride	<10	5.0
4-Methyl-2-pentanone (MIBK)	<10	5.0
Propylene	<10	5.0
Styrene	<10	5.0
1,1,2,2-Tetrachloroethane	<10	5.0
Tetrachloroethylene (PCE)	<10	5.0
Tetrahydrofuran (THF)	<10	5.0
Toluene	<10	5.0
1,2,4-Trichlorobenzene	<10	5.0
1,1,2-Trichloroethane	<10	5.0
1,1,1-Trichloroethane	<10	5.0
Trichloroethylene (TCE)	<10	5.0
Trichlorofluoromethane (R11)	<10	5.0

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 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GCMS EPA TO-15

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14
Units: ug/m³

Date Sampled:	05/29/14	
Date Prepared:	06/02/14	
Date Analyzed:	06/03/14	
AA ID No:	4E30004-05	
Client ID No:	V-5	
Matrix:	Vapor	
Dilution Factor:	2	MRL

TO-15 (ug/m3) (TO-15) (continued)

1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<10	5.0
1,3,5-Trimethylbenzene	<10	5.0
1,2,4-Trimethylbenzene	<10	5.0
2,2,4-Trimethylpentane	<10	5.0
Vinyl acetate	<10	5.0
Vinyl bromide	<10	5.0
Vinyl chloride	<10	5.0
o-Xylene	<10	5.0
m,p-Xylenes	<10	5.0

<u>Surrogates</u>		<u>%REC Limits</u>
4-Bromofluorobenzene	100%	70-130

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 QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Organochlorine Pesticides by GC EPA 8081A - Quality Control

Batch B4F0213 - EPA 3540C

Blank (B4F0213-BLK1)

Prepared: 06/02/14 Analyzed: 06/04/14

4,4'-DDD	<4.0	4.0	ug/kg
4,4'-DDE	<4.0	4.0	ug/kg
4,4'-DDT	<4.0	4.0	ug/kg
Aldrin	<2.0	2.0	ug/kg
beta-BHC	<2.0	2.0	ug/kg
delta-BHC	<2.0	2.0	ug/kg
alpha-BHC	<2.0	2.0	ug/kg
gamma-BHC (Lindane)	<4.0	4.0	ug/kg
gamma-Chlordane	<4.0	4.0	ug/kg
alpha-Chlordane	<4.0	4.0	ug/kg
Chlordane	<20	20	ug/kg
Dieldrin	<2.0	2.0	ug/kg
Endosulfan I	<2.0	2.0	ug/kg
Endosulfan II	<4.0	4.0	ug/kg
Endosulfan sulfate	<4.0	4.0	ug/kg
Endrin	<4.0	4.0	ug/kg
Endrin aldehyde	<4.0	4.0	ug/kg
Endrin ketone	<4.0	4.0	ug/kg
Heptachlor	<2.0	2.0	ug/kg
Heptachlor epoxide	<2.0	2.0	ug/kg
Methoxychlor	<20	20	ug/kg
Toxaphene	<100	100	ug/kg

Surrogate: Decachlorobiphenyl

6.80

ug/kg

5.0

136 50-150

Surrogate: Tetrachloro-meta-xylene

4.59

ug/kg

5.0

91.9 50-150

LCS (B4F0213-BS1)

Prepared: 06/02/14 Analyzed: 06/04/14

4,4'-DDD	6.42	4.0	ug/kg	5.0	128	60-140
4,4'-DDE	6.90	4.0	ug/kg	5.0	138	60-140
4,4'-DDT	6.87	4.0	ug/kg	5.0	137	60-140
Aldrin	6.66	2.0	ug/kg	5.0	133	60-140
beta-BHC	6.73	2.0	ug/kg	5.0	135	60-140
delta-BHC	6.99	2.0	ug/kg	5.0	140	60-140

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Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Organochlorine Pesticides by GC EPA 8081A - Quality Control										
<i>Batch B4F0213 - EPA 3540C</i>										
LCS (B4F0213-BS1) Continued					Prepared: 06/02/14 Analyzed: 06/04/14					
alpha-BHC	6.46	2.0	ug/kg	5.0		129	60-140			
gamma-BHC (Lindane)	6.68	4.0	ug/kg	5.0		134	60-140			
gamma-Chlordane	6.97	4.0	ug/kg	5.0		139	60-140			
alpha-Chlordane	6.96	4.0	ug/kg	5.0		139	60-140			
Dieldrin	6.90	2.0	ug/kg	5.0		138	60-140			
Endosulfan I	6.81	2.0	ug/kg	5.0		136	60-140			
Endosulfan II	6.92	4.0	ug/kg	5.0		138	60-140			
Endosulfan sulfate	6.98	4.0	ug/kg	5.0		140	60-140			
Endrin	6.29	4.0	ug/kg	5.0		126	60-140			
Endrin aldehyde	6.86	4.0	ug/kg	5.0		137	60-140			
Endrin ketone	6.84	4.0	ug/kg	5.0		137	60-140			
Heptachlor	6.69	2.0	ug/kg	5.0		134	60-140			
Heptachlor epoxide	6.88	2.0	ug/kg	5.0		138	60-140			
Methoxychlor	6.44	20	ug/kg	5.0		129	60-140			
Surrogate: Decachlorobiphenyl	6.47		ug/kg	5.0		129	50-150			
Surrogate: Tetrachloro-meta-xylene	5.56		ug/kg	5.0		111	50-150			
LCS Dup (B4F0213-BSD1)					Prepared: 06/02/14 Analyzed: 06/04/14					
4,4'-DDD	6.58	4.0	ug/kg	5.0		132	60-140	2.53	40	
4,4'-DDE	6.97	4.0	ug/kg	5.0		139	60-140	0.897	40	
4,4'-DDT	6.70	4.0	ug/kg	5.0		134	60-140	2.37	40	
Aldrin	6.95	2.0	ug/kg	5.0		139	60-140	4.17	40	
beta-BHC	6.98	2.0	ug/kg	5.0		140	60-140	3.70	40	
delta-BHC	6.95	2.0	ug/kg	5.0		139	60-140	0.547	40	
alpha-BHC	6.76	2.0	ug/kg	5.0		135	60-140	4.48	40	
gamma-BHC (Lindane)	6.99	4.0	ug/kg	5.0		140	60-140	4.48	40	
gamma-Chlordane	6.98	4.0	ug/kg	5.0		140	60-140	0.128	40	
alpha-Chlordane	6.93	4.0	ug/kg	5.0		139	60-140	0.330	40	
Dieldrin	6.83	2.0	ug/kg	5.0		137	60-140	0.936	40	
Endosulfan I	6.89	2.0	ug/kg	5.0		138	60-140	1.02	40	
Endosulfan II	6.97	4.0	ug/kg	5.0		139	60-140	0.753	40	
Endosulfan sulfate	6.99	4.0	ug/kg	5.0		140	60-140	0.241	40	

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QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Organochlorine Pesticides by GC EPA 8081A - Quality Control

Batch B4F0213 - EPA 3540C

LCS Dup (B4F0213-BSD1) Continued

Prepared: 06/02/14 Analyzed: 06/04/14

Endrin	6.53	4.0	ug/kg	5.0		131	60-140	3.65	40	
Endrin aldehyde	6.89	4.0	ug/kg	5.0		138	60-140	0.432	40	
Endrin ketone	6.85	4.0	ug/kg	5.0		137	60-140	0.156	40	
Heptachlor	6.88	2.0	ug/kg	5.0		138	60-140	2.79	40	
Heptachlor epoxide	6.99	2.0	ug/kg	5.0		140	60-140	1.65	40	
Methoxychlor	6.62	20	ug/kg	5.0		132	60-140	2.71	40	
Surrogate: Decachlorobiphenyl	6.93		ug/kg	5.0		139	50-150			
Surrogate: Tetrachloro-meta-xylene	5.70		ug/kg	5.0		114	50-150			

VOCs by GC/MS - Quality Control

Batch B4E3008 - EPA 5035

Blank (B4E3008-BLK1)

Prepared & Analyzed: 05/30/14

Acetone	<50	50	ug/kg							
Benzene	<2.0	2.0	ug/kg							
Bromobenzene	<5.0	5.0	ug/kg							
Bromochloromethane	<5.0	5.0	ug/kg							
Bromodichloromethane	<5.0	5.0	ug/kg							
Bromoform	<5.0	5.0	ug/kg							
Bromomethane	<5.0	5.0	ug/kg							
2-Butanone (MEK)	<50	50	ug/kg							
sec-Butylbenzene	<5.0	5.0	ug/kg							
n-Butylbenzene	<5.0	5.0	ug/kg							
tert-Butylbenzene	<5.0	5.0	ug/kg							
Carbon Disulfide	<5.0	5.0	ug/kg							
Carbon Tetrachloride	<5.0	5.0	ug/kg							
Chlorobenzene	<5.0	5.0	ug/kg							
Chloroethane	<5.0	5.0	ug/kg							
Chloroform	<5.0	5.0	ug/kg							
Chloromethane	<5.0	5.0	ug/kg							
4-Chlorotoluene	<5.0	5.0	ug/kg							
2-Chlorotoluene	<5.0	5.0	ug/kg							
1,2-Dibromo-3-chloropropane	<10	10	ug/kg							

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4E3008 - EPA 5035										
Blank (B4E3008-BLK1) Continued										
Prepared & Analyzed: 05/30/14										
Dibromochloromethane	<5.0	5.0	ug/kg							
1,2-Dibromoethane (EDB)	<5.0	5.0	ug/kg							
Dibromomethane	<5.0	5.0	ug/kg							
1,3-Dichlorobenzene	<5.0	5.0	ug/kg							
1,2-Dichlorobenzene	<5.0	5.0	ug/kg							
1,4-Dichlorobenzene	<5.0	5.0	ug/kg							
Dichlorodifluoromethane (R12)	<5.0	5.0	ug/kg							
1,1-Dichloroethane	<5.0	5.0	ug/kg							
1,2-Dichloroethane (EDC)	<5.0	5.0	ug/kg							
1,1-Dichloroethylene	<5.0	5.0	ug/kg							
trans-1,2-Dichloroethylene	<5.0	5.0	ug/kg							
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg							
2,2-Dichloropropane	<5.0	5.0	ug/kg							
1,2-Dichloropropane	<5.0	5.0	ug/kg							
1,3-Dichloropropane	<5.0	5.0	ug/kg							
1,1-Dichloropropylene	<5.0	5.0	ug/kg							
cis-1,3-Dichloropropylene	<5.0	5.0	ug/kg							
trans-1,3-Dichloropropylene	<5.0	5.0	ug/kg							
Ethylbenzene	<2.0	2.0	ug/kg							
Hexachlorobutadiene	<10	10	ug/kg							
2-Hexanone (MBK)	<50	50	ug/kg							
Isopropylbenzene	<5.0	5.0	ug/kg							
4-Isopropyltoluene	<5.0	5.0	ug/kg							
Methyl-tert-Butyl Ether (MTBE)	<5.0	5.0	ug/kg							
Methylene Chloride	<50	50	ug/kg							
4-Methyl-2-pentanone (MIBK)	<50	50	ug/kg							
Naphthalene	<10	10	ug/kg							
n-Propylbenzene	<5.0	5.0	ug/kg							
Styrene	<5.0	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg							
1,1,1,2-Tetrachloroethane	<5.0	5.0	ug/kg							
Tetrachloroethylene (PCE)	<5.0	5.0	ug/kg							

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4E3008 - EPA 5035										
Blank (B4E3008-BLK1) Continued										
Prepared & Analyzed: 05/30/14										
Toluene	<2.0	2.0	ug/kg							
1,2,4-Trichlorobenzene	<5.0	5.0	ug/kg							
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg							
1,1,2-Trichloroethane	<5.0	5.0	ug/kg							
1,1,1-Trichloroethane	<5.0	5.0	ug/kg							
Trichloroethylene (TCE)	<5.0	5.0	ug/kg							
Trichlorofluoromethane (R11)	<5.0	5.0	ug/kg							
1,2,3-Trichloropropane	<5.0	5.0	ug/kg							
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<5.0	5.0	ug/kg							
1,2,4-Trimethylbenzene	<5.0	5.0	ug/kg							
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg							
Vinyl chloride	<5.0	5.0	ug/kg							
o-Xylene	<2.0	2.0	ug/kg							
m,p-Xylenes	<2.0	2.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	97.8		ug/kg	100		97.8	70-140			
Surrogate: Dibromofluoromethane	97.0		ug/kg	100		97.0	70-140			
Surrogate: Toluene-d8	94.7		ug/kg	100		94.7	70-140			
LCS (B4E3008-BS1)										
Prepared & Analyzed: 05/30/14										
Benzene	39.4	2.0	ug/kg	40		98.4	75-125			
Bromodichloromethane	44.5	5.0	ug/kg	40		111	75-125			
Bromoform	43.3	5.0	ug/kg	40		108	75-125			
Carbon Tetrachloride	43.6	5.0	ug/kg	40		109	75-125			
Chlorobenzene	37.8	5.0	ug/kg	40		94.4	75-125			
Chloroethane	40.0	5.0	ug/kg	40		100	75-125			
Chloroform	39.8	5.0	ug/kg	40		99.5	75-125			
Chloromethane	42.9	5.0	ug/kg	40		107	65-125			
Dibromochloromethane	41.8	5.0	ug/kg	40		105	75-125			
1,4-Dichlorobenzene	44.0	5.0	ug/kg	40		110	75-125			
1,1-Dichloroethane	39.5	5.0	ug/kg	40		98.7	70-125			
1,2-Dichloroethane (EDC)	45.6	5.0	ug/kg	40		114	75-125			

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

VOCs by GC/MS - Quality Control

Batch B4E3008 - EPA 5035

LCS (B4E3008-BS1) Continued

Prepared & Analyzed: 05/30/14

1,1-Dichloroethylene	36.2	5.0	ug/kg	40		90.6	70-130			
trans-1,2-Dichloroethylene	39.0	5.0	ug/kg	40		97.4	75-125			
cis-1,2-Dichloroethylene	39.1	5.0	ug/kg	40		97.8	75-125			
1,2-Dichloropropane	41.3	5.0	ug/kg	40		103	75-130			
cis-1,3-Dichloropropylene	42.9	5.0	ug/kg	40		107	75-125			
Ethylbenzene	35.5	2.0	ug/kg	40		88.7	75-125			
Methyl-tert-Butyl Ether (MTBE)	50.0	5.0	ug/kg	40		125	75-125			
Methylene Chloride	41.6	5.0	ug/kg	40		104	75-130			
1,1,2,2-Tetrachloroethane	44.4	5.0	ug/kg	40		111	70-135			
Tetrachloroethylene (PCE)	38.6	5.0	ug/kg	40		96.4	75-125			
Toluene	36.0	2.0	ug/kg	40		89.9	75-125			
1,1,2-Trichloroethane	43.9	5.0	ug/kg	40		110	75-125			
1,1,1-Trichloroethane	44.6	5.0	ug/kg	40		111	75-125			
Trichloroethylene (TCE)	41.3	5.0	ug/kg	40		103	75-125			
Vinyl chloride	36.3	5.0	ug/kg	40		90.8	75-125			
o-Xylene	37.1	2.0	ug/kg	40		92.7	75-125			

Surrogate: 4-Bromofluorobenzene

92.2 ug/kg 100 92.2 70-140

Surrogate: Dibromofluoromethane

97.0 ug/kg 100 97.0 70-140

Surrogate: Toluene-d8

92.5 ug/kg 100 92.5 70-140

LCS Dup (B4E3008-BSD1)

Prepared & Analyzed: 05/30/14

Benzene	40.6	2.0	ug/kg	40		102	75-125	3.05	30	
Bromodichloromethane	46.7	5.0	ug/kg	40		117	75-125	4.96	30	
Bromoform	47.1	5.0	ug/kg	40		118	75-125	8.31	30	
Carbon Tetrachloride	45.9	5.0	ug/kg	40		115	75-125	5.23	30	
Chlorobenzene	36.5	5.0	ug/kg	40		91.2	75-125	3.50	30	
Chloroethane	44.2	5.0	ug/kg	40		111	75-125	9.97	30	
Chloroform	42.6	5.0	ug/kg	40		106	75-125	6.70	30	
Chloromethane	46.1	5.0	ug/kg	40		115	65-125	7.19	30	
Dibromochloromethane	45.4	5.0	ug/kg	40		114	75-125	8.21	30	
1,4-Dichlorobenzene	42.2	5.0	ug/kg	40		105	75-125	4.27	30	
1,1-Dichloroethane	41.4	5.0	ug/kg	40		104	70-125	4.84	30	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4E3008 - EPA 5035										
LCS Dup (B4E3008-BSD1) Continued										
					Prepared & Analyzed: 05/30/14					
1,2-Dichloroethane (EDC)	46.9	5.0	ug/kg	40		117	75-125	2.94	30	
1,1-Dichloroethylene	38.7	5.0	ug/kg	40		96.8	70-130	6.57	30	
trans-1,2-Dichloroethylene	40.8	5.0	ug/kg	40		102	75-125	4.46	30	
cis-1,2-Dichloroethylene	41.4	5.0	ug/kg	40		104	75-125	5.76	30	
1,2-Dichloropropane	41.6	5.0	ug/kg	40		104	75-130	0.579	30	
cis-1,3-Dichloropropylene	41.8	5.0	ug/kg	40		105	75-125	2.59	30	
Ethylbenzene	32.5	2.0	ug/kg	40		81.2	75-125	8.89	30	
Methyl-tert-Butyl Ether (MTBE)	54.5	5.0	ug/kg	40		136	75-125	8.54	30	AA-C1
Methylene Chloride	46.2	50	ug/kg	40		115	75-130	10.4	30	
1,1,2,2-Tetrachloroethane	45.1	5.0	ug/kg	40		113	70-135	1.56	30	
Tetrachloroethylene (PCE)	39.2	5.0	ug/kg	40		98.1	75-125	1.75	30	
Toluene	37.8	2.0	ug/kg	40		94.4	75-125	4.94	30	
1,1,2-Trichloroethane	48.9	5.0	ug/kg	40		122	75-125	10.9	30	
1,1,1-Trichloroethane	46.8	5.0	ug/kg	40		117	75-125	4.90	30	
Trichloroethylene (TCE)	42.0	5.0	ug/kg	40		105	75-125	1.73	30	
Vinyl chloride	41.2	5.0	ug/kg	40		103	75-125	12.4	30	
o-Xylene	35.3	2.0	ug/kg	40		88.2	75-125	5.03	30	
Surrogate: 4-Bromofluorobenzene	91.4		ug/kg	100		91.4	70-140			
Surrogate: Dibromofluoromethane	103		ug/kg	100		103	70-140			
Surrogate: Toluene-d8	96.2		ug/kg	100		96.2	70-140			
Matrix Spike (B4E3008-MS1)										
					Source: 4E30004-12 Prepared & Analyzed: 05/30/14					
Benzene	43.8	2.0	ug/kg	40	<2.0	109	70-130			
Bromoform	43.9	5.0	ug/kg	40	<5.0	110	70-130			
Chlorobenzene	35.7	5.0	ug/kg	40	<5.0	89.4	70-130			
Chloroform	47.8	5.0	ug/kg	40	<5.0	119	70-130			
1,1-Dichloroethane	47.0	5.0	ug/kg	40	<5.0	117	70-130			
1,1-Dichloroethylene	43.9	5.0	ug/kg	40	<5.0	110	70-130			
cis-1,2-Dichloroethylene	45.1	5.0	ug/kg	40	<5.0	113	70-130			
1,2-Dichloropropane	47.6	5.0	ug/kg	40	<5.0	119	70-130			
Ethylbenzene	36.6	2.0	ug/kg	40	<2.0	91.4	70-130			
Methyl-tert-Butyl Ether (MTBE)	64.5	5.0	ug/kg	40	<5.0	161	70-130			QM-07

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

VOCs by GC/MS - Quality Control

Batch B4E3008 - EPA 5035

Matrix Spike (B4E3008-MS1) Continued Source: 4E30004-12 Prepared & Analyzed: 05/30/14

n-Propylbenzene	50.1	5.0	ug/kg	40	<5.0	125	70-130			
Tetrachloroethylene (PCE)	49.7	5.0	ug/kg	40	8.04	104	70-130			
Toluene	37.5	2.0	ug/kg	40	<2.0	93.8	70-130			
1,1,1-Trichloroethane	49.9	5.0	ug/kg	40	<5.0	125	70-130			
Trichloroethylene (TCE)	46.8	5.0	ug/kg	40	<5.0	117	70-130			
1,3,5-Trimethylbenzene	47.9	5.0	ug/kg	40	<5.0	120	70-130			
Vinyl chloride	48.6	5.0	ug/kg	40	<5.0	122	70-130			

Surrogate: 4-Bromofluorobenzene 91.9 ug/kg 100 91.9 70-140

Surrogate: Dibromofluoromethane 114 ug/kg 100 114 70-140

Surrogate: Toluene-d8 103 ug/kg 100 103 70-140

Batch B4F0215 - EPA 5035

Blank (B4F0215-BLK1)

Prepared & Analyzed: 06/02/14

Acetone	<50	50	ug/kg							
Benzene	<2.0	2.0	ug/kg							
Bromobenzene	<5.0	5.0	ug/kg							
Bromochloromethane	<5.0	5.0	ug/kg							
Bromodichloromethane	<5.0	5.0	ug/kg							
Bromoform	<5.0	5.0	ug/kg							
Bromomethane	<5.0	5.0	ug/kg							
2-Butanone (MEK)	<50	50	ug/kg							
sec-Butylbenzene	<5.0	5.0	ug/kg							
n-Butylbenzene	<5.0	5.0	ug/kg							
tert-Butylbenzene	<5.0	5.0	ug/kg							
Carbon Disulfide	<5.0	5.0	ug/kg							
Carbon Tetrachloride	<5.0	5.0	ug/kg							
Chlorobenzene	<5.0	5.0	ug/kg							
Chloroethane	<5.0	5.0	ug/kg							
Chloroform	<5.0	5.0	ug/kg							
Chloromethane	<5.0	5.0	ug/kg							
4-Chlorotoluene	<5.0	5.0	ug/kg							
2-Chlorotoluene	<5.0	5.0	ug/kg							

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4F0215 - EPA 5035										
Blank (B4F0215-BLK1) Continued										
Prepared & Analyzed: 06/02/14										
1,2-Dibromo-3-chloropropane	<10	10	ug/kg							
Dibromochloromethane	<5.0	5.0	ug/kg							
1,2-Dibromoethane (EDB)	<5.0	5.0	ug/kg							
Dibromomethane	<5.0	5.0	ug/kg							
1,3-Dichlorobenzene	<5.0	5.0	ug/kg							
1,2-Dichlorobenzene	<5.0	5.0	ug/kg							
1,4-Dichlorobenzene	<5.0	5.0	ug/kg							
Dichlorodifluoromethane (R12)	<5.0	5.0	ug/kg							
1,1-Dichloroethane	<5.0	5.0	ug/kg							
1,2-Dichloroethane (EDC)	<5.0	5.0	ug/kg							
1,1-Dichloroethylene	<5.0	5.0	ug/kg							
trans-1,2-Dichloroethylene	<5.0	5.0	ug/kg							
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg							
2,2-Dichloropropane	<5.0	5.0	ug/kg							
1,2-Dichloropropane	<5.0	5.0	ug/kg							
1,3-Dichloropropane	<5.0	5.0	ug/kg							
1,1-Dichloropropylene	<5.0	5.0	ug/kg							
cis-1,3-Dichloropropylene	<5.0	5.0	ug/kg							
trans-1,3-Dichloropropylene	<5.0	5.0	ug/kg							
Ethylbenzene	<2.0	2.0	ug/kg							
Hexachlorobutadiene	<10	10	ug/kg							
2-Hexanone (MBK)	<50	50	ug/kg							
Isopropylbenzene	<5.0	5.0	ug/kg							
4-Isopropyltoluene	<5.0	5.0	ug/kg							
Methyl-tert-Butyl Ether (MTBE)	<5.0	5.0	ug/kg							
Methylene Chloride	<50	50	ug/kg							
4-Methyl-2-pentanone (MIBK)	<50	50	ug/kg							
Naphthalene	<10	10	ug/kg							
n-Propylbenzene	<5.0	5.0	ug/kg							
Styrene	<5.0	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg							
1,1,1,2-Tetrachloroethane	<5.0	5.0	ug/kg							

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

VOCs by GC/MS - Quality Control

Batch B4F0215 - EPA 5035

Blank (B4F0215-BLK1) Continued

Prepared & Analyzed: 06/02/14

Tetrachloroethylene (PCE)	<5.0	5.0	ug/kg
Toluene	<2.0	2.0	ug/kg
1,2,4-Trichlorobenzene	<5.0	5.0	ug/kg
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg
1,1,2-Trichloroethane	<5.0	5.0	ug/kg
1,1,1-Trichloroethane	<5.0	5.0	ug/kg
Trichloroethylene (TCE)	<5.0	5.0	ug/kg
Trichlorofluoromethane (R11)	<5.0	5.0	ug/kg
1,2,3-Trichloropropane	<5.0	5.0	ug/kg
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<5.0	5.0	ug/kg
1,2,4-Trimethylbenzene	<5.0	5.0	ug/kg
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg
Vinyl chloride	<5.0	5.0	ug/kg
o-Xylene	<2.0	2.0	ug/kg
m,p-Xylenes	<2.0	2.0	ug/kg

Surrogate: 4-Bromofluorobenzene	101		ug/kg	100	101	70-140
Surrogate: Dibromofluoromethane	104		ug/kg	100	104	70-140
Surrogate: Toluene-d8	95.4		ug/kg	100	95.4	70-140

LCS (B4F0215-BS1)

Prepared & Analyzed: 06/02/14

Benzene	41.9	2.0	ug/kg	40	105	75-125
Bromodichloromethane	47.0	5.0	ug/kg	40	118	75-125
Bromoform	44.3	5.0	ug/kg	40	111	75-125
Carbon Tetrachloride	46.4	5.0	ug/kg	40	116	75-125
Chlorobenzene	37.3	5.0	ug/kg	40	93.2	75-125
Chloroethane	44.8	5.0	ug/kg	40	112	75-125
Chloroform	43.4	5.0	ug/kg	40	108	75-125
Chloromethane	45.4	5.0	ug/kg	40	113	65-125
Dibromochloromethane	43.7	5.0	ug/kg	40	109	75-125
1,4-Dichlorobenzene	43.3	5.0	ug/kg	40	108	75-125
1,1-Dichloroethane	43.9	5.0	ug/kg	40	110	70-125

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4F0215 - EPA 5035										
LCS (B4F0215-BS1) Continued					Prepared & Analyzed: 06/02/14					
1,2-Dichloroethane (EDC)	46.4	5.0	ug/kg	40		116	75-125			
1,1-Dichloroethylene	39.0	5.0	ug/kg	40		97.4	70-130			
trans-1,2-Dichloroethylene	41.5	5.0	ug/kg	40		104	75-125			
cis-1,2-Dichloroethylene	41.2	5.0	ug/kg	40		103	75-125			
1,2-Dichloropropane	44.1	5.0	ug/kg	40		110	75-130			
cis-1,3-Dichloropropylene	43.8	5.0	ug/kg	40		109	75-125			
Ethylbenzene	37.4	2.0	ug/kg	40		93.6	75-125			
Methyl-tert-Butyl Ether (MTBE)	52.5	5.0	ug/kg	40		131	75-125			AA-C1
Methylene Chloride	47.8	50	ug/kg	40		120	75-130			
1,1,2,2-Tetrachloroethane	46.8	5.0	ug/kg	40		117	70-135			
Tetrachloroethylene (PCE)	42.0	5.0	ug/kg	40		105	75-125			
Toluene	38.6	2.0	ug/kg	40		96.6	75-125			
1,1,2-Trichloroethane	48.1	5.0	ug/kg	40		120	75-125			
1,1,1-Trichloroethane	49.7	5.0	ug/kg	40		124	75-125			
Trichloroethylene (TCE)	43.2	5.0	ug/kg	40		108	75-125			
Vinyl chloride	39.1	5.0	ug/kg	40		97.8	75-125			
o-Xylene	37.6	2.0	ug/kg	40		93.9	75-125			
Surrogate: 4-Bromofluorobenzene	96.5		ug/kg	100		96.5	70-140			
Surrogate: Dibromofluoromethane	101		ug/kg	100		101	70-140			
Surrogate: Toluene-d8	96.4		ug/kg	100		96.4	70-140			
LCS Dup (B4F0215-BSD1)					Prepared: 06/02/14 Analyzed: 06/03/14					
Benzene	38.9	2.0	ug/kg	40		97.2	75-125	7.33	30	
Bromodichloromethane	45.9	5.0	ug/kg	40		115	75-125	2.54	30	
Bromoform	39.0	5.0	ug/kg	40		97.6	75-125	12.7	30	
Carbon Tetrachloride	39.9	5.0	ug/kg	40		99.7	75-125	15.2	30	
Chlorobenzene	36.3	5.0	ug/kg	40		90.8	75-125	2.55	30	
Chloroethane	42.3	5.0	ug/kg	40		106	75-125	5.79	30	
Chloroform	42.6	5.0	ug/kg	40		106	75-125	1.81	30	
Chloromethane	42.7	5.0	ug/kg	40		107	65-125	5.99	30	
Dibromochloromethane	38.8	5.0	ug/kg	40		97.1	75-125	11.7	30	
1,4-Dichlorobenzene	43.1	5.0	ug/kg	40		108	75-125	0.463	30	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

VOCs by GC/MS - Quality Control

Batch B4F0215 - EPA 5035

LCS Dup (B4F0215-BSD1) Continued

Prepared: 06/02/14 Analyzed: 06/03/14

1,1-Dichloroethane	41.2	5.0	ug/kg	40		103	70-125	6.30	30	
1,2-Dichloroethane (EDC)	47.7	5.0	ug/kg	40		119	75-125	2.76	30	
1,1-Dichloroethylene	37.6	5.0	ug/kg	40		94.0	70-130	3.60	30	
trans-1,2-Dichloroethylene	38.9	5.0	ug/kg	40		97.3	75-125	6.37	30	
cis-1,2-Dichloroethylene	40.5	5.0	ug/kg	40		101	75-125	1.57	30	
1,2-Dichloropropane	43.3	5.0	ug/kg	40		108	75-130	1.83	30	
cis-1,3-Dichloropropylene	42.9	5.0	ug/kg	40		107	75-125	2.03	30	
Ethylbenzene	36.3	2.0	ug/kg	40		90.7	75-125	3.09	30	
Methyl-tert-Butyl Ether (MTBE)	49.0	5.0	ug/kg	40		123	75-125	6.86	30	
Methylene Chloride	49.0	50	ug/kg	40		123	75-130	2.52	30	
1,1,2,2-Tetrachloroethane	40.8	5.0	ug/kg	40		102	70-135	13.7	30	
Tetrachloroethylene (PCE)	35.0	5.0	ug/kg	40		87.4	75-125	18.3	30	
Toluene	36.5	2.0	ug/kg	40		91.2	75-125	5.64	30	
1,1,2-Trichloroethane	43.3	5.0	ug/kg	40		108	75-125	10.3	30	
1,1,1-Trichloroethane	41.7	5.0	ug/kg	40		104	75-125	17.4	30	
Trichloroethylene (TCE)	41.0	5.0	ug/kg	40		102	75-125	5.23	30	
Vinyl chloride	36.6	5.0	ug/kg	40		91.6	75-125	6.60	30	
o-Xylene	39.7	2.0	ug/kg	40		99.2	75-125	5.44	30	
Surrogate: 4-Bromofluorobenzene	101		ug/kg	100		101	70-140			
Surrogate: Dibromofluoromethane	105		ug/kg	100		105	70-140			
Surrogate: Toluene-d8	93.5		ug/kg	100		93.5	70-140			

VOCs by GCMS EPA TO-15 - Quality Control

Batch B4F0305 - *** DEFAULT PREP ***

Blank (B4F0305-BLK1)

Prepared & Analyzed: 06/02/14

Acetone	<5.0	5.0	ug/m ³							
Allyl chloride	<5.0	5.0	ug/m ³							
Benzene	<5.0	5.0	ug/m ³							
Benzyl chloride	<5.0	5.0	ug/m ³							
Bromodichloromethane	<5.0	5.0	ug/m ³							
Bromoform	<5.0	5.0	ug/m ³							
Bromomethane	<5.0	5.0	ug/m ³							

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

VOCs by GCMS EPA TO-15 - Quality Control

Batch B4F0305 - *** DEFAULT PREP ***

Blank (B4F0305-BLK1) Continued

Prepared & Analyzed: 06/02/14

1,3-Butadiene	<5.0	5.0	ug/m ³
2-Butanone (MEK)	<5.0	5.0	ug/m ³
Carbon Disulfide	<5.0	5.0	ug/m ³
Carbon Tetrachloride	<5.0	5.0	ug/m ³
Chlorobenzene	<5.0	5.0	ug/m ³
Chloroethane	<5.0	5.0	ug/m ³
Chloroform	<5.0	5.0	ug/m ³
Chloromethane	<5.0	5.0	ug/m ³
Cyclohexane	<5.0	5.0	ug/m ³
Dibromochloromethane	<5.0	5.0	ug/m ³
1,2-Dibromoethane (EDB)	<5.0	5.0	ug/m ³
1,2-Dichlorobenzene	<5.0	5.0	ug/m ³
1,3-Dichlorobenzene	<5.0	5.0	ug/m ³
1,4-Dichlorobenzene	<5.0	5.0	ug/m ³
Dichlorodifluoromethane (R12)	<5.0	5.0	ug/m ³
1,1-Dichloroethane	<5.0	5.0	ug/m ³
1,2-Dichloroethane (EDC)	<5.0	5.0	ug/m ³
cis-1,2-Dichloroethylene	<5.0	5.0	ug/m ³
1,1-Dichloroethylene	<5.0	5.0	ug/m ³
trans-1,2-Dichloroethylene	<5.0	5.0	ug/m ³
1,2-Dichloropropane	<5.0	5.0	ug/m ³
trans-1,3-Dichloropropylene	<5.0	5.0	ug/m ³
cis-1,3-Dichloropropylene	<5.0	5.0	ug/m ³
Dichlorotetrafluoroethane	<5.0	5.0	ug/m ³
1,4-Dioxane	<5.0	5.0	ug/m ³
Ethyl Acetate	<5.0	5.0	ug/m ³
Ethylbenzene	<5.0	5.0	ug/m ³
4-Ethyltoluene	<5.0	5.0	ug/m ³
Heptane	<5.0	5.0	ug/m ³
Hexachlorobutadiene	<5.0	5.0	ug/m ³
n-Hexane	<5.0	5.0	ug/m ³
2-Hexanone (MBK)	<5.0	5.0	ug/m ³

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F0305 - *** DEFAULT PREP ***										
Blank (B4F0305-BLK1) Continued										
Prepared & Analyzed: 06/02/14										
Isopropanol (IPA)	<5.0	5.0	ug/m ³							
Methyl-tert-Butyl Ether (MTBE)	<5.0	5.0	ug/m ³							
Methylene Chloride	<5.0	5.0	ug/m ³							
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/m ³							
Propylene	<5.0	5.0	ug/m ³							
Styrene	<5.0	5.0	ug/m ³							
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/m ³							
Tetrachloroethylene (PCE)	<5.0	5.0	ug/m ³							
Tetrahydrofuran (THF)	<5.0	5.0	ug/m ³							
Toluene	<5.0	5.0	ug/m ³							
1,2,4-Trichlorobenzene	<5.0	5.0	ug/m ³							
1,1,2-Trichloroethane	<5.0	5.0	ug/m ³							
1,1,1-Trichloroethane	<5.0	5.0	ug/m ³							
Trichloroethylene (TCE)	<5.0	5.0	ug/m ³							
Trichlorofluoromethane (R11)	<5.0	5.0	ug/m ³							
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<5.0	5.0	ug/m ³							
1,3,5-Trimethylbenzene	<5.0	5.0	ug/m ³							
1,2,4-Trimethylbenzene	<5.0	5.0	ug/m ³							
2,2,4-Trimethylpentane	<5.0	5.0	ug/m ³							
Vinyl acetate	<5.0	5.0	ug/m ³							
Vinyl bromide	<5.0	5.0	ug/m ³							
Vinyl chloride	<5.0	5.0	ug/m ³							
o-Xylene	<5.0	5.0	ug/m ³							
m,p-Xylenes	<5.0	5.0	ug/m ³							
Surrogate: 4-Bromofluorobenzene	33.4		ug/m ³	36		93.4	70-130			
LCS (B4F0305-BS1)										
Prepared & Analyzed: 06/02/14										
Acetone	20.3	5.0	ug/m ³	24		85.6	70-130			
Allyl chloride	25.9	5.0	ug/m ³	31		82.9	70-130			
Benzene	33.1	5.0	ug/m ³	32		104	70-130			
Benzyl chloride	55.0	5.0	ug/m ³	52		106	70-130			

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F0305 - *** DEFAULT PREP ***										
LCS (B4F0305-BS1) Continued					Prepared & Analyzed: 06/02/14					
Bromodichloromethane	66.9	5.0	ug/m ³	67		99.9	70-130			
Bromoform	111	5.0	ug/m ³	100		108	70-130			
Bromomethane	38.1	5.0	ug/m ³	39		98.1	70-130			
1,3-Butadiene	22.1	5.0	ug/m ³	22		99.9	70-130			
2-Butanone (MEK)	31.6	5.0	ug/m ³	29		107	70-130			
Carbon Disulfide	31.5	5.0	ug/m ³	31		101	70-130			
Carbon Tetrachloride	64.4	5.0	ug/m ³	63		102	70-130			
Chlorobenzene	46.5	5.0	ug/m ³	46		101	70-130			
Chloroethane	25.5	5.0	ug/m ³	26		96.5	70-130			
Chloroform	48.8	5.0	ug/m ³	49		100	70-130			
Chloromethane	16.9	5.0	ug/m ³	21		81.7	70-130			
Cyclohexane	32.8	5.0	ug/m ³	34		95.4	70-130			
Dibromochloromethane	89.4	5.0	ug/m ³	85		105	70-130			
1,2-Dibromoethane (EDB)	78.1	5.0	ug/m ³	77		102	70-130			
1,2-Dichlorobenzene	63.1	5.0	ug/m ³	60		105	70-130			
1,3-Dichlorobenzene	62.9	5.0	ug/m ³	60		105	70-130			
1,4-Dichlorobenzene	60.9	5.0	ug/m ³	60		101	70-130			
Dichlorodifluoromethane (R12)	49.3	5.0	ug/m ³	49		99.6	70-130			
1,1-Dichloroethane	40.6	5.0	ug/m ³	40		100	70-130			
1,2-Dichloroethane (EDC)	42.9	5.0	ug/m ³	40		106	70-130			
cis-1,2-Dichloroethylene	41.4	5.0	ug/m ³	40		104	70-130			
1,1-Dichloroethylene	41.6	5.0	ug/m ³	40		105	70-130			
trans-1,2-Dichloroethylene	42.7	5.0	ug/m ³	40		108	70-130			
1,2-Dichloropropane	47.2	5.0	ug/m ³	46		102	70-130			
trans-1,3-Dichloropropylene	47.8	5.0	ug/m ³	45		105	70-130			
cis-1,3-Dichloropropylene	46.8	5.0	ug/m ³	45		103	70-130			
Dichlorotetrafluoroethane	68.8	5.0	ug/m ³	70		98.4	70-130			
1,4-Dioxane	34.5	5.0	ug/m ³	36		95.7	70-130			
Ethyl Acetate	42.4	5.0	ug/m ³	36		118	70-130			
Ethylbenzene	42.9	5.0	ug/m ³	43		98.7	70-130			
4-Ethyltoluene	49.4	5.0	ug/m ³	49		100	70-130			
Heptane	41.4	5.0	ug/m ³	41		101	70-130			

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F0305 - *** DEFAULT PREP ***										
LCS (B4F0305-BS1) Continued					Prepared & Analyzed: 06/02/14					
Hexachlorobutadiene	128	5.0	ug/m ³	110		120	70-130			
n-Hexane	36.7	5.0	ug/m ³	35		104	70-130			
2-Hexanone (MBK)	45.2	5.0	ug/m ³	41		110	70-130			
Isopropanol (IPA)	26.1	5.0	ug/m ³	25		106	70-130			
Methyl-tert-Butyl Ether (MTBE)	41.8	2.5	ug/m ³	36		116	70-130			
Methylene Chloride	32.8	5.0	ug/m ³	35		94.4	70-130			
4-Methyl-2-pentanone (MIBK)	42.0	5.0	ug/m ³	41		102	70-130			
Propylene	18.2	5.0	ug/m ³	17		106	70-130			
Styrene	44.6	5.0	ug/m ³	43		105	70-130			
1,1,2,2-Tetrachloroethane	67.1	5.0	ug/m ³	69		97.8	70-130			
Tetrachloroethylene (PCE)	68.5	5.0	ug/m ³	68		101	70-130			
Tetrahydrofuran (THF)	29.1	5.0	ug/m ³	29		98.5	70-130			
Toluene	36.4	5.0	ug/m ³	38		96.7	70-130			
1,2,4-Trichlorobenzene	97.1	5.0	ug/m ³	74		131	70-130			
1,1,2-Trichloroethane	54.9	5.0	ug/m ³	55		101	70-130			
1,1,1-Trichloroethane	55.8	5.0	ug/m ³	55		102	70-130			
Trichloroethylene (TCE)	52.2	5.0	ug/m ³	54		97.1	70-130			
Trichlorofluoromethane (R11)	56.4	5.0	ug/m ³	56		100	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	77.8	5.0	ug/m ³	77		102	70-130			
1,3,5-Trimethylbenzene	44.4	5.0	ug/m ³	49		90.4	70-130			
1,2,4-Trimethylbenzene	49.5	5.0	ug/m ³	49		101	70-130			
2,2,4-Trimethylpentane	45.8	5.0	ug/m ³	47		98.1	70-130			
Vinyl acetate	43.8	5.0	ug/m ³	35		124	70-130			
Vinyl bromide	41.5	5.0	ug/m ³	44		94.8	70-130			
Vinyl chloride	26.9	5.0	ug/m ³	26		105	70-130			
o-Xylene	41.8	5.0	ug/m ³	43		96.3	70-130			
m,p-Xylenes	41.4	2.5	ug/m ³	43		95.3	70-130			
Surrogate: 4-Bromofluorobenzene	35.5		ug/m ³	36		99.2	70-130			
LCS Dup (B4F0305-BSD1)					Prepared: 06/02/14 Analyzed: 06/03/14					
Acetone	19.4	5.0	ug/m ³	24		81.6	70-130	4.78	30	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F0305 - *** DEFAULT PREP ***										
LCS Dup (B4F0305-BSD1) Continued										
Prepared: 06/02/14 Analyzed: 06/03/14										
Allyl chloride	29.5	5.0	ug/m ³	31		94.1	70-130	12.7	30	
Benzene	29.8	5.0	ug/m ³	32		93.3	70-130	10.4	30	
Benzyl chloride	46.4	5.0	ug/m ³	52		89.6	70-130	17.0	30	
Bromodichloromethane	62.4	5.0	ug/m ³	67		93.1	70-130	7.05	30	
Bromoform	97.1	5.0	ug/m ³	100		93.9	70-130	13.7	30	
Bromomethane	33.9	5.0	ug/m ³	39		87.3	70-130	11.7	30	
1,3-Butadiene	19.7	5.0	ug/m ³	22		89.2	70-130	11.3	30	
2-Butanone (MEK)	28.1	5.0	ug/m ³	29		95.2	70-130	12.0	30	
Carbon Disulfide	28.7	5.0	ug/m ³	31		92.1	70-130	9.42	30	
Carbon Tetrachloride	60.0	5.0	ug/m ³	63		95.4	70-130	7.08	30	
Chlorobenzene	42.2	5.0	ug/m ³	46		91.6	70-130	9.86	30	
Chloroethane	23.4	5.0	ug/m ³	26		88.6	70-130	8.54	30	
Chloroform	45.2	5.0	ug/m ³	49		92.5	70-130	7.79	30	
Chloromethane	20.9	5.0	ug/m ³	21		101	70-130	21.1	30	
Cyclohexane	30.2	5.0	ug/m ³	34		87.8	70-130	8.30	30	
Dibromochloromethane	84.0	5.0	ug/m ³	85		98.6	70-130	6.19	30	
1,2-Dibromoethane (EDB)	74.0	5.0	ug/m ³	77		96.3	70-130	5.45	30	
1,2-Dichlorobenzene	55.3	5.0	ug/m ³	60		91.9	70-130	13.3	30	
1,3-Dichlorobenzene	54.8	5.0	ug/m ³	60		91.1	70-130	13.9	30	
1,4-Dichlorobenzene	53.6	5.0	ug/m ³	60		89.2	70-130	12.7	30	
Dichlorodifluoromethane (R12)	45.6	5.0	ug/m ³	49		92.2	70-130	7.72	30	
1,1-Dichloroethane	37.3	5.0	ug/m ³	40		92.2	70-130	8.42	30	
1,2-Dichloroethane (EDC)	40.4	5.0	ug/m ³	40		99.9	70-130	5.93	30	
cis-1,2-Dichloroethylene	37.5	5.0	ug/m ³	40		94.5	70-130	9.86	30	
1,1-Dichloroethylene	37.7	5.0	ug/m ³	40		95.1	70-130	9.90	30	
trans-1,2-Dichloroethylene	37.9	5.0	ug/m ³	40		95.6	70-130	12.0	30	
1,2-Dichloropropane	44.6	5.0	ug/m ³	46		96.6	70-130	5.63	30	
trans-1,3-Dichloropropylene	44.9	5.0	ug/m ³	45		98.9	70-130	6.36	30	
cis-1,3-Dichloropropylene	42.5	5.0	ug/m ³	45		93.6	70-130	9.66	30	
Dichlorotetrafluoroethane	62.8	5.0	ug/m ³	70		89.8	70-130	9.14	30	
1,4-Dioxane	32.2	5.0	ug/m ³	36		89.4	70-130	6.81	30	
Ethyl Acetate	32.7	5.0	ug/m ³	36		90.7	70-130	25.9	30	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F0305 - *** DEFAULT PREP ***										
LCS Dup (B4F0305-BSD1) Continued					Prepared: 06/02/14 Analyzed: 06/03/14					
Ethylbenzene	38.5	5.0	ug/m ³	43		88.6	70-130	10.8	30	
4-Ethyltoluene	43.5	5.0	ug/m ³	49		88.5	70-130	12.7	30	
Heptane	39.2	5.0	ug/m ³	41		95.7	70-130	5.49	30	
Hexachlorobutadiene	113	5.0	ug/m ³	110		106	70-130	12.8	30	
n-Hexane	33.7	5.0	ug/m ³	35		95.6	70-130	8.61	30	
2-Hexanone (MBK)	41.0	5.0	ug/m ³	41		100	70-130	9.70	30	
Isopropanol (IPA)	23.2	5.0	ug/m ³	25		94.2	70-130	11.8	30	
Methyl-tert-Butyl Ether (MTBE)	37.5	2.5	ug/m ³	36		104	70-130	11.0	30	
Methylene Chloride	30.7	5.0	ug/m ³	35		88.4	70-130	6.56	30	
4-Methyl-2-pentanone (MIBK)	39.6	5.0	ug/m ³	41		96.7	70-130	5.82	30	
Propylene	16.9	5.0	ug/m ³	17		98.2	70-130	7.36	30	
Styrene	38.9	5.0	ug/m ³	43		91.3	70-130	13.8	30	
1,1,2,2-Tetrachloroethane	60.6	5.0	ug/m ³	69		88.3	70-130	10.2	30	
Tetrachloroethylene (PCE)	65.3	5.0	ug/m ³	68		96.2	70-130	4.77	30	
Tetrahydrofuran (THF)	26.0	5.0	ug/m ³	29		88.3	70-130	10.9	30	
Toluene	33.8	5.0	ug/m ³	38		89.7	70-130	7.51	30	
1,2,4-Trichlorobenzene	83.7	5.0	ug/m ³	74		113	70-130	14.8	30	
1,1,2-Trichloroethane	52.4	5.0	ug/m ³	55		96.1	70-130	4.67	30	
1,1,1-Trichloroethane	51.7	5.0	ug/m ³	55		94.8	70-130	7.61	30	
Trichloroethylene (TCE)	48.4	5.0	ug/m ³	54		90.0	70-130	7.59	30	
Trichlorofluoromethane (R11)	51.6	5.0	ug/m ³	56		91.9	70-130	8.74	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	70.8	5.0	ug/m ³	77		92.4	70-130	9.39	30	
1,3,5-Trimethylbenzene	42.7	5.0	ug/m ³	49		86.9	70-130	3.95	30	
1,2,4-Trimethylbenzene	44.1	5.0	ug/m ³	49		89.7	70-130	11.5	30	
2,2,4-Trimethylpentane	43.2	5.0	ug/m ³	47		92.4	70-130	5.98	30	
Vinyl acetate	34.5	5.0	ug/m ³	35		97.9	70-130	23.8	30	
Vinyl bromide	37.1	5.0	ug/m ³	44		84.7	70-130	11.3	30	
Vinyl chloride	23.9	5.0	ug/m ³	26		93.6	70-130	11.9	30	
o-Xylene	37.2	5.0	ug/m ³	43		85.6	70-130	11.8	30	
m,p-Xylenes	37.1	2.5	ug/m ³	43		85.5	70-130	10.8	30	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F0305 - *** DEFAULT PREP ***										
LCS Dup (B4F0305-BSD1) Continued										
Prepared: 06/02/14 Analyzed: 06/03/14										
Surrogate: 4-Bromofluorobenzene	35.0		ug/m ³	36		97.8	70-130			
Duplicate (B4F0305-DUP1)										
Source: 4E30004-01 Prepared: 06/02/14 Analyzed: 06/03/14										
Acetone	<100	100	ug/m ³		<100				30	
Allyl chloride	<100	100	ug/m ³		<100				30	
Benzene	<100	100	ug/m ³		<100				30	
Benzyl chloride	<100	100	ug/m ³		<100				30	
Bromodichloromethane	<100	100	ug/m ³		<100				30	
Bromoform	<100	100	ug/m ³		<100				30	
Bromomethane	<100	100	ug/m ³		<100				30	
1,3-Butadiene	<100	100	ug/m ³		<100				30	
2-Butanone (MEK)	<100	100	ug/m ³		<100				30	
Carbon Disulfide	<100	100	ug/m ³		<100				30	
Carbon Tetrachloride	<100	100	ug/m ³		<100				30	
Chlorobenzene	<100	100	ug/m ³		<100				30	
Chloroethane	<100	100	ug/m ³		<100				30	
Chloroform	<100	100	ug/m ³		<100				30	
Chloromethane	<100	100	ug/m ³		<100				30	
Cyclohexane	<100	100	ug/m ³		<100				30	
Dibromochloromethane	<100	100	ug/m ³		<100				30	
1,2-Dibromoethane (EDB)	<100	100	ug/m ³		<100				30	
1,2-Dichlorobenzene	<100	100	ug/m ³		<100				30	
1,3-Dichlorobenzene	<100	100	ug/m ³		<100				30	
1,4-Dichlorobenzene	<100	100	ug/m ³		<100				30	
Dichlorodifluoromethane (R12)	<100	100	ug/m ³		<100				30	
1,1-Dichloroethane	<100	100	ug/m ³		<100				30	
1,2-Dichloroethane (EDC)	<100	100	ug/m ³		<100				30	
cis-1,2-Dichloroethylene	<100	100	ug/m ³		<100				30	
1,1-Dichloroethylene	<100	100	ug/m ³		<100				30	
trans-1,2-Dichloroethylene	<100	100	ug/m ³		<100				30	
1,2-Dichloropropane	<100	100	ug/m ³		<100				30	
trans-1,3-Dichloropropylene	<100	100	ug/m ³		<100				30	
cis-1,3-Dichloropropylene	<100	100	ug/m ³		<100				30	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F0305 - *** DEFAULT PREP ***										
Duplicate (B4F0305-DUP1) Continued Source: 4E30004-01 Prepared: 06/02/14 Analyzed: 06/03/14										
Dichlorotetrafluoroethane	<100	100	ug/m ³		<100				30	
1,4-Dioxane	<100	100	ug/m ³		<100				30	
Ethyl Acetate	<100	100	ug/m ³		<100				30	
Ethylbenzene	<100	100	ug/m ³		<100				30	
4-Ethyltoluene	<100	100	ug/m ³		<100				30	
Heptane	<100	100	ug/m ³		<100				30	
Hexachlorobutadiene	<100	100	ug/m ³		<100				30	
n-Hexane	<100	100	ug/m ³		<100				30	
2-Hexanone (MBK)	<100	100	ug/m ³		<100				30	
Isopropanol (IPA)	<100	100	ug/m ³		<100				30	
Methyl-tert-Butyl Ether (MTBE)	<100	100	ug/m ³		<100				30	
Methylene Chloride	<100	100	ug/m ³		<100				30	
4-Methyl-2-pentanone (MIBK)	<100	100	ug/m ³		<100				30	
Propylene	<100	100	ug/m ³		<100				30	
Styrene	<100	100	ug/m ³		<100				30	
1,1,2,2-Tetrachloroethane	<100	100	ug/m ³		<100				30	
Tetrachloroethylene (PCE)	17000	1000	ug/m ³		15400			9.63	30	
Tetrahydrofuran (THF)	<100	100	ug/m ³		<100				30	
Toluene	<100	100	ug/m ³		<100				30	
1,2,4-Trichlorobenzene	<100	100	ug/m ³		<100				30	
1,1,2-Trichloroethane	<100	100	ug/m ³		<100				30	
1,1,1-Trichloroethane	<100	100	ug/m ³		<100				30	
Trichloroethylene (TCE)	<100	100	ug/m ³		<100				30	
Trichlorofluoromethane (R11)	<100	100	ug/m ³		<100				30	
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<100	100	ug/m ³		<100				30	
1,3,5-Trimethylbenzene	<100	100	ug/m ³		<100				30	
1,2,4-Trimethylbenzene	121	100	ug/m ³		139			13.6	30	
2,2,4-Trimethylpentane	<100	100	ug/m ³		<100				30	
Vinyl acetate	<100	100	ug/m ³		<100				30	
Vinyl bromide	<100	100	ug/m ³		<100				30	
Vinyl chloride	<100	100	ug/m ³		<100				30	

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
 Project No: STA-71881.2
 Project Name: STA-Campbell

AA Project No: A89716
 Date Received: 05/30/14
 Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F0305 - *** DEFAULT PREP ***										
Duplicate (B4F0305-DUP1) Continued Source: 4E30004-01 Prepared: 06/02/14 Analyzed: 06/03/14										
o-Xylene	147	100	ug/m ³		178			19.3	30	
m,p-Xylenes	215	100	ug/m ³		262			19.6	30	
Surrogate: 4-Bromofluorobenzene	35.4		ug/m ³	36		99.0	70-130			
Carbon Chain by GC/FID - Quality Control										
Batch B4F0203 - EPA 3550B										
Blank (B4F0203-BLK1) Prepared & Analyzed: 06/02/14										
C6-C8	<1.0	1.0	mg/kg							
C8-C10	<1.0	1.0	mg/kg							
C10-C12	<1.0	1.0	mg/kg							
C12-C14	<1.0	1.0	mg/kg							
C14-C16	<1.0	1.0	mg/kg							
C16-C18	<1.0	1.0	mg/kg							
C18-C20	<1.0	1.0	mg/kg							
C20-C22	<1.0	1.0	mg/kg							
C22-C24	<1.0	1.0	mg/kg							
C24-C26	<1.0	1.0	mg/kg							
C26-C28	<1.0	1.0	mg/kg							
C28-C32	<1.0	1.0	mg/kg							
C32-C34	<1.0	1.0	mg/kg							
C34-C36	<1.0	1.0	mg/kg							
C36-C40	<1.0	1.0	mg/kg							
C40-C44	<1.0	1.0	mg/kg							
TPH (C6-C44)	<10	10	mg/kg							
Surrogate: o-Terphenyl	10.6		mg/kg	10		106	50-150			
LCS (B4F0203-BS1) Prepared & Analyzed: 06/02/14										
Diesel Range Organics as Diesel	186	10	mg/kg	200		93.2	75-125			
Surrogate: o-Terphenyl	12.6		mg/kg	10		126	50-150			
LCS Dup (B4F0203-BSD1) Prepared & Analyzed: 06/02/14										
Diesel Range Organics as Diesel	180	10	mg/kg	200		89.9	75-125	3.65	40	

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD	RPD Limit	Notes

Carbon Chain by GC/FID - Quality Control

Batch B4F0203 - EPA 3550B

LCS Dup (B4F0203-BSD1) Continued

Prepared & Analyzed: 06/02/14

Surrogate: o-Terphenyl 12.0 mg/kg 10 120 50-150

Matrix Spike (B4F0203-MS1) Source: 4E30004-16 Prepared & Analyzed: 06/02/14

Diesel Range Organics as Diesel 204 10 mg/kg 200 102 70-130

Surrogate: o-Terphenyl 12.2 mg/kg 10 122 50-150

Matrix Spike Dup (B4F0203-MSD1) Source: 4E30004-16 Prepared & Analyzed: 06/02/14

Diesel Range Organics as Diesel 210 10 mg/kg 200 105 70-130 3.00 40

Surrogate: o-Terphenyl 12.8 mg/kg 10 128 50-150

Total Metals CAM 17 - Quality Control

Batch B4E3010 - EPA 3050B

Blank (B4E3010-BLK1)

Prepared & Analyzed: 05/30/14

Antimony <10 10 mg/kg

Arsenic <0.50 0.50 mg/kg

Barium <10 10 mg/kg

Beryllium <1.0 1.0 mg/kg

Cadmium <1.0 1.0 mg/kg

Chromium <3.0 3.0 mg/kg

Cobalt <3.0 3.0 mg/kg

Copper <3.0 3.0 mg/kg

Lead <3.0 3.0 mg/kg

Molybdenum <5.0 5.0 mg/kg

Nickel <3.0 3.0 mg/kg

Selenium <0.50 0.50 mg/kg

Silver <1.0 1.0 mg/kg

Thallium <5.0 5.0 mg/kg

Vanadium <10 10 mg/kg

Zinc <3.0 3.0 mg/kg

LCS (B4E3010-BS1)

Prepared & Analyzed: 05/30/14

Antimony 47.5 10 mg/kg 50 95.0 80-120

Arsenic 48.3 0.50 mg/kg 50 96.6 80-120

Barium 49.4 10 mg/kg 50 98.7 80-120

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Metals CAM 17 - Quality Control										
Batch B4E3010 - EPA 3050B										
LCS (B4E3010-BS1) Continued					Prepared & Analyzed: 05/30/14					
Beryllium	47.2	1.0	mg/kg	50		94.3	80-120			
Cadmium	48.8	1.0	mg/kg	50		97.6	80-120			
Chromium	49.3	3.0	mg/kg	50		98.7	80-120			
Cobalt	48.1	3.0	mg/kg	50		96.3	80-120			
Copper	48.7	3.0	mg/kg	50		97.3	80-120			
Lead	48.5	3.0	mg/kg	50		97.1	80-120			
Molybdenum	48.2	5.0	mg/kg	50		96.3	80-120			
Nickel	48.1	3.0	mg/kg	50		96.2	80-120			
Selenium	48.7	0.50	mg/kg	50		97.3	80-120			
Silver	48.4	1.0	mg/kg	50		96.8	80-120			
Thallium	48.4	5.0	mg/kg	50		96.9	80-120			
Vanadium	48.4	10	mg/kg	50		96.8	80-120			
Zinc	49.6	3.0	mg/kg	50		99.3	80-120			
LCS Dup (B4E3010-BSD1)					Prepared & Analyzed: 05/30/14					
Antimony	49.2	10	mg/kg	50		98.4	80-120	3.55	20	
Arsenic	48.6	0.50	mg/kg	50		97.2	80-120	0.640	20	
Barium	50.4	10	mg/kg	50		101	80-120	2.01	20	
Beryllium	47.9	1.0	mg/kg	50		95.8	80-120	1.57	20	
Cadmium	49.3	1.0	mg/kg	50		98.6	80-120	1.04	20	
Chromium	48.8	3.0	mg/kg	50		97.6	80-120	1.12	20	
Cobalt	50.2	3.0	mg/kg	50		100	80-120	4.11	20	
Copper	49.2	3.0	mg/kg	50		98.5	80-120	1.19	20	
Lead	49.8	3.0	mg/kg	50		99.5	80-120	2.48	20	
Molybdenum	49.2	5.0	mg/kg	50		98.5	80-120	2.26	20	
Nickel	49.1	3.0	mg/kg	50		98.3	80-120	2.16	20	
Selenium	49.7	0.50	mg/kg	50		99.3	80-120	2.05	20	
Silver	51.2	1.0	mg/kg	50		102	80-120	5.51	20	
Thallium	51.2	5.0	mg/kg	50		102	80-120	5.46	20	
Vanadium	48.9	10	mg/kg	50		97.7	80-120	0.936	20	
Zinc	50.2	3.0	mg/kg	50		100	80-120	1.24	20	
Matrix Spike (B4E3010-MS1)					Source: 4E30004-21 Prepared & Analyzed: 05/30/14					

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Metals CAM 17 - Quality Control										
Batch B4E3010 - EPA 3050B										
Matrix Spike (B4E3010-MS1) Continued Source: 4E30004-21 Prepared & Analyzed: 05/30/14										
Antimony	46.7	10	mg/kg	50	<10	93.4	75-125			
Arsenic	54.9	0.50	mg/kg	50	5.65	98.5	75-125			
Barium	198	10	mg/kg	50	152	91.2	75-125			
Beryllium	48.3	1.0	mg/kg	50	<1.0	96.6	75-125			
Cadmium	47.6	1.0	mg/kg	50	<1.0	95.1	75-125			
Chromium	82.6	3.0	mg/kg	50	34.8	95.5	75-125			
Cobalt	58.6	3.0	mg/kg	50	10.2	97.0	75-125			
Copper	84.7	3.0	mg/kg	50	34.6	100	75-125			
Lead	97.4	3.0	mg/kg	50	76.7	41.3	75-125			QM-07
Molybdenum	50.0	5.0	mg/kg	50	<5.0	100	75-125			
Nickel	98.4	3.0	mg/kg	50	52.9	90.9	75-125			
Selenium	44.6	0.50	mg/kg	50	<0.50	89.2	75-125			
Silver	51.0	1.0	mg/kg	50	<1.0	102	75-125			
Thallium	38.2	5.0	mg/kg	50	<5.0	76.4	60-140			
Vanadium	80.1	10	mg/kg	50	31.8	96.6	75-125			
Zinc	210	3.0	mg/kg	50	164	92.7	75-125			
Matrix Spike Dup (B4E3010-MSD1) Source: 4E30004-21 Prepared & Analyzed: 05/30/14										
Antimony	47.3	10	mg/kg	50	<10	94.6	75-125	1.23	40	
Arsenic	57.0	0.50	mg/kg	50	5.65	103	75-125	3.75	40	
Barium	197	10	mg/kg	50	152	89.7	75-125	0.380	40	
Beryllium	49.1	1.0	mg/kg	50	<1.0	98.2	75-125	1.75	40	
Cadmium	48.5	1.0	mg/kg	50	<1.0	97.1	75-125	2.04	40	
Chromium	84.4	3.0	mg/kg	50	34.8	99.3	75-125	2.28	40	
Cobalt	59.1	3.0	mg/kg	50	10.2	97.9	75-125	0.764	40	
Copper	84.9	3.0	mg/kg	50	34.6	101	75-125	0.236	40	
Lead	100	3.0	mg/kg	50	76.7	47.5	75-125	3.13	40	QM-07
Molybdenum	51.0	5.0	mg/kg	50	<5.0	102	75-125	1.88	40	
Nickel	99.0	3.0	mg/kg	50	52.9	92.2	75-125	0.659	40	
Selenium	45.4	0.50	mg/kg	50	<0.50	90.7	75-125	1.70	40	
Silver	52.0	1.0	mg/kg	50	<1.0	104	75-125	1.85	40	
Thallium	38.0	5.0	mg/kg	50	<5.0	76.1	60-140	0.459	40	
Vanadium	80.8	10	mg/kg	50	31.8	98.1	75-125	0.932	40	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Metals CAM 17 - Quality Control										
<i>Batch B4E3010 - EPA 3050B</i>										
Matrix Spike Dup (B4E3010-MSD1) Source: 4E30004-21 Prepared & Analyzed: 05/30/14										
Continued										
Zinc	211	3.0	mg/kg	50	164	94.1	75-125	0.332	40	
Total Metals CAM 17 - Quality Control										
<i>Batch B4E3009 - EPA 7471A Prep</i>										
Blank (B4E3009-BLK1) Prepared & Analyzed: 05/30/14										
Mercury	<0.020	0.020	mg/kg							
LCS (B4E3009-BS1) Prepared & Analyzed: 05/30/14										
Mercury	0.410	0.020	mg/kg	0.50		82.0	80-120			
LCS Dup (B4E3009-BSD1) Prepared & Analyzed: 05/30/14										
Mercury	0.406	0.020	mg/kg	0.50		81.3	80-120	0.857	25	
Matrix Spike (B4E3009-MS1) Source: 4E30004-21 Prepared & Analyzed: 05/30/14										
Mercury	0.698	0.020	mg/kg	0.50	0.318	76.2	75-125			
Matrix Spike Dup (B4E3009-MSD1) Source: 4E30004-21 Prepared & Analyzed: 05/30/14										
Mercury	0.726	0.020	mg/kg	0.50	0.318	81.6	75-125	3.79	25	

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89716
Date Received: 05/30/14
Date Reported: 06/05/14

Special Notes

- [1] = **AA-C1** : The percent recovery for this analyte exceeds acceptance criteria.
- [2] = **QM-07** : The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- [3] = **S-02** : The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

Allen Aminian
QA/QC Manager



AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETOW AVE., CHATSWORTH, CA 91311

Tel: 818-998-5547 FAX: 818-998-7258

A.A. COC No.: 119949

70040082

Page 1 of 2

Client: EEI Project Name / No.: STA-Campbell / STA-71881.2 Sampler's Name: B. Samarin
Project Manager: B. Samarin Site Address: 320 Rainway Ave. Sampler's Signature: [Signature]
Phone: 805-987-8728 City: Campbell P.O. No.: STA-71881.2
Fax: 760-431-3748 State & Zip: CA 95008

TAT Turnaround Codes **

- ① = Same Day Rush
② = 24 Hour Rush
③ = 48 Hour Rush

- ④ = 72 Hour Rush
⑤ = 5 Day Rush
X = 10 Working Days (Standard TAT)

ANALYSIS REQUESTED (Test Name)

Client I.D.	A.A. I.D.	Date	Time	Sample Matrix	No. of Cont	Special Instructions
V-1	4E30004-01	5/24/14		ARC	1	72-HOUR
V-2	2				1	PUSH TAT
V-3	3				1	
V-4	4				1	
V-5	5				1	
S-1-1 (0.5)	6			SOIL	1	
S-2-1 (1')	7				1	
S-2-2 (5')	8				1	
S-2-3 (12')	9				1	
S-3-1 (0.5')	10				1	
S-4-1 (0.5')	11				1	
S-5-1 (1')	12				1	
S-5-2 (5')	13				1	
S-5-3 (12')	14				1	

Please enter the TAT Turnaround Codes ** below

Client I.D.	A.A. I.D.	Date	Time	Sample Matrix	No. of Cont	Special Instructions
V-1	4E30004-01	5/24/14		ARC	1	72-HOUR
V-2	2				1	PUSH TAT
V-3	3				1	
V-4	4				1	
V-5	5				1	
S-1-1 (0.5)	6			SOIL	1	
S-2-1 (1')	7				1	
S-2-2 (5')	8				1	
S-2-3 (12')	9				1	
S-3-1 (0.5')	10				1	
S-4-1 (0.5')	11				1	
S-5-1 (1')	12				1	
S-5-2 (5')	13				1	
S-5-3 (12')	14				1	

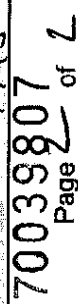
For Laboratory Use

PRIORITY

Rush 12 Hrs SH
Date 5/30/14 Time 1036
Signature [Signature]

A.A. Project No.: A99710146004

Note: By relinquishing samples to American Analytics, client agrees to pay for the services requested on this chain of custody form and any additional client-requested analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be discarded at 90 days after date of analysis.



Note: By relinquishing samples to American Analytics, client agrees to pay for the services requested on this chain of custody form and any additional client-requested analyses performed on this project.



9765 Eton Avenue
Chatsworth
California 91311
Tel: (818) 998-5547
Fax: (818) 998-7258

June 19, 2014

Bernie Sentianin
EEI
1358 Oakhurst Ct.
Camarillo, CA 93010

Re : STA-Campbell / STA-71881.2
A89719 / 4F12004

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received on 06/12/14 10:13 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report or require additional information please call me at American Analytics.

Sincerely,

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received

8260B

9-2 5'	4F12004-02	Soil	5	06/11/14 08:45	06/12/14 10:13
9-3 12'	4F12004-03	Soil	5	06/11/14 08:47	06/12/14 10:13
10-1 1'	4F12004-04	Soil	5	06/11/14 09:35	06/12/14 10:13
10-2 5'	4F12004-05	Soil	5	06/11/14 09:39	06/12/14 10:13
11-1 1'	4F12004-07	Soil	5	06/11/14 10:10	06/12/14 10:13
11-2 5'	4F12004-08	Soil	5	06/11/14 10:12	06/12/14 10:13
12-1 1'	4F12004-10	Soil	5	06/11/14 10:50	06/12/14 10:13
12-2 5'	4F12004-11	Soil	5	06/11/14 10:53	06/12/14 10:13

CAM Metals Less Hg 6000/7000

10-1 1'	4F12004-04	Soil	5	06/11/14 09:35	06/12/14 10:13
11-1 1'	4F12004-07	Soil	5	06/11/14 10:10	06/12/14 10:13
12-1 1'	4F12004-10	Soil	5	06/11/14 10:50	06/12/14 10:13

Carbon Chain Characterization 8015M

9-1 1'	4F12004-01	Soil	5	06/11/14 08:40	06/12/14 10:13
9-2 5'	4F12004-02	Soil	5	06/11/14 08:45	06/12/14 10:13
9-3 12'	4F12004-03	Soil	5	06/11/14 08:47	06/12/14 10:13
10-1 1'	4F12004-04	Soil	5	06/11/14 09:35	06/12/14 10:13
10-2 5'	4F12004-05	Soil	5	06/11/14 09:39	06/12/14 10:13

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
10-3 12'	4F12004-06	Soil	5	06/11/14 09:42	06/12/14 10:13
11-1 1'	4F12004-07	Soil	5	06/11/14 10:10	06/12/14 10:13
11-2 5'	4F12004-08	Soil	5	06/11/14 10:12	06/12/14 10:13
11-3 12'	4F12004-09	Soil	5	06/11/14 10:15	06/12/14 10:13
12-1 1'	4F12004-10	Soil	5	06/11/14 10:50	06/12/14 10:13
12-2 5'	4F12004-11	Soil	5	06/11/14 10:53	06/12/14 10:13
13-3 12'	4F12004-12	Soil	5	06/11/14 10:56	06/12/14 10:13

Mercury Total EPA 7470A/7471A

10-1 1'	4F12004-04	Soil	5	06/11/14 09:35	06/12/14 10:13
11-1 1'	4F12004-07	Soil	5	06/11/14 10:10	06/12/14 10:13
12-1 1'	4F12004-10	Soil	5	06/11/14 10:50	06/12/14 10:13

TO-15 (ug/m3)

V-6	4F12004-13	Vapor	5	06/11/14 09:20	06/12/14 10:13
V-7	4F12004-14	Vapor	5	06/11/14 10:38	06/12/14 10:13
V-8	4F12004-15	Vapor	5	06/11/14 11:40	06/12/14 10:13

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Carbon Chain by GC/FID								
C18-C20	10-1 1'	11	10	mg/kg	10	06/17/14	06/18/14	EPA 8015M
C20-C22	10-1 1'	63	10	mg/kg	10	06/17/14	06/18/14	EPA 8015M
C22-C24	10-1 1'	110	10	mg/kg	10	06/17/14	06/18/14	EPA 8015M
C24-C26	10-1 1'	150	10	mg/kg	10	06/17/14	06/18/14	EPA 8015M
C26-C28	10-1 1'	180	10	mg/kg	10	06/17/14	06/18/14	EPA 8015M
C28-C32	10-1 1'	410	10	mg/kg	10	06/17/14	06/18/14	EPA 8015M
C32-C34	10-1 1'	140	10	mg/kg	10	06/17/14	06/18/14	EPA 8015M
C34-C36	10-1 1'	80	10	mg/kg	10	06/17/14	06/18/14	EPA 8015M
C36-C40	10-1 1'	56	10	mg/kg	10	06/17/14	06/18/14	EPA 8015M
TPH (C6-C44)	10-1 1'	1200	100	mg/kg	10	06/17/14	06/18/14	EPA 8015M
C24-C26	11-2 5'	1.1	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C26-C28	11-2 5'	1.7	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C28-C32	11-2 5'	3.9	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C34-C36	11-2 5'	1.1	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C22-C24	11-3 12'	1.8	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C24-C26	11-3 12'	2.2	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C26-C28	11-3 12'	3.9	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C28-C32	11-3 12'	5.5	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C32-C34	11-3 12'	2.0	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C34-C36	11-3 12'	1.2	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
TPH (C6-C44)	11-3 12'	17	10	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C22-C24	12-1 1'	2.7	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C24-C26	12-1 1'	6.0	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C26-C28	12-1 1'	9.3	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C28-C32	12-1 1'	19	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C32-C34	12-1 1'	6.1	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C34-C36	12-1 1'	5.9	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
C36-C40	12-1 1'	3.9	1.0	mg/kg	1	06/17/14	06/18/14	EPA 8015M
TPH (C6-C44)	12-1 1'	53	10	mg/kg	1	06/17/14	06/18/14	EPA 8015M

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Total Metals CAM 17								
Mercury	10-1 1'	0.034	0.020	mg/kg	1	06/13/14	06/16/14	EPA 7471A
Mercury	11-1 1'	0.026	0.020	mg/kg	1	06/13/14	06/16/14	EPA 7471A
Mercury	12-1 1'	0.026	0.020	mg/kg	1	06/13/14	06/16/14	EPA 7471A
Total Metals CAM 17								
Arsenic	10-1 1'	3.2	0.50	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Barium	10-1 1'	76	10	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Chromium	10-1 1'	43	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Copper	10-1 1'	9.8	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Lead	10-1 1'	50	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Molybdenum	10-1 1'	6.6	5.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Nickel	10-1 1'	62	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Vanadium	10-1 1'	41	10	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Zinc	10-1 1'	67	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Arsenic	11-1 1'	6.1	0.50	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Barium	11-1 1'	140	10	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Chromium	11-1 1'	45	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Cobalt	11-1 1'	14	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Copper	11-1 1'	34	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Lead	11-1 1'	8.6	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Nickel	11-1 1'	70	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Vanadium	11-1 1'	41	10	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Zinc	11-1 1'	74	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Arsenic	12-1 1'	5.3	0.50	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Barium	12-1 1'	130	10	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Chromium	12-1 1'	40	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Cobalt	12-1 1'	13	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Copper	12-1 1'	29	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Lead	12-1 1'	7.0	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Nickel	12-1 1'	63	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Vanadium	12-1 1'	36	10	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000
Zinc	12-1 1'	63	3.0	mg/kg	1	06/13/14	06/13/14	EPA 6010B/7000

VOCs by GC/MS**VOCs by GCMS EPA TO-15**

Acetone	V-6	34	10	ug/m ³	2	06/12/14	06/12/14	TO-15

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
2-Butanone (MEK)	V-6	12	10	ug/m ³	2	06/12/14	06/12/14	TO-15
m,p-Xylenes	V-6	16	10	ug/m ³	2	06/12/14	06/12/14	TO-15
Acetone	V-7	42	10	ug/m ³	2	06/12/14	06/12/14	TO-15
2-Butanone (MEK)	V-7	11	10	ug/m ³	2	06/12/14	06/12/14	TO-15
m,p-Xylenes	V-7	21	10	ug/m ³	2	06/12/14	06/12/14	TO-15
Acetone	V-8	19	10	ug/m ³	2	06/12/14	06/12/14	TO-15
Dichlorodifluoromethane (R12)	V-8	19	10	ug/m ³	2	06/12/14	06/12/14	TO-15
Tetrachloroethylene (PCE)	V-8	34	10	ug/m ³	2	06/12/14	06/12/14	TO-15
1,1,1-Trichloroethane	V-8	26	10	ug/m ³	2	06/12/14	06/12/14	TO-15
m,p-Xylenes	V-8	12	10	ug/m ³	2	06/12/14	06/12/14	TO-15

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: ug/kg

Date Sampled:	06/11/14	06/11/14	06/11/14	06/11/14
Date Prepared:	06/12/14	06/12/14	06/12/14	06/12/14
Date Analyzed:	06/12/14	06/12/14	06/12/14	06/12/14
AA ID No:	4F12004-02	4F12004-03	4F12004-04	4F12004-05
Client ID No:	9-2 5'	9-3 12'	10-1 1'	10-2 5'
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1
				MRL

8260B (EPA 8260B)

Acetone	<50	<50	<50	<50	50
Benzene	<2.0	<2.0	<2.0	<2.0	2.0
Bromobenzene	<5.0	<5.0	<5.0	<5.0	5.0
Bromochloromethane	<5.0	<5.0	<5.0	<5.0	5.0
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0	5.0
Bromoform	<5.0	<5.0	<5.0	<5.0	5.0
Bromomethane	<5.0	<5.0	<5.0	<5.0	5.0
2-Butanone (MEK)	<50	<50	<50	<50	50
sec-Butylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
n-Butylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
tert-Butylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
Carbon Disulfide	<5.0	<5.0	<5.0	<5.0	5.0
Carbon Tetrachloride	<5.0	<5.0	<5.0	<5.0	5.0
Chlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
Chloroethane	<5.0	<5.0	<5.0	<5.0	5.0
Chloroform	<5.0	<5.0	<5.0	<5.0	5.0
Chloromethane	<5.0	<5.0	<5.0	<5.0	5.0
4-Chlorotoluene	<5.0	<5.0	<5.0	<5.0	5.0
2-Chlorotoluene	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dibromo-3-chloropropane	<10	<10	<10	<10	10
Dibromochloromethane	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dibromoethane (EDB)	<5.0	<5.0	<5.0	<5.0	5.0
Dibromomethane	<5.0	<5.0	<5.0	<5.0	5.0
1,3-Dichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,4-Dichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
Dichlorodifluoromethane (R12)	<5.0	<5.0	<5.0	<5.0	5.0

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: ug/kg

Date Sampled:	06/11/14	06/11/14	06/11/14	06/11/14
Date Prepared:	06/12/14	06/12/14	06/12/14	06/12/14
Date Analyzed:	06/12/14	06/12/14	06/12/14	06/12/14
AA ID No:	4F12004-02	4F12004-03	4F12004-04	4F12004-05
Client ID No:	9-2 5'	9-3 12'	10-1 1'	10-2 5'
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1
				MRL

8260B (EPA 8260B) (continued)

1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dichloroethane (EDC)	<5.0	<5.0	<5.0	<5.0	5.0
1,1-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	5.0
trans-1,2-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	5.0
cis-1,2-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	5.0
2,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,3-Dichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,1-Dichloropropylene	<5.0	<5.0	<5.0	<5.0	5.0
cis-1,3-Dichloropropylene	<5.0	<5.0	<5.0	<5.0	5.0
trans-1,3-Dichloropropylene	<5.0	<5.0	<5.0	<5.0	5.0
Ethylbenzene	<2.0	<2.0	<2.0	<2.0	2.0
Hexachlorobutadiene	<10	<10	<10	<10	10
2-Hexanone (MBK)	<50	<50	<50	<50	50
Isopropylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
4-Isopropyltoluene	<5.0	<5.0	<5.0	<5.0	5.0
Methyl-tert-Butyl Ether (MTBE)	<5.0	<5.0	<5.0	<5.0	5.0
Methylene Chloride	<50	<50	<50	<50	50
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	50
Naphthalene	<10	<10	<10	<10	10
n-Propylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
Styrene	<5.0	<5.0	<5.0	<5.0	5.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	5.0
1,1,1,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	5.0
Tetrachloroethylene (PCE)	<5.0	<5.0	<5.0	<5.0	5.0
Toluene	<2.0	<2.0	<2.0	<2.0	2.0
1,2,4-Trichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: ug/kg

Date Sampled:	06/11/14	06/11/14	06/11/14	06/11/14
Date Prepared:	06/12/14	06/12/14	06/12/14	06/12/14
Date Analyzed:	06/12/14	06/12/14	06/12/14	06/12/14
AA ID No:	4F12004-02	4F12004-03	4F12004-04	4F12004-05
Client ID No:	9-2 5'	9-3 12'	10-1 1'	10-2 5'
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1
				MRL

8260B (EPA 8260B) (continued)

1,2,3-Trichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0	5.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0	5.0
Trichloroethylene (TCE)	<5.0	<5.0	<5.0	<5.0	5.0
Trichlorofluoromethane (R11)	<5.0	<5.0	<5.0	<5.0	5.0
1,2,3-Trichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<5.0	<5.0	<5.0	<5.0	5.0
1,2,4-Trimethylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,3,5-Trimethylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
Vinyl chloride	<5.0	<5.0	<5.0	<5.0	5.0
o-Xylene	<2.0	<2.0	<2.0	<2.0	2.0
m,p-Xylenes	<2.0	<2.0	<2.0	<2.0	2.0

<u>Surrogates</u>					<u>%REC Limits</u>
4-Bromofluorobenzene	106%	123%	112%	108%	70-140
Dibromofluoromethane	113%	105%	102%	105%	70-140
Toluene-d8	98%	103%	102%	98%	70-140

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: ug/kg

Date Sampled:	06/11/14	06/11/14	06/11/14	06/11/14
Date Prepared:	06/12/14	06/12/14	06/12/14	06/12/14
Date Analyzed:	06/12/14	06/12/14	06/12/14	06/12/14
AA ID No:	4F12004-07	4F12004-08	4F12004-10	4F12004-11
Client ID No:	11-1 1'	11-2 5'	12-1 1'	12-2 5'
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1
				MRL

8260B (EPA 8260B)

Acetone	<50	<50	<50	<50	50
Benzene	<2.0	<2.0	<2.0	<2.0	2.0
Bromobenzene	<5.0	<5.0	<5.0	<5.0	5.0
Bromochloromethane	<5.0	<5.0	<5.0	<5.0	5.0
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0	5.0
Bromoform	<5.0	<5.0	<5.0	<5.0	5.0
Bromomethane	<5.0	<5.0	<5.0	<5.0	5.0
2-Butanone (MEK)	<50	<50	<50	<50	50
sec-Butylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
n-Butylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
tert-Butylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
Carbon Disulfide	<5.0	<5.0	<5.0	<5.0	5.0
Carbon Tetrachloride	<5.0	<5.0	<5.0	<5.0	5.0
Chlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
Chloroethane	<5.0	<5.0	<5.0	<5.0	5.0
Chloroform	<5.0	<5.0	<5.0	<5.0	5.0
Chloromethane	<5.0	<5.0	<5.0	<5.0	5.0
4-Chlorotoluene	<5.0	<5.0	<5.0	<5.0	5.0
2-Chlorotoluene	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dibromo-3-chloropropane	<10	<10	<10	<10	10
Dibromochloromethane	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dibromoethane (EDB)	<5.0	<5.0	<5.0	<5.0	5.0
Dibromomethane	<5.0	<5.0	<5.0	<5.0	5.0
1,3-Dichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,4-Dichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
Dichlorodifluoromethane (R12)	<5.0	<5.0	<5.0	<5.0	5.0

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: ug/kg

Date Sampled:	06/11/14	06/11/14	06/11/14	06/11/14
Date Prepared:	06/12/14	06/12/14	06/12/14	06/12/14
Date Analyzed:	06/12/14	06/12/14	06/12/14	06/12/14
AA ID No:	4F12004-07	4F12004-08	4F12004-10	4F12004-11
Client ID No:	11-1 1'	11-2 5'	12-1 1'	12-2 5'
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1
				MRL

8260B (EPA 8260B) (continued)

1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dichloroethane (EDC)	<5.0	<5.0	<5.0	<5.0	5.0
1,1-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	5.0
trans-1,2-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	5.0
cis-1,2-Dichloroethylene	<5.0	<5.0	<5.0	<5.0	5.0
2,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,3-Dichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,1-Dichloropropylene	<5.0	<5.0	<5.0	<5.0	5.0
cis-1,3-Dichloropropylene	<5.0	<5.0	<5.0	<5.0	5.0
trans-1,3-Dichloropropylene	<5.0	<5.0	<5.0	<5.0	5.0
Ethylbenzene	<2.0	<2.0	<2.0	<2.0	2.0
Hexachlorobutadiene	<10	<10	<10	<10	10
2-Hexanone (MBK)	<50	<50	<50	<50	50
Isopropylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
4-Isopropyltoluene	<5.0	<5.0	<5.0	<5.0	5.0
Methyl-tert-Butyl Ether (MTBE)	<5.0	<5.0	<5.0	<5.0	5.0
Methylene Chloride	<50	<50	<50	<50	50
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	50
Naphthalene	<10	<10	<10	<10	10
n-Propylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
Styrene	<5.0	<5.0	<5.0	<5.0	5.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	5.0
1,1,1,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	5.0
Tetrachloroethylene (PCE)	<5.0	<5.0	<5.0	<5.0	5.0
Toluene	<2.0	<2.0	<2.0	<2.0	2.0
1,2,4-Trichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GC/MS

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: ug/kg

Date Sampled:	06/11/14	06/11/14	06/11/14	06/11/14
Date Prepared:	06/12/14	06/12/14	06/12/14	06/12/14
Date Analyzed:	06/12/14	06/12/14	06/12/14	06/12/14
AA ID No:	4F12004-07	4F12004-08	4F12004-10	4F12004-11
Client ID No:	11-1 1'	11-2 5'	12-1 1'	12-2 5'
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1
				MRL

8260B (EPA 8260B) (continued)

1,2,3-Trichlorobenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0	5.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0	5.0
Trichloroethylene (TCE)	<5.0	<5.0	<5.0	<5.0	5.0
Trichlorofluoromethane (R11)	<5.0	<5.0	<5.0	<5.0	5.0
1,2,3-Trichloropropane	<5.0	<5.0	<5.0	<5.0	5.0
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<5.0	<5.0	<5.0	<5.0	5.0
1,2,4-Trimethylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
1,3,5-Trimethylbenzene	<5.0	<5.0	<5.0	<5.0	5.0
Vinyl chloride	<5.0	<5.0	<5.0	<5.0	5.0
o-Xylene	<2.0	<2.0	<2.0	<2.0	2.0
m,p-Xylenes	<2.0	<2.0	<2.0	<2.0	2.0

Surrogates

					%REC Limits
4-Bromofluorobenzene	120%	103%	116%	118%	70-140
Dibromofluoromethane	108%	108%	106%	110%	70-140
Toluene-d8	100%	106%	109%	106%	70-140

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Carbon Chain by GC/FID

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: mg/kg

Date Sampled:	06/11/14	06/11/14	06/11/14	06/11/14
Date Prepared:	06/17/14	06/17/14	06/17/14	06/17/14
Date Analyzed:	06/17/14	06/17/14	06/17/14	06/18/14
AA ID No:	4F12004-01	4F12004-02	4F12004-03	4F12004-04
Client ID No:	9-1 1'	9-2 5'	9-3 12'	10-1 1'
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	10
				MRL

Carbon Chain Characterization 8015M (EPA 8015M)

C6-C8	<1.0	<1.0	<1.0	<10	1.0
C8-C10	<1.0	<1.0	<1.0	<10	1.0
C10-C12	<1.0	<1.0	<1.0	<10	1.0
C12-C14	<1.0	<1.0	<1.0	<10	1.0
C14-C16	<1.0	<1.0	<1.0	<10	1.0
C16-C18	<1.0	<1.0	<1.0	<10	1.0
C18-C20	<1.0	<1.0	<1.0	11	1.0
C20-C22	<1.0	<1.0	<1.0	63	1.0
C22-C24	<1.0	<1.0	<1.0	110	1.0
C24-C26	<1.0	<1.0	<1.0	150	1.0
C26-C28	<1.0	<1.0	<1.0	180	1.0
C28-C32	<1.0	<1.0	<1.0	410	1.0
C32-C34	<1.0	<1.0	<1.0	140	1.0
C34-C36	<1.0	<1.0	<1.0	80	1.0
C36-C40	<1.0	<1.0	<1.0	56	1.0
C40-C44	<1.0	<1.0	<1.0	<10	1.0
TPH (C6-C44)	<10	<10	<10	1200	10

<u>Surrogates</u>					<u>%REC Limits</u>
o-Terphenyl	97%	104%	114%	116%	50-150

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Carbon Chain by GC/FID

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: mg/kg

Date Sampled:	06/11/14	06/11/14	06/11/14	06/11/14
Date Prepared:	06/17/14	06/17/14	06/17/14	06/17/14
Date Analyzed:	06/18/14	06/18/14	06/18/14	06/18/14
AA ID No:	4F12004-05	4F12004-06	4F12004-07	4F12004-08
Client ID No:	10-2 5'	10-3 12'	11-1 1'	11-2 5'
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1

MRL

Carbon Chain Characterization 8015M (EPA 8015M)

C6-C8	<1.0	<1.0	<1.0	<1.0	1.0
C8-C10	<1.0	<1.0	<1.0	<1.0	1.0
C10-C12	<1.0	<1.0	<1.0	<1.0	1.0
C12-C14	<1.0	<1.0	<1.0	<1.0	1.0
C14-C16	<1.0	<1.0	<1.0	<1.0	1.0
C16-C18	<1.0	<1.0	<1.0	<1.0	1.0
C18-C20	<1.0	<1.0	<1.0	<1.0	1.0
C20-C22	<1.0	<1.0	<1.0	<1.0	1.0
C22-C24	<1.0	<1.0	<1.0	<1.0	1.0
C24-C26	<1.0	<1.0	<1.0	1.1	1.0
C26-C28	<1.0	<1.0	<1.0	1.7	1.0
C28-C32	<1.0	<1.0	<1.0	3.9	1.0
C32-C34	<1.0	<1.0	<1.0	<1.0	1.0
C34-C36	<1.0	<1.0	<1.0	1.1	1.0
C36-C40	<1.0	<1.0	<1.0	<1.0	1.0
C40-C44	<1.0	<1.0	<1.0	<1.0	1.0
TPH (C6-C44)	<10	<10	<10	<10	10

<u>Surrogates</u>					<u>%REC Limits</u>
o-Terphenyl	111%	109%	112%	115%	50-150

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Carbon Chain by GC/FID

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: mg/kg

Date Sampled:	06/11/14	06/11/14	06/11/14	06/11/14
Date Prepared:	06/17/14	06/17/14	06/17/14	06/17/14
Date Analyzed:	06/18/14	06/18/14	06/18/14	06/18/14
AA ID No:	4F12004-09	4F12004-10	4F12004-11	4F12004-12
Client ID No:	11-3 12'	12-1 1'	12-2 5'	13-3 12'
Matrix:	Soil	Soil	Soil	Soil
Dilution Factor:	1	1	1	1

MRL

Carbon Chain Characterization 8015M (EPA 8015M)

C6-C8	<1.0	<1.0	<1.0	<1.0	1.0
C8-C10	<1.0	<1.0	<1.0	<1.0	1.0
C10-C12	<1.0	<1.0	<1.0	<1.0	1.0
C12-C14	<1.0	<1.0	<1.0	<1.0	1.0
C14-C16	<1.0	<1.0	<1.0	<1.0	1.0
C16-C18	<1.0	<1.0	<1.0	<1.0	1.0
C18-C20	<1.0	<1.0	<1.0	<1.0	1.0
C20-C22	<1.0	<1.0	<1.0	<1.0	1.0
C22-C24	1.8	2.7	<1.0	<1.0	1.0
C24-C26	2.2	6.0	<1.0	<1.0	1.0
C26-C28	3.9	9.3	<1.0	<1.0	1.0
C28-C32	5.5	19	<1.0	<1.0	1.0
C32-C34	2.0	6.1	<1.0	<1.0	1.0
C34-C36	1.2	5.9	<1.0	<1.0	1.0
C36-C40	<1.0	3.9	<1.0	<1.0	1.0
C40-C44	<1.0	<1.0	<1.0	<1.0	1.0
TPH (C6-C44)	17	53	<10	<10	10

<u>Surrogates</u>					<u>%REC Limits</u>
o-Terphenyl	117%	108%	113%	116%	50-150

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Total Metals CAM 17

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: mg/kg

Date Sampled:	06/11/14	06/11/14	06/11/14
Date Prepared:	06/13/14	06/13/14	06/13/14
Date Analyzed:	06/13/14	06/13/14	06/13/14
AA ID No:	4F12004-04	4F12004-07	4F12004-10
Client ID No:	10-1 1'	11-1 1'	12-1 1'
Matrix:	Soil	Soil	Soil
Dilution Factor:	1	1	1

MRL

CAM Metals Less Hg 6000/7000 (EPA 6010B/7000)

Antimony	<10	<10	<10	10
Arsenic	3.2	6.1	5.3	0.50
Barium	76	140	130	10
Beryllium	<1.0	<1.0	<1.0	1.0
Cadmium	<1.0	<1.0	<1.0	1.0
Chromium	43	45	40	3.0
Cobalt	<3.0	14	13	3.0
Copper	9.8	34	29	3.0
Lead	50	8.6	7.0	3.0
Molybdenum	6.6	<5.0	<5.0	5.0
Nickel	62	70	63	3.0
Selenium	<0.50	<0.50	<0.50	0.50
Silver	<1.0	<1.0	<1.0	1.0
Thallium	<5.0	<5.0	<5.0	5.0
Vanadium	41	41	36	10
Zinc	67	74	63	3.0

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: Total Metals CAM 17

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: mg/kg

Date Sampled:	06/11/14	06/11/14	06/11/14
Date Prepared:	06/13/14	06/13/14	06/13/14
Date Analyzed:	06/16/14	06/16/14	06/16/14
AA ID No:	4F12004-04	4F12004-07	4F12004-10
Client ID No:	10-1 1'	11-1 1'	12-1 1'
Matrix:	Soil	Soil	Soil
Dilution Factor:	1	1	1

MRL

Mercury Total EPA 7470A/7471A (EPA 7471A)

Mercury	0.034	0.026	0.026	0.020

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GCMS EPA TO-15

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: ug/m³

Date Sampled:	06/11/14	06/11/14	06/11/14
Date Prepared:	06/12/14	06/12/14	06/12/14
Date Analyzed:	06/12/14	06/12/14	06/12/14
AA ID No:	4F12004-13	4F12004-14	4F12004-15
Client ID No:	V-6	V-7	V-8
Matrix:	Vapor	Vapor	Vapor
Dilution Factor:	2	2	2
			MRL

TO-15 (ug/m3) (TO-15)

	34	42	19	
Acetone				5.0
Allyl chloride	<10	<10	<10	5.0
Benzene	<10	<10	<10	5.0
Benzyl chloride	<10	<10	<10	5.0
Bromodichloromethane	<10	<10	<10	5.0
Bromoform	<10	<10	<10	5.0
Bromomethane	<10	<10	<10	5.0
1,3-Butadiene	<10	<10	<10	5.0
2-Butanone (MEK)	12	11	<10	5.0
Carbon Disulfide	<10	<10	<10	5.0
Carbon Tetrachloride	<10	<10	<10	5.0
Chlorobenzene	<10	<10	<10	5.0
Chloroethane	<10	<10	<10	5.0
Chloroform	<10	<10	<10	5.0
Chloromethane	<10	<10	<10	5.0
Cyclohexane	<10	<10	<10	5.0
Dibromochloromethane	<10	<10	<10	5.0
1,2-Dibromoethane (EDB)	<10	<10	<10	5.0
1,2-Dichlorobenzene	<10	<10	<10	5.0
1,3-Dichlorobenzene	<10	<10	<10	5.0
1,4-Dichlorobenzene	<10	<10	<10	5.0
Dichlorodifluoromethane (R12)	<10	<10	19	5.0
1,1-Dichloroethane	<10	<10	<10	5.0
1,2-Dichloroethane (EDC)	<10	<10	<10	5.0
cis-1,2-Dichloroethylene	<10	<10	<10	5.0
1,1-Dichloroethylene	<10	<10	<10	5.0
trans-1,2-Dichloroethylene	<10	<10	<10	5.0

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GCMS EPA TO-15

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: ug/m³

Date Sampled:	06/11/14	06/11/14	06/11/14
Date Prepared:	06/12/14	06/12/14	06/12/14
Date Analyzed:	06/12/14	06/12/14	06/12/14
AA ID No:	4F12004-13	4F12004-14	4F12004-15
Client ID No:	V-6	V-7	V-8
Matrix:	Vapor	Vapor	Vapor
Dilution Factor:	2	2	2
			MRL

TO-15 (ug/m3) (TO-15) (continued)

1,2-Dichloropropane	<10	<10	<10	5.0
trans-1,3-Dichloropropylene	<10	<10	<10	5.0
cis-1,3-Dichloropropylene	<10	<10	<10	5.0
Dichlorotetrafluoroethane	<10	<10	<10	5.0
1,4-Dioxane	<10	<10	<10	5.0
Ethyl Acetate	<10	<10	<10	5.0
Ethylbenzene	<10	<10	<10	5.0
4-Ethyltoluene	<10	<10	<10	5.0
Heptane	<10	<10	<10	5.0
Hexachlorobutadiene	<10	<10	<10	5.0
n-Hexane	<10	<10	<10	5.0
2-Hexanone (MBK)	<10	<10	<10	5.0
Isopropanol (IPA)	<10	<10	<10	5.0
Methyl-tert-Butyl Ether (MTBE)	<10	<10	<10	5.0
Methylene Chloride	<10	<10	<10	5.0
4-Methyl-2-pentanone (MIBK)	<10	<10	<10	5.0
Propylene	<10	<10	<10	5.0
Styrene	<10	<10	<10	5.0
1,1,2,2-Tetrachloroethane	<10	<10	<10	5.0
Tetrachloroethylene (PCE)	<10	<10	34	5.0
Tetrahydrofuran (THF)	<10	<10	<10	5.0
Toluene	<10	<10	<10	5.0
1,2,4-Trichlorobenzene	<10	<10	<10	5.0
1,1,2-Trichloroethane	<10	<10	<10	5.0
1,1,1-Trichloroethane	<10	<10	26	5.0
Trichloroethylene (TCE)	<10	<10	<10	5.0
Trichlorofluoromethane (R11)	<10	<10	<10	5.0

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell
Method: VOCs by GCMS EPA TO-15

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14
Units: ug/m³

Date Sampled:	06/11/14	06/11/14	06/11/14
Date Prepared:	06/12/14	06/12/14	06/12/14
Date Analyzed:	06/12/14	06/12/14	06/12/14
AA ID No:	4F12004-13	4F12004-14	4F12004-15
Client ID No:	V-6	V-7	V-8
Matrix:	Vapor	Vapor	Vapor
Dilution Factor:	2	2	2
			MRL

TO-15 (ug/m3) (TO-15) (continued)

1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<10	<10	<10	5.0
1,3,5-Trimethylbenzene	<10	<10	<10	5.0
1,2,4-Trimethylbenzene	<10	<10	<10	5.0
2,2,4-Trimethylpentane	<10	<10	<10	5.0
Vinyl acetate	<10	<10	<10	5.0
Vinyl bromide	<10	<10	<10	5.0
Vinyl chloride	<10	<10	<10	5.0
o-Xylene	<10	<10	<10	5.0
m,p-Xylenes	16	21	12	5.0

<u>Surrogates</u>				<u>%REC Limits</u>
4-Bromofluorobenzene	92%	98%	96%	70-130

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes

VOCs by GC/MS - Quality Control

Batch B4F1209 - EPA 5035

Blank (B4F1209-BLK1)

Prepared & Analyzed: 06/12/14

Acetone	<50	50	ug/kg
Benzene	<2.0	2.0	ug/kg
Bromobenzene	<5.0	5.0	ug/kg
Bromochloromethane	<5.0	5.0	ug/kg
Bromodichloromethane	<5.0	5.0	ug/kg
Bromoform	<5.0	5.0	ug/kg
Bromomethane	<5.0	5.0	ug/kg
2-Butanone (MEK)	<50	50	ug/kg
sec-Butylbenzene	<5.0	5.0	ug/kg
n-Butylbenzene	<5.0	5.0	ug/kg
tert-Butylbenzene	<5.0	5.0	ug/kg
Carbon Disulfide	<5.0	5.0	ug/kg
Carbon Tetrachloride	<5.0	5.0	ug/kg
Chlorobenzene	<5.0	5.0	ug/kg
Chloroethane	<5.0	5.0	ug/kg
Chloroform	<5.0	5.0	ug/kg
Chloromethane	<5.0	5.0	ug/kg
4-Chlorotoluene	<5.0	5.0	ug/kg
2-Chlorotoluene	<5.0	5.0	ug/kg
1,2-Dibromo-3-chloropropane	<10	10	ug/kg
Dibromochloromethane	<5.0	5.0	ug/kg
1,2-Dibromoethane (EDB)	<5.0	5.0	ug/kg
Dibromomethane	<5.0	5.0	ug/kg
1,3-Dichlorobenzene	<5.0	5.0	ug/kg
1,2-Dichlorobenzene	<5.0	5.0	ug/kg
1,4-Dichlorobenzene	<5.0	5.0	ug/kg
Dichlorodifluoromethane (R12)	<5.0	5.0	ug/kg
1,1-Dichloroethane	<5.0	5.0	ug/kg
1,2-Dichloroethane (EDC)	<5.0	5.0	ug/kg
1,1-Dichloroethylene	<5.0	5.0	ug/kg
trans-1,2-Dichloroethylene	<5.0	5.0	ug/kg
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4F1209 - EPA 5035										
Blank (B4F1209-BLK1) Continued										
Prepared & Analyzed: 06/12/14										
2,2-Dichloropropane	<5.0	5.0	ug/kg							
1,2-Dichloropropane	<5.0	5.0	ug/kg							
1,3-Dichloropropane	<5.0	5.0	ug/kg							
1,1-Dichloropropylene	<5.0	5.0	ug/kg							
cis-1,3-Dichloropropylene	<5.0	5.0	ug/kg							
trans-1,3-Dichloropropylene	<5.0	5.0	ug/kg							
Ethylbenzene	<2.0	2.0	ug/kg							
Hexachlorobutadiene	<10	10	ug/kg							
2-Hexanone (MBK)	<50	50	ug/kg							
Isopropylbenzene	<5.0	5.0	ug/kg							
4-Isopropyltoluene	<5.0	5.0	ug/kg							
Methyl-tert-Butyl Ether (MTBE)	<5.0	5.0	ug/kg							
Methylene Chloride	<50	50	ug/kg							
4-Methyl-2-pentanone (MIBK)	<50	50	ug/kg							
Naphthalene	<10	10	ug/kg							
n-Propylbenzene	<5.0	5.0	ug/kg							
Styrene	<5.0	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg							
1,1,1,2-Tetrachloroethane	<5.0	5.0	ug/kg							
Tetrachloroethylene (PCE)	<5.0	5.0	ug/kg							
Toluene	<2.0	2.0	ug/kg							
1,2,4-Trichlorobenzene	<5.0	5.0	ug/kg							
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg							
1,1,2-Trichloroethane	<5.0	5.0	ug/kg							
1,1,1-Trichloroethane	<5.0	5.0	ug/kg							
Trichloroethylene (TCE)	<5.0	5.0	ug/kg							
Trichlorofluoromethane (R11)	<5.0	5.0	ug/kg							
1,2,3-Trichloropropane	<5.0	5.0	ug/kg							
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<5.0	5.0	ug/kg							
1,2,4-Trimethylbenzene	<5.0	5.0	ug/kg							
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg							

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4F1209 - EPA 5035										
Blank (B4F1209-BLK1) Continued										
Prepared & Analyzed: 06/12/14										
Vinyl chloride	<5.0	5.0	ug/kg							
o-Xylene	<2.0	2.0	ug/kg							
m,p-Xylenes	<2.0	2.0	ug/kg							
Surrogate: 4-Bromofluorobenzene	103		ug/kg	100		103	70-140			
Surrogate: Dibromofluoromethane	102		ug/kg	100		102	70-140			
Surrogate: Toluene-d8	95.2		ug/kg	100		95.2	70-140			
LCS (B4F1209-BS1)										
Prepared & Analyzed: 06/12/14										
Benzene	38.5	2.0	ug/kg	40		96.2	75-125			
Bromodichloromethane	44.7	5.0	ug/kg	40		112	75-125			
Bromoform	42.6	5.0	ug/kg	40		107	75-125			
Carbon Tetrachloride	43.9	5.0	ug/kg	40		110	75-125			
Chlorobenzene	38.9	5.0	ug/kg	40		97.4	75-125			
Chloroethane	42.2	5.0	ug/kg	40		105	75-125			
Chloroform	42.3	5.0	ug/kg	40		106	75-125			
Chloromethane	43.9	5.0	ug/kg	40		110	65-125			
Dibromochloromethane	41.5	5.0	ug/kg	40		104	75-125			
1,4-Dichlorobenzene	45.2	5.0	ug/kg	40		113	75-125			
1,1-Dichloroethane	41.4	5.0	ug/kg	40		104	70-125			
1,2-Dichloroethane (EDC)	44.0	5.0	ug/kg	40		110	75-125			
1,1-Dichloroethylene	40.3	5.0	ug/kg	40		101	70-130			
trans-1,2-Dichloroethylene	40.9	5.0	ug/kg	40		102	75-125			
cis-1,2-Dichloroethylene	42.3	5.0	ug/kg	40		106	75-125			
1,2-Dichloropropane	41.1	5.0	ug/kg	40		103	75-130			
cis-1,3-Dichloropropylene	40.9	5.0	ug/kg	40		102	75-125			
Ethylbenzene	40.7	2.0	ug/kg	40		102	75-125			
Methyl-tert-Butyl Ether (MTBE)	49.7	5.0	ug/kg	40		124	75-125			
Methylene Chloride	46.3	50	ug/kg	40		116	75-130			
1,1,2,2-Tetrachloroethane	44.9	5.0	ug/kg	40		112	70-135			
Tetrachloroethylene (PCE)	39.5	5.0	ug/kg	40		98.8	75-125			
Toluene	37.5	2.0	ug/kg	40		93.7	75-125			
1,1,2-Trichloroethane	43.6	5.0	ug/kg	40		109	75-125			

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4F1209 - EPA 5035										
LCS (B4F1209-BS1) Continued					Prepared & Analyzed: 06/12/14					
1,1,1-Trichloroethane	44.9	5.0	ug/kg	40		112	75-125			
Trichloroethylene (TCE)	42.0	5.0	ug/kg	40		105	75-125			
Vinyl chloride	39.8	5.0	ug/kg	40		99.4	75-125			
o-Xylene	40.1	2.0	ug/kg	40		100	75-125			
Surrogate: 4-Bromofluorobenzene	89.9		ug/kg	100		89.9	70-140			
Surrogate: Dibromofluoromethane	100		ug/kg	100		100	70-140			
Surrogate: Toluene-d8	93.8		ug/kg	100		93.8	70-140			
LCS Dup (B4F1209-BSD1)					Prepared & Analyzed: 06/12/14					
Benzene	36.6	2.0	ug/kg	40		91.5	75-125	5.01	30	
Bromodichloromethane	44.2	5.0	ug/kg	40		111	75-125	1.03	30	
Bromoform	38.8	5.0	ug/kg	40		97.0	75-125	9.38	30	
Carbon Tetrachloride	43.2	5.0	ug/kg	40		108	75-125	1.70	30	
Chlorobenzene	36.8	5.0	ug/kg	40		92.0	75-125	5.60	30	
Chloroethane	39.8	5.0	ug/kg	40		99.4	75-125	5.86	30	
Chloroform	41.5	5.0	ug/kg	40		104	75-125	1.77	30	
Chloromethane	40.1	5.0	ug/kg	40		100	65-125	8.95	30	
Dibromochloromethane	39.8	5.0	ug/kg	40		99.4	75-125	4.38	30	
1,4-Dichlorobenzene	41.8	5.0	ug/kg	40		104	75-125	7.77	30	
1,1-Dichloroethane	39.8	5.0	ug/kg	40		99.4	70-125	4.04	30	
1,2-Dichloroethane (EDC)	45.0	5.0	ug/kg	40		113	75-125	2.43	30	
1,1-Dichloroethylene	35.8	5.0	ug/kg	40		89.4	70-130	12.0	30	
trans-1,2-Dichloroethylene	38.2	5.0	ug/kg	40		95.6	75-125	6.77	30	
cis-1,2-Dichloroethylene	40.0	5.0	ug/kg	40		100	75-125	5.49	30	
1,2-Dichloropropane	39.0	5.0	ug/kg	40		97.5	75-130	5.24	30	
cis-1,3-Dichloropropylene	43.6	5.0	ug/kg	40		109	75-125	6.34	30	
Ethylbenzene	38.7	2.0	ug/kg	40		96.6	75-125	5.19	30	
Methyl-tert-Butyl Ether (MTBE)	48.2	5.0	ug/kg	40		120	75-125	3.07	30	
Methylene Chloride	46.3	50	ug/kg	40		116	75-130	0.130	30	
1,1,2,2-Tetrachloroethane	41.8	5.0	ug/kg	40		104	70-135	7.24	30	
Tetrachloroethylene (PCE)	35.7	5.0	ug/kg	40		89.2	75-125	10.1	30	
Toluene	36.1	2.0	ug/kg	40		90.2	75-125	3.75	30	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4F1209 - EPA 5035										
LCS Dup (B4F1209-BSD1) Continued										
					Prepared & Analyzed: 06/12/14					
1,1,2-Trichloroethane	40.1	5.0	ug/kg	40		100	75-125	8.46	30	
1,1,1-Trichloroethane	42.4	5.0	ug/kg	40		106	75-125	5.82	30	
Trichloroethylene (TCE)	39.4	5.0	ug/kg	40		98.4	75-125	6.39	30	
Vinyl chloride	37.3	5.0	ug/kg	40		93.4	75-125	6.33	30	
o-Xylene	40.1	2.0	ug/kg	40		100	75-125	0.00	30	
Surrogate: 4-Bromofluorobenzene	103		ug/kg	100		103	70-140			
Surrogate: Dibromofluoromethane	106		ug/kg	100		106	70-140			
Surrogate: Toluene-d8	96.0		ug/kg	100		96.0	70-140			
Matrix Spike (B4F1209-MS1)										
					Source: 4F12004-02 Prepared & Analyzed: 06/12/14					
Benzene	33.2	2.0	ug/kg	40	<2.0	83.1	70-130			
Bromoform	36.9	5.0	ug/kg	40	<5.0	92.4	70-130			
Chlorobenzene	33.3	5.0	ug/kg	40	<5.0	83.3	70-130			
Chloroform	37.4	5.0	ug/kg	40	<5.0	93.4	70-130			
1,1-Dichloroethane	36.1	5.0	ug/kg	40	<5.0	90.3	70-130			
1,1-Dichloroethylene	35.0	5.0	ug/kg	40	<5.0	87.6	70-130			
cis-1,2-Dichloroethylene	35.8	5.0	ug/kg	40	<5.0	89.6	70-130			
1,2-Dichloropropane	36.3	5.0	ug/kg	40	<5.0	90.6	70-130			
Ethylbenzene	35.6	2.0	ug/kg	40	<2.0	89.0	70-130			
Methyl-tert-Butyl Ether (MTBE)	47.3	5.0	ug/kg	40	<5.0	118	70-130			
n-Propylbenzene	40.5	5.0	ug/kg	40	<5.0	101	70-130			
Tetrachloroethylene (PCE)	35.0	5.0	ug/kg	40	<5.0	87.5	70-130			
Toluene	32.5	2.0	ug/kg	40	<2.0	81.2	70-130			
1,1,1-Trichloroethane	39.1	5.0	ug/kg	40	<5.0	97.7	70-130			
Trichloroethylene (TCE)	35.0	5.0	ug/kg	40	<5.0	87.6	70-130			
1,3,5-Trimethylbenzene	37.7	5.0	ug/kg	40	<5.0	94.2	70-130			
Vinyl chloride	35.7	5.0	ug/kg	40	<5.0	89.4	70-130			
Surrogate: 4-Bromofluorobenzene	105		ug/kg	100		105	70-140			
Surrogate: Dibromofluoromethane	105		ug/kg	100		105	70-140			
Surrogate: Toluene-d8	97.7		ug/kg	100		97.7	70-140			
Matrix Spike Dup (B4F1209-MSD1)										
					Source: 4F12004-02 Prepared & Analyzed: 06/12/14					
Benzene	36.0	2.0	ug/kg	40	<2.0	89.9	70-130	7.86	40	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B4F1209 - EPA 5035										
Matrix Spike Dup (B4F1209-MSD1) Source: 4F12004-02 Prepared & Analyzed: 06/12/14										
Continued										
Bromoform	38.9	5.0	ug/kg	40	<5.0	97.3	70-130	5.22	40	
Chlorobenzene	36.6	5.0	ug/kg	40	<5.0	91.4	70-130	9.27	40	
Chloroform	37.6	5.0	ug/kg	40	<5.0	94.0	70-130	0.640	40	
1,1-Dichloroethane	36.5	5.0	ug/kg	40	<5.0	91.3	70-130	1.10	40	
1,1-Dichloroethylene	34.5	5.0	ug/kg	40	<5.0	86.3	70-130	1.50	40	
cis-1,2-Dichloroethylene	36.3	5.0	ug/kg	40	<5.0	90.8	70-130	1.39	40	
1,2-Dichloropropane	36.7	5.0	ug/kg	40	<5.0	91.8	70-130	1.21	40	
Ethylbenzene	37.7	2.0	ug/kg	40	<2.0	94.2	70-130	5.62	40	
Methyl-tert-Butyl Ether (MTBE)	44.8	5.0	ug/kg	40	<5.0	112	70-130	5.39	40	
n-Propylbenzene	44.9	5.0	ug/kg	40	<5.0	112	70-130	10.3	40	
Tetrachloroethylene (PCE)	36.2	5.0	ug/kg	40	<5.0	90.6	70-130	3.43	40	
Toluene	36.6	2.0	ug/kg	40	<2.0	91.5	70-130	11.9	40	
1,1,1-Trichloroethane	40.0	5.0	ug/kg	40	<5.0	100	70-130	2.38	40	
Trichloroethylene (TCE)	36.8	5.0	ug/kg	40	<5.0	92.1	70-130	5.01	40	
1,3,5-Trimethylbenzene	40.4	5.0	ug/kg	40	<5.0	101	70-130	6.97	40	
Vinyl chloride	35.1	5.0	ug/kg	40	<5.0	87.7	70-130	1.86	40	
Surrogate: 4-Bromofluorobenzene	104		ug/kg	100		104	70-140			
Surrogate: Dibromofluoromethane	96.5		ug/kg	100		96.5	70-140			
Surrogate: Toluene-d8	98.6		ug/kg	100		98.6	70-140			

VOCs by GCMS EPA TO-15 - Quality Control

Batch B4F1305 - *** DEFAULT PREP ***

Blank (B4F1305-BLK1)

Prepared & Analyzed: 06/12/14

Acetone	<5.0	5.0	ug/m ³
Allyl chloride	<5.0	5.0	ug/m ³
Benzene	<5.0	5.0	ug/m ³
Benzyl chloride	<5.0	5.0	ug/m ³
Bromodichloromethane	<5.0	5.0	ug/m ³
Bromoform	<5.0	5.0	ug/m ³
Bromomethane	<5.0	5.0	ug/m ³
1,3-Butadiene	<5.0	5.0	ug/m ³

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

VOCs by GCMS EPA TO-15 - Quality Control

Batch B4F1305 - *** DEFAULT PREP ***

Blank (B4F1305-BLK1) Continued

Prepared & Analyzed: 06/12/14

2-Butanone (MEK)	<5.0	5.0	ug/m ³
Carbon Disulfide	<5.0	5.0	ug/m ³
Carbon Tetrachloride	<5.0	5.0	ug/m ³
Chlorobenzene	<5.0	5.0	ug/m ³
Chloroethane	<5.0	5.0	ug/m ³
Chloroform	<5.0	5.0	ug/m ³
Chloromethane	<5.0	5.0	ug/m ³
Cyclohexane	<5.0	5.0	ug/m ³
Dibromochloromethane	<5.0	5.0	ug/m ³
1,2-Dibromoethane (EDB)	<5.0	5.0	ug/m ³
1,2-Dichlorobenzene	<5.0	5.0	ug/m ³
1,3-Dichlorobenzene	<5.0	5.0	ug/m ³
1,4-Dichlorobenzene	<5.0	5.0	ug/m ³
Dichlorodifluoromethane (R12)	<5.0	5.0	ug/m ³
1,1-Dichloroethane	<5.0	5.0	ug/m ³
1,2-Dichloroethane (EDC)	<5.0	5.0	ug/m ³
cis-1,2-Dichloroethylene	<5.0	5.0	ug/m ³
1,1-Dichloroethylene	<5.0	5.0	ug/m ³
trans-1,2-Dichloroethylene	<5.0	5.0	ug/m ³
1,2-Dichloropropane	<5.0	5.0	ug/m ³
trans-1,3-Dichloropropylene	<5.0	5.0	ug/m ³
cis-1,3-Dichloropropylene	<5.0	5.0	ug/m ³
Dichlorotetrafluoroethane	<5.0	5.0	ug/m ³
1,4-Dioxane	<5.0	5.0	ug/m ³
Ethyl Acetate	<5.0	5.0	ug/m ³
Ethylbenzene	<5.0	5.0	ug/m ³
4-Ethyltoluene	<5.0	5.0	ug/m ³
Heptane	<5.0	5.0	ug/m ³
Hexachlorobutadiene	<5.0	5.0	ug/m ³
n-Hexane	<5.0	5.0	ug/m ³
2-Hexanone (MBK)	<5.0	5.0	ug/m ³
Isopropanol (IPA)	<5.0	5.0	ug/m ³

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B4F1305 - *** DEFAULT PREP ***</i>										
Blank (B4F1305-BLK1) Continued										
Prepared & Analyzed: 06/12/14										
Methyl-tert-Butyl Ether (MTBE)	<5.0	5.0	ug/m ³							
Methylene Chloride	<5.0	5.0	ug/m ³							
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/m ³							
Propylene	<5.0	5.0	ug/m ³							
Styrene	<5.0	5.0	ug/m ³							
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/m ³							
Tetrachloroethylene (PCE)	<5.0	5.0	ug/m ³							
Tetrahydrofuran (THF)	<5.0	5.0	ug/m ³							
Toluene	<5.0	5.0	ug/m ³							
1,2,4-Trichlorobenzene	<5.0	5.0	ug/m ³							
1,1,2-Trichloroethane	<5.0	5.0	ug/m ³							
1,1,1-Trichloroethane	<5.0	5.0	ug/m ³							
Trichloroethylene (TCE)	<5.0	5.0	ug/m ³							
Trichlorofluoromethane (R11)	<5.0	5.0	ug/m ³							
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<5.0	5.0	ug/m ³							
1,3,5-Trimethylbenzene	<5.0	5.0	ug/m ³							
1,2,4-Trimethylbenzene	<5.0	5.0	ug/m ³							
2,2,4-Trimethylpentane	<5.0	5.0	ug/m ³							
Vinyl acetate	<5.0	5.0	ug/m ³							
Vinyl bromide	<5.0	5.0	ug/m ³							
Vinyl chloride	<5.0	5.0	ug/m ³							
o-Xylene	<5.0	5.0	ug/m ³							
m,p-Xylenes	<5.0	5.0	ug/m ³							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>35.1</i>		<i>ug/m³</i>	<i>36</i>		<i>98.2</i>	<i>70-130</i>			
LCS (B4F1305-BS1)										
Prepared & Analyzed: 06/12/14										
Acetone	16.1	5.0	ug/m ³	24		67.6	70-130			
Allyl chloride	26.8	5.0	ug/m ³	31		85.6	70-130			
Benzene	27.7	5.0	ug/m ³	32		86.6	70-130			
Benzyl chloride	41.5	5.0	ug/m ³	52		80.2	70-130			
Bromodichloromethane	58.2	5.0	ug/m ³	67		86.9	70-130			

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F1305 - *** DEFAULT PREP ***										
LCS (B4F1305-BS1) Continued					Prepared & Analyzed: 06/12/14					
Bromoform	93.1	5.0	ug/m ³	100		90.1	70-130			
Bromomethane	31.6	5.0	ug/m ³	39		81.4	70-130			
1,3-Butadiene	18.3	5.0	ug/m ³	22		82.6	70-130			
2-Butanone (MEK)	24.0	5.0	ug/m ³	29		81.3	70-130			
Carbon Disulfide	26.3	5.0	ug/m ³	31		84.3	70-130			
Carbon Tetrachloride	55.0	5.0	ug/m ³	63		87.5	70-130			
Chlorobenzene	39.4	5.0	ug/m ³	46		85.5	70-130			
Chloroethane	21.3	5.0	ug/m ³	26		80.9	70-130			
Chloroform	41.3	5.0	ug/m ³	49		84.6	70-130			
Chloromethane	19.9	5.0	ug/m ³	21		96.3	70-130			
Cyclohexane	27.9	5.0	ug/m ³	34		81.0	70-130			
Dibromochloromethane	76.4	5.0	ug/m ³	85		89.7	70-130			
1,2-Dibromoethane (EDB)	66.9	5.0	ug/m ³	77		87.1	70-130			
1,2-Dichlorobenzene	47.5	5.0	ug/m ³	60		79.0	70-130			
1,3-Dichlorobenzene	47.1	5.0	ug/m ³	60		78.3	70-130			
1,4-Dichlorobenzene	45.6	5.0	ug/m ³	60		75.9	70-130			
Dichlorodifluoromethane (R12)	43.1	5.0	ug/m ³	49		87.2	70-130			
1,1-Dichloroethane	34.4	5.0	ug/m ³	40		84.9	70-130			
1,2-Dichloroethane (EDC)	36.4	5.0	ug/m ³	40		89.9	70-130			
cis-1,2-Dichloroethylene	34.3	5.0	ug/m ³	40		86.4	70-130			
1,1-Dichloroethylene	34.9	5.0	ug/m ³	40		88.0	70-130			
trans-1,2-Dichloroethylene	34.2	5.0	ug/m ³	40		86.2	70-130			
1,2-Dichloropropane	41.4	5.0	ug/m ³	46		89.6	70-130			
trans-1,3-Dichloropropylene	40.1	5.0	ug/m ³	45		88.3	70-130			
cis-1,3-Dichloropropylene	40.1	5.0	ug/m ³	45		88.3	70-130			
Dichlorotetrafluoroethane	58.4	5.0	ug/m ³	70		83.6	70-130			
1,4-Dioxane	27.7	5.0	ug/m ³	36		77.0	70-130			
Ethyl Acetate	28.3	5.0	ug/m ³	36		78.5	70-130			
Ethylbenzene	35.1	5.0	ug/m ³	43		80.8	70-130			
4-Ethyltoluene	38.9	5.0	ug/m ³	49		79.2	70-130			
Heptane	34.8	5.0	ug/m ³	41		84.8	70-130			
Hexachlorobutadiene	81.2	5.0	ug/m ³	110		76.1	70-130			

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
<i>Batch B4F1305 - *** DEFAULT PREP ***</i>										
LCS (B4F1305-BS1) Continued					Prepared & Analyzed: 06/12/14					
n-Hexane	30.7	5.0	ug/m ³	35		87.2	70-130			
2-Hexanone (MBK)	34.8	5.0	ug/m ³	41		84.9	70-130			
Isopropanol (IPA)	18.9	5.0	ug/m ³	25		77.0	70-130			
Methyl-tert-Butyl Ether (MTBE)	33.6	2.5	ug/m ³	36		93.2	70-130			
Methylene Chloride	31.2	5.0	ug/m ³	35		89.9	70-130			
4-Methyl-2-pentanone (MIBK)	33.6	5.0	ug/m ³	41		81.9	70-130			
Propylene	15.5	5.0	ug/m ³	17		90.2	70-130			
Styrene	35.1	5.0	ug/m ³	43		82.3	70-130			
1,1,2,2-Tetrachloroethane	54.8	5.0	ug/m ³	69		79.8	70-130			
Tetrachloroethylene (PCE)	59.2	5.0	ug/m ³	68		87.2	70-130			
Tetrahydrofuran (THF)	22.9	5.0	ug/m ³	29		77.6	70-130			
Toluene	30.3	5.0	ug/m ³	38		80.5	70-130			
1,2,4-Trichlorobenzene	59.4	5.0	ug/m ³	74		80.0	70-130			
1,1,2-Trichloroethane	48.6	5.0	ug/m ³	55		89.1	70-130			
1,1,1-Trichloroethane	48.0	5.0	ug/m ³	55		87.9	70-130			
Trichloroethylene (TCE)	44.5	5.0	ug/m ³	54		82.9	70-130			
Trichlorofluoromethane (R11)	46.4	5.0	ug/m ³	56		82.5	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	66.9	5.0	ug/m ³	77		87.3	70-130			
1,3,5-Trimethylbenzene	37.4	5.0	ug/m ³	49		76.0	70-130			
1,2,4-Trimethylbenzene	38.7	5.0	ug/m ³	49		78.7	70-130			
2,2,4-Trimethylpentane	39.4	5.0	ug/m ³	47		84.4	70-130			
Vinyl acetate	29.1	5.0	ug/m ³	35		82.7	70-130			
Vinyl bromide	33.1	5.0	ug/m ³	44		75.6	70-130			
Vinyl chloride	22.5	5.0	ug/m ³	26		87.9	70-130			
o-Xylene	33.6	5.0	ug/m ³	43		77.4	70-130			
m,p-Xylenes	33.6	2.5	ug/m ³	43		77.4	70-130			
Surrogate: 4-Bromofluorobenzene	33.9		ug/m ³	36		94.8	70-130			
LCS Dup (B4F1305-BSD1)					Prepared & Analyzed: 06/12/14					
Acetone	17.2	5.0	ug/m ³	24		72.4	70-130	6.86	30	
Allyl chloride	26.9	5.0	ug/m ³	31		85.8	70-130	0.233	30	

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F1305 - *** DEFAULT PREP ***										
LCS Dup (B4F1305-BSD1) Continued					Prepared & Analyzed: 06/12/14					
Benzene	28.1	5.0	ug/m ³	32		88.0	70-130	1.60	30	
Benzyl chloride	42.7	5.0	ug/m ³	52		82.4	70-130	2.71	30	
Bromodichloromethane	60.1	5.0	ug/m ³	67		89.7	70-130	3.17	30	
Bromoform	93.8	5.0	ug/m ³	100		90.7	70-130	0.664	30	
Bromomethane	32.3	5.0	ug/m ³	39		83.1	70-130	2.07	30	
1,3-Butadiene	18.8	5.0	ug/m ³	22		84.9	70-130	2.75	30	
2-Butanone (MEK)	25.9	5.0	ug/m ³	29		87.9	70-130	7.80	30	
Carbon Disulfide	26.8	5.0	ug/m ³	31		85.9	70-130	1.88	30	
Carbon Tetrachloride	55.3	5.0	ug/m ³	63		87.9	70-130	0.456	30	
Chlorobenzene	40.5	5.0	ug/m ³	46		88.0	70-130	2.88	30	
Chloroethane	21.4	5.0	ug/m ³	26		81.2	70-130	0.370	30	
Chloroform	41.7	5.0	ug/m ³	49		85.4	70-130	0.941	30	
Chloromethane	19.3	5.0	ug/m ³	21		93.4	70-130	3.06	30	
Cyclohexane	27.8	5.0	ug/m ³	34		80.8	70-130	0.247	30	
Dibromochloromethane	77.1	5.0	ug/m ³	85		90.5	70-130	0.888	30	
1,2-Dibromoethane (EDB)	68.5	5.0	ug/m ³	77		89.1	70-130	2.27	30	
1,2-Dichlorobenzene	47.8	5.0	ug/m ³	60		79.5	70-130	0.631	30	
1,3-Dichlorobenzene	48.6	5.0	ug/m ³	60		80.9	70-130	3.27	30	
1,4-Dichlorobenzene	47.1	5.0	ug/m ³	60		78.4	70-130	3.24	30	
Dichlorodifluoromethane (R12)	42.6	5.0	ug/m ³	49		86.1	70-130	1.27	30	
1,1-Dichloroethane	34.7	5.0	ug/m ³	40		85.7	70-130	0.938	30	
1,2-Dichloroethane (EDC)	37.5	5.0	ug/m ³	40		92.6	70-130	2.96	30	
cis-1,2-Dichloroethylene	34.5	5.0	ug/m ³	40		87.1	70-130	0.807	30	
1,1-Dichloroethylene	35.4	5.0	ug/m ³	40		89.3	70-130	1.47	30	
trans-1,2-Dichloroethylene	34.6	5.0	ug/m ³	40		87.3	70-130	1.27	30	
1,2-Dichloropropane	41.5	5.0	ug/m ³	46		89.7	70-130	0.112	30	
trans-1,3-Dichloropropylene	41.0	5.0	ug/m ³	45		90.4	70-130	2.35	30	
cis-1,3-Dichloropropylene	41.2	5.0	ug/m ³	45		90.7	70-130	2.68	30	
Dichlorotetrafluoroethane	58.4	5.0	ug/m ³	70		83.5	70-130	0.120	30	
1,4-Dioxane	28.0	5.0	ug/m ³	36		77.7	70-130	0.905	30	
Ethyl Acetate	31.9	5.0	ug/m ³	36		88.5	70-130	12.0	30	
Ethylbenzene	35.9	5.0	ug/m ³	43		82.7	70-130	2.32	30	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F1305 - *** DEFAULT PREP ***										
LCS Dup (B4F1305-BSD1) Continued					Prepared & Analyzed: 06/12/14					
4-Ethyltoluene	40.1	5.0	ug/m ³	49		81.6	70-130	2.99	30	
Heptane	35.0	5.0	ug/m ³	41		85.3	70-130	0.588	30	
Hexachlorobutadiene	82.4	5.0	ug/m ³	110		77.3	70-130	1.56	30	
n-Hexane	30.5	5.0	ug/m ³	35		86.6	70-130	0.690	30	
2-Hexanone (MBK)	37.8	5.0	ug/m ³	41		92.2	70-130	8.24	30	
Isopropanol (IPA)	19.7	5.0	ug/m ³	25		80.3	70-130	4.20	30	
Methyl-tert-Butyl Ether (MTBE)	35.0	2.5	ug/m ³	36		97.0	70-130	3.94	30	
Methylene Chloride	31.1	5.0	ug/m ³	35		89.5	70-130	0.446	30	
4-Methyl-2-pentanone (MIBK)	36.1	5.0	ug/m ³	41		88.1	70-130	7.29	30	
Propylene	15.8	5.0	ug/m ³	17		91.8	70-130	1.76	30	
Styrene	36.8	5.0	ug/m ³	43		86.4	70-130	4.86	30	
1,1,2,2-Tetrachloroethane	55.7	5.0	ug/m ³	69		81.2	70-130	1.74	30	
Tetrachloroethylene (PCE)	60.1	5.0	ug/m ³	68		88.6	70-130	1.59	30	
Tetrahydrofuran (THF)	23.7	5.0	ug/m ³	29		80.3	70-130	3.42	30	
Toluene	31.5	5.0	ug/m ³	38		83.6	70-130	3.78	30	
1,2,4-Trichlorobenzene	60.5	5.0	ug/m ³	74		81.5	70-130	1.86	30	
1,1,2-Trichloroethane	49.1	5.0	ug/m ³	55		89.9	70-130	0.894	30	
1,1,1-Trichloroethane	47.0	5.0	ug/m ³	55		86.2	70-130	1.95	30	
Trichloroethylene (TCE)	45.5	5.0	ug/m ³	54		84.6	70-130	2.03	30	
Trichlorofluoromethane (R11)	47.0	5.0	ug/m ³	56		83.7	70-130	1.44	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	67.2	5.0	ug/m ³	77		87.7	70-130	0.457	30	
1,3,5-Trimethylbenzene	39.9	5.0	ug/m ³	49		81.1	70-130	6.49	30	
1,2,4-Trimethylbenzene	39.5	5.0	ug/m ³	49		80.3	70-130	2.01	30	
2,2,4-Trimethylpentane	39.9	5.0	ug/m ³	47		85.5	70-130	1.29	30	
Vinyl acetate	29.6	5.0	ug/m ³	35		84.0	70-130	1.56	30	
Vinyl bromide	33.9	5.0	ug/m ³	44		77.6	70-130	2.61	30	
Vinyl chloride	22.6	5.0	ug/m ³	26		88.5	70-130	0.680	30	
o-Xylene	34.6	5.0	ug/m ³	43		79.6	70-130	2.80	30	
m,p-Xylenes	34.3	2.5	ug/m ³	43		78.9	70-130	2.05	30	
Surrogate: 4-Bromofluorobenzene	35.0		ug/m ³	36		97.8	70-130			

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F1305 - *** DEFAULT PREP ***										
Duplicate (B4F1305-DUP1) Source: 4F12004-14 Prepared & Analyzed: 06/12/14										
Acetone	39.7	10	ug/m ³		41.6			4.67	30	
Allyl chloride	<10	10	ug/m ³		<10				30	
Benzene	<10	10	ug/m ³		<10				30	
Benzyl chloride	<10	10	ug/m ³		<10				30	
Bromodichloromethane	<10	10	ug/m ³		<10				30	
Bromoform	<10	10	ug/m ³		<10				30	
Bromomethane	<10	10	ug/m ³		<10				30	
1,3-Butadiene	<10	10	ug/m ³		<10				30	
2-Butanone (MEK)	10.1	10	ug/m ³		11.2			10.5	30	
Carbon Disulfide	<10	10	ug/m ³		<10				30	
Carbon Tetrachloride	<10	10	ug/m ³		<10				30	
Chlorobenzene	<10	10	ug/m ³		<10				30	
Chloroethane	<10	10	ug/m ³		<10				30	
Chloroform	<10	10	ug/m ³		<10				30	
Chloromethane	<10	10	ug/m ³		<10				30	
Cyclohexane	<10	10	ug/m ³		<10				30	
Dibromochloromethane	<10	10	ug/m ³		<10				30	
1,2-Dibromoethane (EDB)	<10	10	ug/m ³		<10				30	
1,2-Dichlorobenzene	<10	10	ug/m ³		<10				30	
1,3-Dichlorobenzene	<10	10	ug/m ³		<10				30	
1,4-Dichlorobenzene	<10	10	ug/m ³		<10				30	
Dichlorodifluoromethane (R12)	<10	10	ug/m ³		<10				30	
1,1-Dichloroethane	<10	10	ug/m ³		<10				30	
1,2-Dichloroethane (EDC)	<10	10	ug/m ³		<10				30	
cis-1,2-Dichloroethylene	<10	10	ug/m ³		<10				30	
1,1-Dichloroethylene	<10	10	ug/m ³		<10				30	
trans-1,2-Dichloroethylene	<10	10	ug/m ³		<10				30	
1,2-Dichloropropane	<10	10	ug/m ³		<10				30	
trans-1,3-Dichloropropylene	<10	10	ug/m ³		<10				30	
cis-1,3-Dichloropropylene	<10	10	ug/m ³		<10				30	
Dichlorotetrafluoroethane	<10	10	ug/m ³		<10				30	
1,4-Dioxane	<10	10	ug/m ³		<10				30	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F1305 - *** DEFAULT PREP ***										
Duplicate (B4F1305-DUP1) Continued Source: 4F12004-14 Prepared & Analyzed: 06/12/14										
Ethyl Acetate	<10	10	ug/m ³		<10				30	
Ethylbenzene	<10	10	ug/m ³		<10				30	
4-Ethyltoluene	<10	10	ug/m ³		<10				30	
Heptane	<10	10	ug/m ³		<10				30	
Hexachlorobutadiene	<10	10	ug/m ³		<10				30	
n-Hexane	<10	10	ug/m ³		<10				30	
2-Hexanone (MBK)	<10	10	ug/m ³		<10				30	
Isopropanol (IPA)	<10	10	ug/m ³		<10				30	
Methyl-tert-Butyl Ether (MTBE)	<10	10	ug/m ³		<10				30	
Methylene Chloride	<10	10	ug/m ³		<10				30	
4-Methyl-2-pentanone (MIBK)	<10	10	ug/m ³		<10				30	
Propylene	<10	10	ug/m ³		<10				30	
Styrene	<10	10	ug/m ³		<10				30	
1,1,2,2-Tetrachloroethane	<10	10	ug/m ³		<10				30	
Tetrachloroethylene (PCE)	<10	10	ug/m ³		<10				30	
Tetrahydrofuran (THF)	<10	10	ug/m ³		<10				30	
Toluene	<10	10	ug/m ³		<10				30	
1,2,4-Trichlorobenzene	<10	10	ug/m ³		<10				30	
1,1,2-Trichloroethane	<10	10	ug/m ³		<10				30	
1,1,1-Trichloroethane	<10	10	ug/m ³		<10				30	
Trichloroethylene (TCE)	<10	10	ug/m ³		<10				30	
Trichlorofluoromethane (R11)	<10	10	ug/m ³		<10				30	
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<10	10	ug/m ³		<10				30	
1,3,5-Trimethylbenzene	<10	10	ug/m ³		<10				30	
1,2,4-Trimethylbenzene	<10	10	ug/m ³		<10				30	
2,2,4-Trimethylpentane	<10	10	ug/m ³		<10				30	
Vinyl acetate	<10	10	ug/m ³		<10				30	
Vinyl bromide	<10	10	ug/m ³		<10				30	
Vinyl chloride	<10	10	ug/m ³		<10				30	
o-Xylene	<10	10	ug/m ³		<10				30	
m,p-Xylenes	19.2	10	ug/m ³		20.8			7.83	30	

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
 Project No: STA-71881.2
 Project Name: STA-Campbell

AA Project No: A89719
 Date Received: 06/12/14
 Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GCMS EPA TO-15 - Quality Control										
Batch B4F1305 - *** DEFAULT PREP ***										
Duplicate (B4F1305-DUP1) Continued Source: 4F12004-14 Prepared & Analyzed: 06/12/14										
Surrogate: 4-Bromofluorobenzene	34.9		ug/m ³	36		97.6	70-130			
Carbon Chain by GC/FID - Quality Control										
Batch B4F1711 - EPA 3550B										
Blank (B4F1711-BLK1) Prepared & Analyzed: 06/17/14										
C6-C8	<1.0	1.0	mg/kg							
C8-C10	<1.0	1.0	mg/kg							
C10-C12	<1.0	1.0	mg/kg							
C12-C14	<1.0	1.0	mg/kg							
C14-C16	<1.0	1.0	mg/kg							
C16-C18	<1.0	1.0	mg/kg							
C18-C20	<1.0	1.0	mg/kg							
C20-C22	<1.0	1.0	mg/kg							
C22-C24	<1.0	1.0	mg/kg							
C24-C26	<1.0	1.0	mg/kg							
C26-C28	<1.0	1.0	mg/kg							
C28-C32	<1.0	1.0	mg/kg							
C32-C34	<1.0	1.0	mg/kg							
C34-C36	<1.0	1.0	mg/kg							
C36-C40	<1.0	1.0	mg/kg							
C40-C44	<1.0	1.0	mg/kg							
TPH (C6-C44)	<10	10	mg/kg							
Surrogate: o-Terphenyl	11.0		mg/kg	10		110	50-150			
LCS (B4F1711-BS1) Prepared & Analyzed: 06/17/14										
Diesel Range Organics as Diesel	200	10	mg/kg	200		100	75-125			
Surrogate: o-Terphenyl	11.8		mg/kg	10		118	50-150			
LCS Dup (B4F1711-BSD1) Prepared & Analyzed: 06/17/14										
Diesel Range Organics as Diesel	191	10	mg/kg	200		95.7	75-125	4.53	40	
Surrogate: o-Terphenyl	10.3		mg/kg	10		103	50-150			
Matrix Spike (B4F1711-MS1) Source: 4F12004-09 Prepared: 06/17/14 Analyzed: 06/18/14										

Allen Aminian
 QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Carbon Chain by GC/FID - Quality Control

Batch B4F1711 - EPA 3550B

Matrix Spike (B4F1711-MS1) Continued Source: 4F12004-09 Prepared: 06/17/14 Analyzed: 06/18/14

Diesel Range Organics as Diesel **181** 10 mg/kg 200 18.5 81.5 70-130

Surrogate: o-Terphenyl **10.1** mg/kg **10** **101** 50-150

Matrix Spike Dup (B4F1711-MSD1) Source: 4F12004-09 Prepared: 06/17/14 Analyzed: 06/18/14

Diesel Range Organics as Diesel **175** 10 mg/kg 200 18.5 78.3 70-130 3.58 40

Surrogate: o-Terphenyl **10.9** mg/kg **10** **109** 50-150

Total Metals CAM 17 - Quality Control

Batch B4F1311 - EPA 3050B

Blank (B4F1311-BLK1)

Prepared & Analyzed: 06/13/14

Antimony	<10	10	mg/kg
Arsenic	<0.50	0.50	mg/kg
Barium	<10	10	mg/kg
Beryllium	<1.0	1.0	mg/kg
Cadmium	<1.0	1.0	mg/kg
Chromium	<3.0	3.0	mg/kg
Cobalt	<3.0	3.0	mg/kg
Copper	<3.0	3.0	mg/kg
Lead	<3.0	3.0	mg/kg
Molybdenum	<5.0	5.0	mg/kg
Nickel	<3.0	3.0	mg/kg
Selenium	<0.50	0.50	mg/kg
Silver	<1.0	1.0	mg/kg
Thallium	<5.0	5.0	mg/kg
Vanadium	<10	10	mg/kg
Zinc	<3.0	3.0	mg/kg

LCS (B4F1311-BS1)

Prepared & Analyzed: 06/13/14

Antimony	43.6	10	mg/kg	50	87.1	80-120
Arsenic	51.8	0.50	mg/kg	50	104	80-120
Barium	50.4	10	mg/kg	50	101	80-120
Beryllium	50.1	1.0	mg/kg	50	100	80-120
Cadmium	51.2	1.0	mg/kg	50	102	80-120

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Metals CAM 17 - Quality Control										
Batch B4F1311 - EPA 3050B										
LCS (B4F1311-BS1) Continued Prepared & Analyzed: 06/13/14										
Chromium	51.2	3.0	mg/kg	50		102	80-120			
Cobalt	52.2	3.0	mg/kg	50		104	80-120			
Copper	52.0	3.0	mg/kg	50		104	80-120			
Lead	51.9	3.0	mg/kg	50		104	80-120			
Molybdenum	51.4	5.0	mg/kg	50		103	80-120			
Nickel	51.6	3.0	mg/kg	50		103	80-120			
Selenium	50.1	0.50	mg/kg	50		100	80-120			
Silver	50.9	1.0	mg/kg	50		102	80-120			
Thallium	50.4	5.0	mg/kg	50		101	80-120			
Vanadium	51.4	10	mg/kg	50		103	80-120			
Zinc	53.6	3.0	mg/kg	50		107	80-120			
LCS Dup (B4F1311-BSD1) Prepared & Analyzed: 06/13/14										
Antimony	46.3	10	mg/kg	50		92.5	80-120	6.02	20	
Arsenic	54.4	0.50	mg/kg	50		109	80-120	4.71	20	
Barium	52.2	10	mg/kg	50		104	80-120	3.51	20	
Beryllium	52.8	1.0	mg/kg	50		106	80-120	5.34	20	
Cadmium	53.4	1.0	mg/kg	50		107	80-120	4.21	20	
Chromium	53.4	3.0	mg/kg	50		107	80-120	4.21	20	
Cobalt	54.2	3.0	mg/kg	50		108	80-120	3.57	20	
Copper	53.2	3.0	mg/kg	50		106	80-120	2.28	20	
Lead	53.8	3.0	mg/kg	50		108	80-120	3.60	20	
Molybdenum	53.6	5.0	mg/kg	50		107	80-120	4.28	20	
Nickel	54.4	3.0	mg/kg	50		109	80-120	5.09	20	
Selenium	52.6	0.50	mg/kg	50		105	80-120	4.87	20	
Silver	53.2	1.0	mg/kg	50		106	80-120	4.32	20	
Thallium	54.2	5.0	mg/kg	50		108	80-120	7.17	20	
Vanadium	52.8	10	mg/kg	50		106	80-120	2.78	20	
Zinc	55.6	3.0	mg/kg	50		111	80-120	3.67	20	
Duplicate (B4F1311-DUP1) Source: 4F12010-01 Prepared & Analyzed: 06/13/14										
Antimony	<10	10	mg/kg						40	
Arsenic	3.36	0.50	mg/kg		4.14			20.5	40	

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Metals CAM 17 - Quality Control										
Batch B4F1311 - EPA 3050B										
Duplicate (B4F1311-DUP1) Continued Source: 4F12010-01 Prepared & Analyzed: 06/13/14										
Barium	108	10	mg/kg		114			4.92	40	
Beryllium	<1.0	1.0	mg/kg						40	
Cadmium	<1.0	1.0	mg/kg						40	
Chromium	30.8	3.0	mg/kg		30.1			2.37	40	
Cobalt	9.61	3.0	mg/kg		9.62			0.104	40	
Copper	18.9	3.0	mg/kg		19.2			1.31	40	
Lead	3.08	3.0	mg/kg		3.51			13.1	40	
Molybdenum	<5.0	5.0	mg/kg						40	
Nickel	20.1	3.0	mg/kg		20.1			0.174	40	
Selenium	<0.50	0.50	mg/kg						40	
Silver	<1.0	1.0	mg/kg						40	
Thallium	<5.0	5.0	mg/kg						40	
Vanadium	43.6	10	mg/kg		44.2			1.22	40	
Zinc	51.0	3.0	mg/kg		51.8			1.65	40	
Matrix Spike (B4F1311-MS1) Source: 4F12004-10 Prepared & Analyzed: 06/13/14										
Antimony	49.6	10	mg/kg	50	<10	99.3	75-125			
Arsenic	57.3	0.50	mg/kg	50	5.27	104	75-125			
Barium	177	10	mg/kg	50	133	88.0	75-125			
Beryllium	52.2	1.0	mg/kg	50	<1.0	104	75-125			
Cadmium	48.1	1.0	mg/kg	50	<1.0	96.1	75-125			
Chromium	89.0	3.0	mg/kg	50	40.4	97.1	75-125			
Cobalt	63.1	3.0	mg/kg	50	12.6	101	75-125			
Copper	80.8	3.0	mg/kg	50	28.7	104	75-125			
Lead	59.4	3.0	mg/kg	50	7.01	105	75-125			
Molybdenum	52.4	5.0	mg/kg	50	<5.0	105	75-125			
Nickel	110	3.0	mg/kg	50	62.8	95.0	75-125			
Selenium	50.6	0.50	mg/kg	50	<0.50	101	75-125			
Silver	50.6	1.0	mg/kg	50	<1.0	101	75-125			
Thallium	30.5	5.0	mg/kg	50	<5.0	61.1	60-140			
Vanadium	85.8	10	mg/kg	50	36.4	98.9	75-125			
Zinc	112	3.0	mg/kg	50	62.8	99.2	75-125			

Allen Aminian
QA/QC Manager

**LABORATORY ANALYSIS RESULTS**

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Metals CAM 17 - Quality Control										
<i>Batch B4F1311 - EPA 3050B</i>										
Matrix Spike Dup (B4F1311-MSD1) Source: 4F12004-10 Prepared & Analyzed: 06/13/14										
Antimony	46.5	10	mg/kg	50	<10	93.1	75-125	6.45	40	
Arsenic	61.3	0.50	mg/kg	50	5.27	112	75-125	6.75	40	
Barium	187	10	mg/kg	50	133	109	75-125	5.69	40	
Beryllium	56.0	1.0	mg/kg	50	<1.0	112	75-125	6.93	40	
Cadmium	50.8	1.0	mg/kg	50	<1.0	102	75-125	5.46	40	
Chromium	96.0	3.0	mg/kg	50	40.4	111	75-125	7.62	40	
Cobalt	67.6	3.0	mg/kg	50	12.6	110	75-125	6.89	40	
Copper	87.9	3.0	mg/kg	50	28.7	118	75-125	8.42	40	
Lead	63.0	3.0	mg/kg	50	7.01	112	75-125	5.88	40	
Molybdenum	55.2	5.0	mg/kg	50	<5.0	110	75-125	5.39	40	
Nickel	120	3.0	mg/kg	50	62.8	113	75-125	8.00	40	
Selenium	55.0	0.50	mg/kg	50	<0.50	110	75-125	8.33	40	
Silver	54.4	1.0	mg/kg	50	<1.0	109	75-125	7.14	40	
Thallium	19.5	5.0	mg/kg	50	<5.0	39.0	60-140	44.1	40	QM-07
Vanadium	93.2	10	mg/kg	50	36.4	114	75-125	8.21	40	
Zinc	123	3.0	mg/kg	50	62.8	120	75-125	8.80	40	

Total Metals CAM 17 - Quality Control

Batch B4F1313 - EPA 7471A Prep

Blank (B4F1313-BLK1)

Prepared: 06/13/14 Analyzed: 06/16/14

Mercury <0.020 0.020 mg/kg

LCS (B4F1313-BS1)

Prepared: 06/13/14 Analyzed: 06/16/14

Mercury 0.414 0.020 mg/kg 0.50 82.8 80-120

LCS Dup (B4F1313-BSD1)

Prepared: 06/13/14 Analyzed: 06/16/14

Mercury 0.419 0.020 mg/kg 0.50 83.8 80-120 1.20 25

Duplicate (B4F1313-DUP1)

Source: 4F12004-10 Prepared: 06/13/14 Analyzed: 06/16/14

Mercury <0.020 0.020 mg/kg 0.0260 25

Matrix Spike (B4F1313-MS1)

Source: 4F12004-10 Prepared: 06/13/14 Analyzed: 06/16/14

Mercury 0.412 0.020 mg/kg 0.50 0.0260 77.2 75-125

Matrix Spike Dup (B4F1313-MSD1)

Source: 4F12004-10 Prepared: 06/13/14 Analyzed: 06/16/14

Mercury 0.438 0.020 mg/kg 0.50 0.0260 82.4 75-125 6.12 25

Allen Aminian
QA/QC Manager



LABORATORY ANALYSIS RESULTS

Client: EEI
Project No: STA-71881.2
Project Name: STA-Campbell

AA Project No: A89719
Date Received: 06/12/14
Date Reported: 06/19/14

Special Notes

[1] = **QM-07** : The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Allen Aminian
QA/QC Manager



25712 Commercentre Drive
Lake Forest, California 92630
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02 July 2014

Bernie Sentianin
EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad, CA 92008
RE: 320 Railway Ave, Campbell, CA

Enclosed are the results of analyses for samples received by the laboratory on 06/27/14 08:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Katherine RunningCrane
Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
21-1@1'	T141278-01	Soil	06/25/14 09:30	06/27/14 08:45
22-1@2'	T141278-02	Soil	06/25/14 09:40	06/27/14 08:45
22-2@5'	T141278-03	Soil	06/25/14 10:00	06/27/14 08:45
23-1@1'	T141278-04	Soil	06/25/14 10:15	06/27/14 08:45
23-2@5'	T141278-05	Soil	06/25/14 10:22	06/27/14 08:45
24-1@1'	T141278-06	Soil	06/25/14 10:40	06/27/14 08:45
24-2@5'	T141278-07	Soil	06/25/14 10:50	06/27/14 08:45
21-2@4'	T141278-08	Soil	06/25/14 10:55	06/27/14 08:45
22-3@7'	T141278-09	Soil	06/25/14 11:00	06/27/14 08:45
23-3@8'	T141278-10	Soil	06/25/14 11:10	06/27/14 08:45
24-3@7'	T141278-11	Soil	06/25/14 11:20	06/27/14 08:45

DETECTIONS SUMMARY

Sample ID: 21-1@1'

Laboratory ID: T141278-01

Reporting

Analyte	Result	Limit	Units	Method	Notes
Lead	20000	250	ug/kg	6020 ICP-MS	

Sample ID: 22-1@2'

Laboratory ID: T141278-02

Reporting

Analyte	Result	Limit	Units	Method	Notes
C13-C28 (DRO)	35	10	mg/kg	EPA 8015C	
C29-C40 (MORO)	260	10	mg/kg	EPA 8015C	
Lead	21000	250	ug/kg	6020 ICP-MS	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Katherine RunningCrane

Katherine RunningCrane, Project Manager

EEI -- Carlsbad

2195 Faraday Ave., Ste K

Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA

Project Number: STA - 71881.2A

Project Manager: Bernie Sentianin

Reported:

07/02/14 14:26

Sample ID: 22-2@5'

Laboratory ID: T141278-03

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	7500	250	ug/kg	6020 ICP-MS	

Sample ID: 23-1@1'

Laboratory ID: T141278-04

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	38000	250	ug/kg	6020 ICP-MS	

Sample ID: 23-2@5'

Laboratory ID: T141278-05

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	9400	250	ug/kg	6020 ICP-MS	
Tetrachloroethene	7.8	5.0	ug/kg	EPA 8260B	

Sample ID: 24-1@1'

Laboratory ID: T141278-06

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C29-C40 (MORO)	17	10	mg/kg	EPA 8015C	
Lead	17000	250	ug/kg	6020 ICP-MS	

Sample ID: 24-2@5'

Laboratory ID: T141278-07

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	8100	250	ug/kg	6020 ICP-MS	
Tetrachloroethene	6.0	5.0	ug/kg	EPA 8260B	

Sample ID: 21-2@4'

Laboratory ID: T141278-08

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	25	10	mg/kg	EPA 8015C	
C29-C40 (MORO)	72	10	mg/kg	EPA 8015C	
Lead	34000	250	ug/kg	6020 ICP-MS	

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



25712 Commercentre Drive
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EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

Sample ID: 22-3@7'

Laboratory ID: T141278-09

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	10000	250	ug/kg	6020 ICP-MS	

Sample ID: 23-3@8'

Laboratory ID: T141278-10

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	8700	250	ug/kg	6020 ICP-MS	
Tetrachloroethene	8.5	5.0	ug/kg	EPA 8260B	

Sample ID: 24-3@7'

Laboratory ID: T141278-11

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	7400	250	ug/kg	6020 ICP-MS	

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
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EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

21-1@1'
T141278-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		92.3 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	20000	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Katherine RunningCrane

Katherine RunningCrane, Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

21-1@1'
T141278-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"
Isopropylbenzene	ND	5.0	"	"	"	"	"	"
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"
Methylene chloride	ND	5.0	"	"	"	"	"	"
Naphthalene	ND	5.0	"	"	"	"	"	"
n-Propylbenzene	ND	5.0	"	"	"	"	"	"
Styrene	ND	5.0	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
Tetrachloroethene	ND	5.0	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"
Trichloroethene	ND	5.0	"	"	"	"	"	"
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
Vinyl chloride	ND	5.0	"	"	"	"	"	"
Benzene	ND	5.0	"	"	"	"	"	"
Toluene	ND	5.0	"	"	"	"	"	"

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



25712 Commercentre Drive
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EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

21-1@1'
T141278-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		121 %	81.2-123		"	"	"	"	
Surrogate: Dibromofluoromethane		106 %	95.7-135		"	"	"	"	
Surrogate: Toluene-d8		96.6 %	85.5-116		"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

22-1@2'
T141278-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	35	10	"	"	"	"	"	"	
C29-C40 (MORO)	260	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		92.9 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	21000	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

22-1@2'
T141278-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



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Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

22-1@2'
T141278-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.6 %	81.2-123		"	"	"	"	
Surrogate: Dibromofluoromethane		114 %	95.7-135		"	"	"	"	
Surrogate: Toluene-d8		94.6 %	85.5-116		"	"	"	"	

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Katherine RunningCrane, Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

22-2@5'
T141278-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		72.0 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	7500	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane

Katherine RunningCrane, Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

22-2@5'
T141278-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"
Isopropylbenzene	ND	5.0	"	"	"	"	"	"
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"
Methylene chloride	ND	5.0	"	"	"	"	"	"
Naphthalene	ND	5.0	"	"	"	"	"	"
n-Propylbenzene	ND	5.0	"	"	"	"	"	"
Styrene	ND	5.0	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
Tetrachloroethene	ND	5.0	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"
Trichloroethene	ND	5.0	"	"	"	"	"	"
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
Vinyl chloride	ND	5.0	"	"	"	"	"	"
Benzene	ND	5.0	"	"	"	"	"	"
Toluene	ND	5.0	"	"	"	"	"	"

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

22-2@5'
T141278-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
m,p-Xylene	ND	10	"	"	"	"	"	"
o-Xylene	ND	5.0	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		95.5 %	81.2-123		"	"	"	"
Surrogate: Dibromofluoromethane		117 %	95.7-135		"	"	"	"
Surrogate: Toluene-d8		95.2 %	85.5-116		"	"	"	"

SunStar Laboratories, Inc.

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Katherine RunningCrane, Project Manager



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Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

23-1@1'
T141278-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		84.2 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	38000	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



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EEI -- Carlsbad
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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

23-1@1'
T141278-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane, Project Manager



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Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

23-1@1'
T141278-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.6 %	81.2-123		"	"	"	"	
Surrogate: Dibromofluoromethane		125 %	95.7-135		"	"	"	"	
Surrogate: Toluene-d8		99.1 %	85.5-116		"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



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EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

23-2@5'
T141278-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		80.4 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	9400	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

23-2@5'
T141278-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"
Isopropylbenzene	ND	5.0	"	"	"	"	"	"
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"
Methylene chloride	ND	5.0	"	"	"	"	"	"
Naphthalene	ND	5.0	"	"	"	"	"	"
n-Propylbenzene	ND	5.0	"	"	"	"	"	"
Styrene	ND	5.0	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
Tetrachloroethene	7.8	5.0	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"
Trichloroethene	ND	5.0	"	"	"	"	"	"
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
Vinyl chloride	ND	5.0	"	"	"	"	"	"
Benzene	ND	5.0	"	"	"	"	"	"
Toluene	ND	5.0	"	"	"	"	"	"

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Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

23-2@5'
T141278-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
m,p-Xylene	ND	10	"	"	"	"	"	"
o-Xylene	ND	5.0	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		93.2 %	81.2-123		"	"	"	"
Surrogate: Dibromofluoromethane		126 %	95.7-135		"	"	"	"
Surrogate: Toluene-d8		98.0 %	85.5-116		"	"	"	"

SunStar Laboratories, Inc.

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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

24-1@1'
T141278-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	17	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		82.2 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	17000	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane

Katherine RunningCrane, Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

24-1@1'
T141278-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"
Isopropylbenzene	ND	5.0	"	"	"	"	"	"
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"
Methylene chloride	ND	5.0	"	"	"	"	"	"
Naphthalene	ND	5.0	"	"	"	"	"	"
n-Propylbenzene	ND	5.0	"	"	"	"	"	"
Styrene	ND	5.0	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
Tetrachloroethene	ND	5.0	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"
Trichloroethene	ND	5.0	"	"	"	"	"	"
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
Vinyl chloride	ND	5.0	"	"	"	"	"	"
Benzene	ND	5.0	"	"	"	"	"	"
Toluene	ND	5.0	"	"	"	"	"	"

SunStar Laboratories, Inc.

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Katherine RunningCrane, Project Manager



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Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

24-1@1'
T141278-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	81.2-123		"	"	"	"	
Surrogate: Dibromofluoromethane		120 %	95.7-135		"	"	"	"	
Surrogate: Toluene-d8		95.6 %	85.5-116		"	"	"	"	

SunStar Laboratories, Inc.

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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

24-2@5'
T141278-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		80.5 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	8100	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

24-2@5'
T141278-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	6.0	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

24-2@5'
T141278-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	81.2-123		"	"	"	"	
Surrogate: Dibromofluoromethane		122 %	95.7-135		"	"	"	"	
Surrogate: Toluene-d8		96.1 %	85.5-116		"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



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EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

21-2@4'
T141278-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	25	10	"	"	"	"	"	"	
C29-C40 (MORO)	72	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		90.6 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	34000	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

21-2@4'
T141278-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"
Isopropylbenzene	ND	5.0	"	"	"	"	"	"
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"
Methylene chloride	ND	5.0	"	"	"	"	"	"
Naphthalene	ND	5.0	"	"	"	"	"	"
n-Propylbenzene	ND	5.0	"	"	"	"	"	"
Styrene	ND	5.0	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"
Tetrachloroethene	ND	5.0	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"
Trichloroethene	ND	5.0	"	"	"	"	"	"
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"
Vinyl chloride	ND	5.0	"	"	"	"	"	"
Benzene	ND	5.0	"	"	"	"	"	"
Toluene	ND	5.0	"	"	"	"	"	"

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

21-2@4'
T141278-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
m,p-Xylene	ND	10	"	"	"	"	"	"
o-Xylene	ND	5.0	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		117 %	81.2-123		"	"	"	"
Surrogate: Dibromofluoromethane		120 %	95.7-135		"	"	"	"
Surrogate: Toluene-d8		98.6 %	85.5-116		"	"	"	"

SunStar Laboratories, Inc.

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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

22-3@7'
T141278-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		88.2 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	10000	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane

Katherine RunningCrane, Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

22-3@7'
T141278-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
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Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

22-3@7'
T141278-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
m,p-Xylene	ND	10	"	"	"	"	"	"
o-Xylene	ND	5.0	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		116 %	81.2-123		"	"	"	"
Surrogate: Dibromofluoromethane		134 %	95.7-135		"	"	"	"
Surrogate: Toluene-d8		93.1 %	85.5-116		"	"	"	"

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Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

23-3@8'
T141278-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		84.6 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	8700	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

23-3@8'
T141278-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	8.5	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	

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Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

23-3@8'
T141278-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B
m,p-Xylene	ND	10	"	"	"	"	"	"
o-Xylene	ND	5.0	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		119 %	81.2-123		"	"	"	"
Surrogate: Dibromofluoromethane		126 %	95.7-135		"	"	"	"
Surrogate: Toluene-d8		96.1 %	85.5-116		"	"	"	"

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager

EEI -- Carlsbad
2195 Faraday Ave., Ste K
Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

24-3@7'
T141278-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Extractable Petroleum Hydrocarbons by 8015C

C6-C12 (GRO)	ND	10	mg/kg	1	4062712	06/27/14	06/28/14	EPA 8015C	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl		84.9 %	65-135		"	"	"	"	

Metals by EPA 6020 Method

Lead	7400	250	ug/kg	1	4062714	06/27/14	06/30/14	6020 ICP-MS	

Volatile Organic Compounds by EPA Method 8260B

Bromobenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager



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EEI -- Carlsbad
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Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

24-3@7'
T141278-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

1,2-Dichloroethane	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane, Project Manager



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Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

24-3@7'
T141278-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Ethylbenzene	ND	5.0	ug/kg	1	4062729	06/27/14	06/30/14	EPA 8260B	
m,p-Xylene	ND	10	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	81.2-123		"	"	"	"	
Surrogate: Dibromofluoromethane		131 %	95.7-135		"	"	"	"	
Surrogate: Toluene-d8		89.5 %	85.5-116		"	"	"	"	

SunStar Laboratories, Inc.

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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch 4062712 - EPA 3550B GC

Blank (4062712-BLK1)

Prepared: 06/27/14 Analyzed: 06/28/14

C6-C12 (GRO)	ND	10	mg/kg
C13-C28 (DRO)	ND	10	"
C29-C40 (MORO)	ND	10	"

Surrogate: <i>p</i> -Terphenyl	89.6		"	100		89.6	65-135

LCS (4062712-BS1)

Prepared: 06/27/14 Analyzed: 06/28/14

C13-C28 (DRO)	440	10	mg/kg	500		87.7	75-125
Surrogate: <i>p</i> -Terphenyl	91.2		"	100		91.2	65-135

Matrix Spike (4062712-MS1)

Source: T141270-21

Prepared: 06/27/14 Analyzed: 06/28/14

C13-C28 (DRO)	440	10	mg/kg	500	ND	87.6	75-125
Surrogate: <i>p</i> -Terphenyl	89.7		"	100		89.7	65-135

Matrix Spike Dup (4062712-MSD1)

Source: T141270-21

Prepared: 06/27/14 Analyzed: 06/28/14

C13-C28 (DRO)	450	10	mg/kg	500	ND	89.9	75-125	2.61	20
Surrogate: <i>p</i> -Terphenyl	88.9		"	100		88.9	65-135		

SunStar Laboratories, Inc.

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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

Metals by EPA 6020 Method - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4062714 - EPA 3051										
Blank (4062714-BLK1)				Prepared: 06/27/14 Analyzed: 06/30/14						
Lead	ND	250	ug/kg							
LCS (4062714-BS1)				Prepared: 06/27/14 Analyzed: 06/30/14						
Lead	13800	250	ug/kg	12500		110	80-120			
Matrix Spike (4062714-MS1)				Source: T141278-01 Prepared: 06/27/14 Analyzed: 06/30/14						
Lead	34000	250	ug/kg	12500	20500	108	75-125			
Matrix Spike Dup (4062714-MSD1)				Source: T141278-01 Prepared: 06/27/14 Analyzed: 06/30/14						
Lead	37100	250	ug/kg	12500	20500	134	75-125	8.88	20	QM-05
Post Spike (4062714-PS1)				Source: T141278-01 Prepared: 06/27/14 Analyzed: 06/30/14						
Lead	89.6		ug/kg	50.0	81.8	15.5	80-120			QM-05

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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch 4062729 - EPA 5030 GCMS

Blank (4062729-BLK1)

Prepared: 06/27/14 Analyzed: 06/30/14

Bromobenzene	ND	5.0	ug/kg
Bromochloromethane	ND	5.0	"
Bromodichloromethane	ND	5.0	"
Bromoform	ND	5.0	"
Bromomethane	ND	5.0	"
n-Butylbenzene	ND	5.0	"
sec-Butylbenzene	ND	5.0	"
tert-Butylbenzene	ND	5.0	"
Carbon tetrachloride	ND	5.0	"
Chlorobenzene	ND	5.0	"
Chloroethane	ND	5.0	"
Chloroform	ND	5.0	"
Chloromethane	ND	5.0	"
2-Chlorotoluene	ND	5.0	"
4-Chlorotoluene	ND	5.0	"
Dibromochloromethane	ND	5.0	"
1,2-Dibromo-3-chloropropane	ND	10	"
1,2-Dibromoethane (EDB)	ND	5.0	"
Dibromomethane	ND	5.0	"
1,2-Dichlorobenzene	ND	5.0	"
1,3-Dichlorobenzene	ND	5.0	"
1,4-Dichlorobenzene	ND	5.0	"
Dichlorodifluoromethane	ND	5.0	"
1,1-Dichloroethane	ND	5.0	"
1,2-Dichloroethane	ND	5.0	"
1,1-Dichloroethene	ND	5.0	"
cis-1,2-Dichloroethene	ND	5.0	"
trans-1,2-Dichloroethene	ND	5.0	"
1,2-Dichloropropane	ND	5.0	"
1,3-Dichloropropane	ND	5.0	"
2,2-Dichloropropane	ND	5.0	"
1,1-Dichloropropene	ND	5.0	"
cis-1,3-Dichloropropene	ND	5.0	"
trans-1,3-Dichloropropene	ND	5.0	"
Hexachlorobutadiene	ND	5.0	"
Isopropylbenzene	ND	5.0	"

SunStar Laboratories, Inc.

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Carlsbad CA, 92008

Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch 4062729 - EPA 5030 GCMS

Blank (4062729-BLK1)

Prepared: 06/27/14 Analyzed: 06/30/14

p-Isopropyltoluene	ND	5.0	ug/kg							
Methylene chloride	ND	5.0	"							
Naphthalene	ND	5.0	"							
n-Propylbenzene	ND	5.0	"							
Styrene	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	5.0	"							
1,1,1,2-Tetrachloroethane	ND	5.0	"							
Tetrachloroethene	ND	5.0	"							
1,2,3-Trichlorobenzene	ND	5.0	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
Trichloroethene	ND	5.0	"							
Trichlorofluoromethane	ND	5.0	"							
1,2,3-Trichloropropane	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
Vinyl chloride	ND	5.0	"							
Benzene	ND	5.0	"							
Toluene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	10	"							
o-Xylene	ND	5.0	"							
Surrogate: 4-Bromofluorobenzene	37.7		"	40.0		94.2	81.2-123			
Surrogate: Dibromofluoromethane	43.6		"	40.0		109	95.7-135			
Surrogate: Toluene-d8	40.1		"	40.0		100	85.5-116			

LCS (4062729-BS1)

Prepared: 06/27/14 Analyzed: 07/01/14

Chlorobenzene	100	5.0	ug/kg	100		100	75-125			
1,1-Dichloroethene	88.2	5.0	"	100		88.2	75-125			
Trichloroethene	83.4	5.0	"	100		83.4	75-125			
Benzene	90.5	5.0	"	100		90.5	75-125			
Toluene	85.3	5.0	"	100		85.3	75-125			
Surrogate: 4-Bromofluorobenzene	40.3		"	40.0		101	81.2-123			
Surrogate: Dibromofluoromethane	46.8		"	40.0		117	95.7-135			
Surrogate: Toluene-d8	38.2		"	40.0		95.4	85.5-116			

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Katherine RunningCrane, Project Manager



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Project: 320 Railway Ave, Campbell, CA
Project Number: STA - 71881.2A
Project Manager: Bernie Sentianin

Reported:
07/02/14 14:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch 4062729 - EPA 5030 GCMS

Matrix Spike (4062729-MS1)

Source: T141270-21

Prepared: 06/27/14 Analyzed: 07/01/14

Chlorobenzene	109	5.0	ug/kg	100	ND	109	75-125			
1,1-Dichloroethene	107	5.0	"	100	ND	107	75-125			
Trichloroethene	80.4	5.0	"	100	ND	80.4	75-125			
Benzene	90.0	5.0	"	100	ND	90.0	75-125			
Toluene	94.4	5.0	"	100	ND	94.4	75-125			
Surrogate: 4-Bromofluorobenzene	49.0		"	40.0		122	81.2-123			
Surrogate: Dibromofluoromethane	50.6		"	40.0		127	95.7-135			
Surrogate: Toluene-d8	35.8		"	40.0		89.4	85.5-116			

Matrix Spike Dup (4062729-MSD1)

Source: T141270-21

Prepared: 06/27/14 Analyzed: 07/01/14

Chlorobenzene	92.0	5.0	ug/kg	100	ND	92.0	75-125	17.0	20	
1,1-Dichloroethene	95.8	5.0	"	100	ND	95.8	75-125	10.6	20	
Trichloroethene	80.8	5.0	"	100	ND	80.8	75-125	0.558	20	
Benzene	89.7	5.0	"	100	ND	89.7	75-125	0.278	20	
Toluene	87.4	5.0	"	100	ND	87.4	75-125	7.70	20	
Surrogate: 4-Bromofluorobenzene	37.6		"	40.0		94.0	81.2-123			
Surrogate: Dibromofluoromethane	54.0		"	40.0		135	95.7-135			
Surrogate: Toluene-d8	35.7		"	40.0		89.2	85.5-116			

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Project Number: STA - 71881.2A
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07/02/14 14:26

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

SunStar Laboratories, Inc.

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Katherine RunningCrane

Katherine RunningCrane, Project Manager

Chain of Custody Record

SunStar Laboratories, Inc.
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949-297-5020

Client: E E I
Address: 2195 Faraday Avenue Suite K, Carlsbad, CA
Phone: 805-987-8728 Fax:
Project Manager: Bernard Sentionia

Date: 6-25-14 Page: 1 of 1
Project Name: 320 Railway Ave, Campbell, CA
Collector: Marc Hackey Client Project #: STA-71881.2a
Batch #: TH1278 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead - 6020/7000	Laboratory ID #	Comments/Preservative	Total # of containers
21 ~~10~~ 1'	6-25-14	9:30	but		/	/	/	/	/	/	/	/	/	/	01		
22 ~~10~~ 2'		9:40			/	/	/	/	/	/	/	/	/	/	02		
22 ~~10~~ 2'		10:00			/	/	/	/	/	/	/	/	/	/	03		
23 ~~10~~ 1'		10:15			/	/	/	/	/	/	/	/	/	/	04		
23 ~~10~~ 2'		10:22			/	/	/	/	/	/	/	/	/	/	05		
24 ~~10~~ 1'		10:40			/	/	/	/	/	/	/	/	/	/	06		
24 ~~10~~ 2'		10:50			/	/	/	/	/	/	/	/	/	/	07		
21 ~~10~~ 2'		10:55			/	/	/	/	/	/	/	/	/	/	08		
22 ~~10~~ 3'		11:00			/	/	/	/	/	/	/	/	/	/	09		
23 ~~10~~ 3'		11:10			/	/	/	/	/	/	/	/	/	/	10		
24 ~~10~~ 3'		11:20			/	/	/	/	/	/	/	/	/	/	11		
STD. TAT 																	
Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>6-25 1:30</u> Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>6-27-14 8:45</u> Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>6-27-14 8:45</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>6-27-14 8:45</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>6-27-14 8:45</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>6-27-14 8:45</u>																	
Sample disposal instructions: Disposal @ \$2.00 each Return to client Pickup Turn around time:																	
Chain of Custody seals Seals intact Received good condition/cold Total # of containers 4:0 Notes Please modified sample numbers to match #s on LOC. i.e. 11-1 to 21-1 Thanks																	

SAMPLE RECEIVING REVIEW SHEET

BATCH # T41278

Client Name: EEL - CARLSBAD

Project: 320 RAILWAY AVE, CAMPBELL, CA

Received by: SUNNY

Date/Time Received: 6-27-14 / 8:45

Delivered by: ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1

Temp criteria = $6^{\circ}\text{C} > 0^{\circ}\text{C}$ (no frozen containers)

Temperature: cooler #1 4.2 $^{\circ}\text{C}$ +/- the CF (- 0.2 $^{\circ}\text{C}$) = 4.0 $^{\circ}\text{C}$ corrected temperature

cooler #2 _____ $^{\circ}\text{C}$ +/- the CF (- 0.2 $^{\circ}\text{C}$) = _____ $^{\circ}\text{C}$ corrected temperature

cooler #3 _____ $^{\circ}\text{C}$ +/- the CF (- 0.2 $^{\circ}\text{C}$) = _____ $^{\circ}\text{C}$ corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling. ☒ Yes ☐ No* ☐ N/A

Custody Seals Intact on Cooler/Sample ☒ Yes ☐ No* ☐ N/A

Sample Containers Intact ☒ Yes ☐ No*

Sample labels match COC ID's ☐ Yes ☒ No*

Total number of containers received match COC ☒ Yes ☐ No*

Proper containers received for analyses requested on COC ☒ Yes ☐ No*

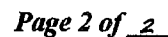
Proper preservative indicated on COC/containers for analyses requested ☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☐ Yes ☒ No*

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date SL 6-27-14

Comments:



BATCH # T/41278

COMMENTS:

ALL SAMPLE ID'S DOES NOT MATCH WITH LABELS ON CONTAINER.

[illegible]

H: HCL, S: H2SO4, N: HNO3, V: VOA, SL, Sleeve, E: Encore, T: Terracore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, AGB: Amber Glass Bottle, n/f1:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

ATTACHMENT 9

“WILL SERVE” LETTERS



Pacific Gas and Electric Company
De Anza Division

10900 N. Blaney Ave
Cupertino, Ca 95014

Date: February 24, 2015

Mr. Chase Eskel

RE: 300 Railway Ave., Campbell

This letter has been created to satisfy your request of a Will Serve Letter to the referenced project.

Pacific Gas & Electric will be designing and providing the requested utilities per the standard application process and under the correct Tariff rules set forth by the California Public Utilities Commission.

Application, contract, right-of-way, and moneys are due prior to construction. Be certain to keep in close contact with your PG&E Representative. This will insure that any changes or delays in your plans will not affect PG&E's ability to design and construct your service facilities in a manner that best meets your needs.

Please call if there are any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Serina Ponce", is written over the word "Sincerely,".

Serina Ponce
Senior New Business Representative
408-725-2146



**San Jose
Water
Company**

1265 S. Bascom Ave.
San Jose, CA 95128-3514

Direct Line: (408) 279-7879
Email: wanda.folk@sjwater.com

February 17, 2015

City of Campbell
Planning Division
70 North First Street
Campbell, CA 95008

Reference: Residences at Railway
Railway Avenue, Campbell
APN 412-07-006, 412-03-006, 412-08-056, 065,
412-03-005, 007, 412-07-042, 412-08-006, 054, 061, 062

Gentlemen:

This letter is being written at the request of St. Anton Capital.

Please be informed that the above-referenced property is within the jurisdiction of San Jose Water Company, and that we will serve further development of the site in accordance with our rules and regulations in effect and on file with the California Public Utilities Commission.

If you have any questions, or require further information, please contact this office at the number indicated above.

Sincerely,

A handwritten signature in black ink that reads 'Wanda E. Folk'.

Wanda E. Folk
Water Services Representative

WEF:wef
railway.doc

cc: Ardie Zahedani, St. Anton Capital

Letter emailed & mailed to: Chase Eskel with St. Anton Capital

Subject: RE: District Letter Request

Date: Thursday, February 19, 2015 at 9:29:32 AM Pacific Standard Time

From: Stephen Rose

To: Jay Coles

CC: Ardie Zahedani

Jay,

That letter is perfect.

Thanks,

Stephen Rose | Associate Planner

Community Development Department

P 408.866.2142 | F 408.871.5140

70 N. First Street, Campbell, CA 95008

[City Home](#) | [Planning Division](#) | [Municipal Code](#)

From: Jay Coles [mailto:jdc@antoncap.com]

Sent: Thursday, February 19, 2015 8:28 AM

To: Stephen Rose

Cc: Ardie Zahedani

Subject: FW: District Letter Request

Stephen,

See below email from Campbell Union School District. Is this sufficient in addressing your Public Services request?

Thank you,

Jay D. Coles



1801 I Street, Suite 200

Sacramento, CA 95811

916-444-9821 office

916-505-1931 mobile

916-444-9843 fax

www.AntonCap.com

³St. Anton Communities, live your way.²

From: James Crawford <JCrawford@campbellusd.org>
Date: Thursday, February 19, 2015 at 7:49 AM
To: Jay Coles <jdc@antoncap.com>
Subject: RE: District Letter Request

Jay,

The school district will be able to accommodate the students generated from this project with the collection of the development (developer) fees. We fill that an additional classroom will be constructed and the cost associated will be offset from the fee.

Thanks,

*James Crawford
Deputy Superintendent,
Administrative Services*



Ph: (408) 341-7214
Fax: (408) 341-7225

jcrawford@campbellusd.org

From: Jay Coles [<mailto:jdc@antoncap.com>]
Sent: Thursday, February 12, 2015 2:13 PM
To: James Crawford
Subject: District Letter Request

Mr. Crawford,

It was a pleasure speaking with you this morning regarding our project located at 300 Railway Avenue, Campbell. As I mentioned, we are proposing 118 apartments (6 studios, 83 x 1-bedrooms, 29 x 2-bedrooms), 29 townhomes (2 x 2-bedrooms, 14 x 3-bedrooms, 13 x 4-bedrooms), and 6 duets (3-bedrooms) for a total of 153 units. The City of Campbell has requested that we obtain a letter from the Campbell Union School District, which indicates that the District will serve the anticipated number of students the project would generate.

Please let me know if you have any questions or need more information. Thank you in advance for your assistance.

Sincerely,

Jay D. Coles



1801 I Street, Suite 200
Sacramento, CA 95811
916-444-9821 office
916-505-1931 mobile
916-444-9843 fax

www.AntonCap.com

³*St. Anton Communities, live your way.²*

Subject: RE: Residences at Railway, Campbell - Trash Management Plan Review
Date: Monday, March 30, 2015 at 10:22:43 AM Pacific Daylight Time
From: Wesley Norris
To: Jay Coles

Jay,

According to the Trash Management Plan dated 2/13/15 for 300 Railway in Campbell. West Valley will be able to provide service.---wes

From: Jay Coles [mailto:jdc@antoncap.com]
Sent: Thursday, March 26, 2015 6:12 PM
To: Wesley Norris
Cc: Chase Eskel
Subject: Residences at Railway, Campbell - Trash Management Plan Review

Wesley,

It was a pleasure speaking with you this morning. As discussed, I have included the Trash Management Plan and the Site Plan of our project located at 300 Railway in Campbell, for your review. Please let me know if you approve of this plan at your earliest convenience.

Thank you,

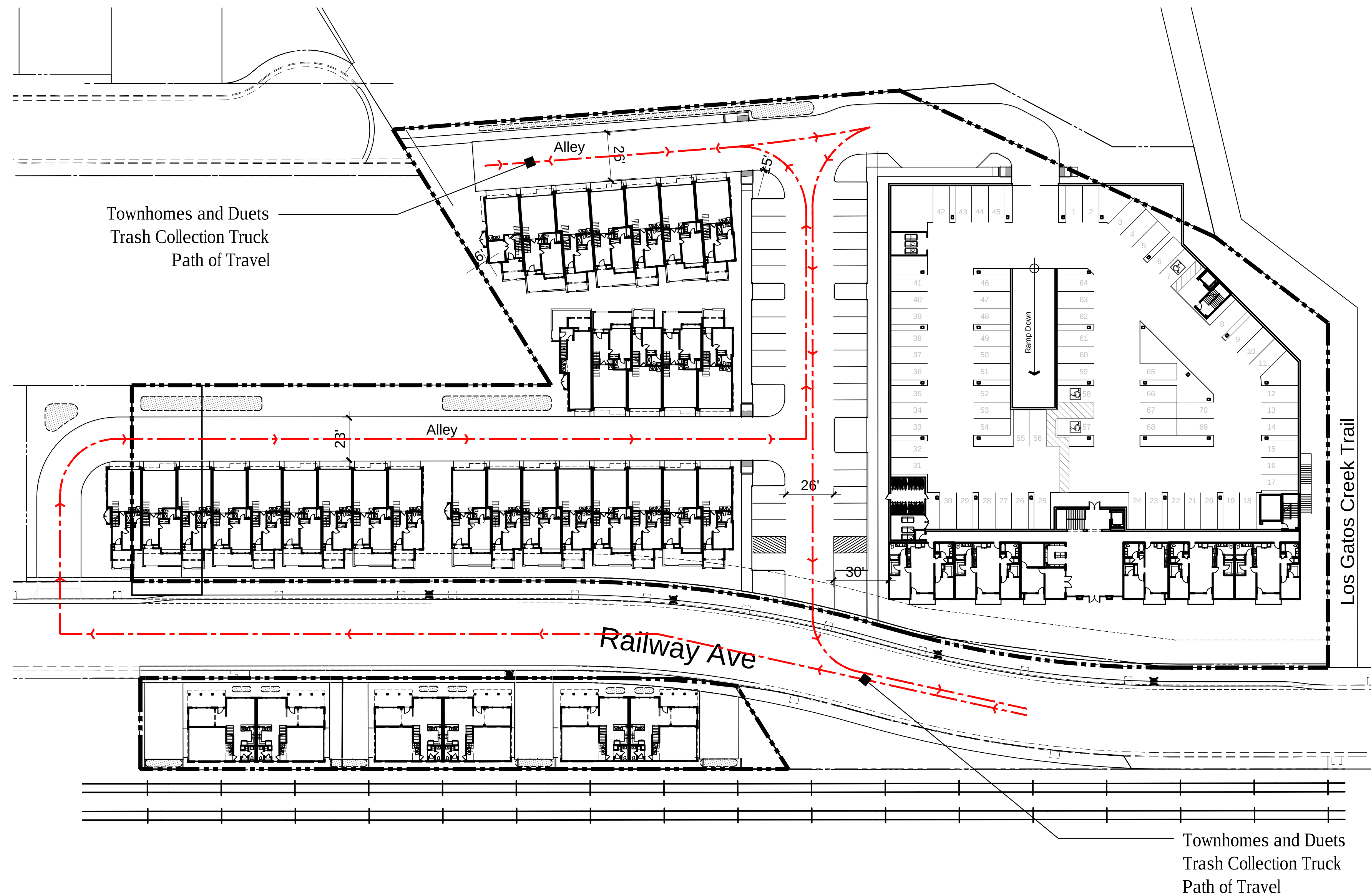
Jay D. Coles



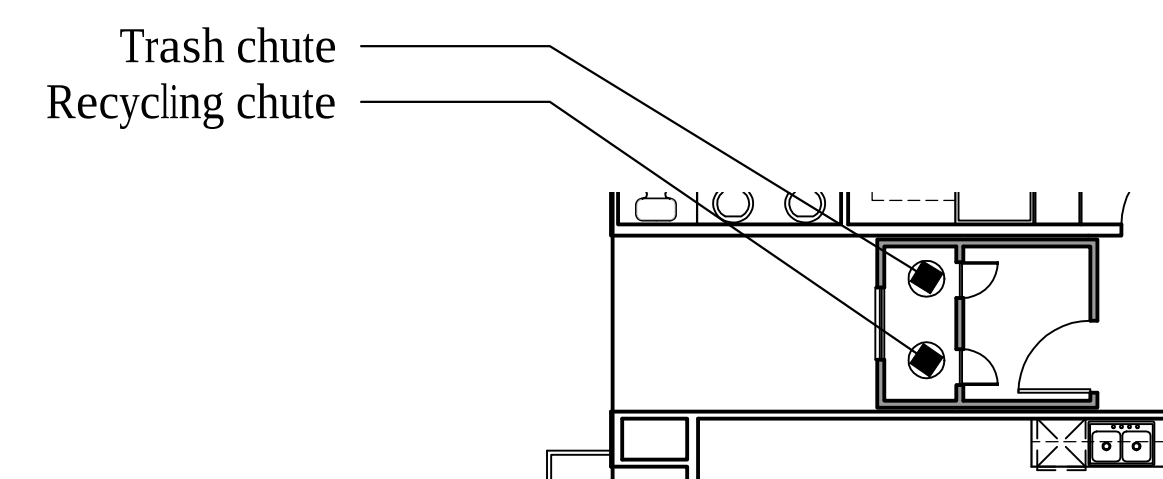
1801 I Street, Suite 200
Sacramento, CA 95811
916-444-9821 office
916-505-1931 mobile
916-444-9843 fax

www.AntonCap.com

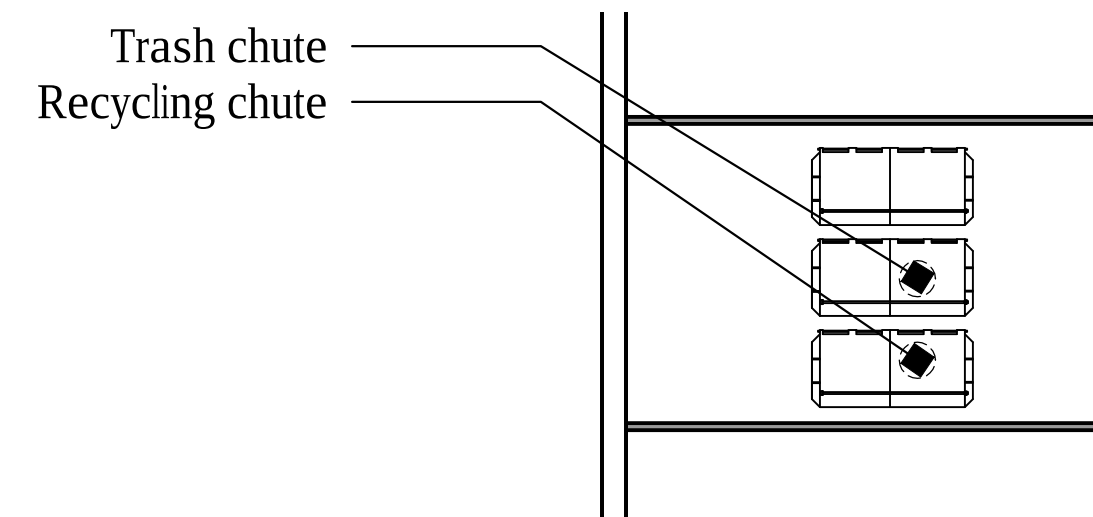
"St. Anton Communities, live your way."



Site Plan at Grade Level



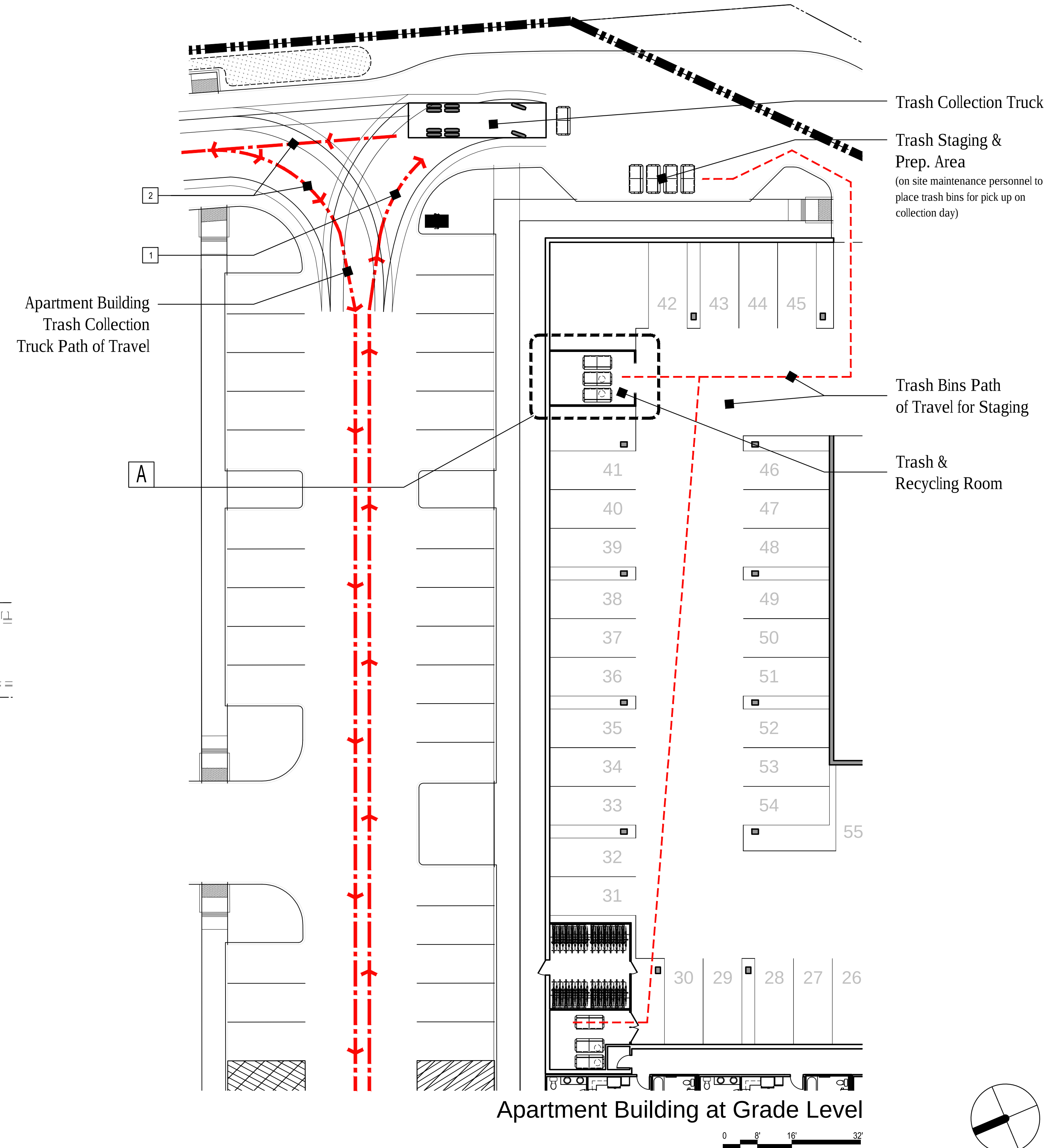
ENLARGED TRASH & RECYCLING ROOM FLOOR PLAN
TYPICAL UPPER LEVELS



A ENLARGED TRASH & RECYCLING ROOM FLOOR PLAN
GROUND LEVEL

0 4' 8' 16'

- Trash Collection Truck - Route of Travel
- 1 Truck to pull in forward to serve trash enclosure.
 - 2 Truck to back out and bear right to Railway Ave.



0 8' 16' 32'

0 20 40 80

TRASH MANAGEMENT PLAN

CAMPBELL, CALIFORNIA

KTGY # 2014-0158

02.13.2015

KTGY Group, Inc.
Architecture+Planning
17922 Fitch
Irvine, CA 92614
949.851.2133
ktgy.com



Residences at Railway
a St. Anton Community

St. Anton Communities
1801 I St., Suite 200
Sacramento, CA
(916) 444-9897

A1.4



February 26, 2015

Chase Eskel
St. Anton Communities
1801 I Street, Suite 200
Sacramento, CA 95811

Re: 300 Railway Avenue, Campbell – Will Serve

Dear Mr. Eskel:

This letter will serve as the West Valley Sanitation District's (District) "WILL SERVE" for the proposed 124 apartment units and 29 townhome units development at 300 Railway Ave. in the City of Campbell.

The proposed development may be served by the 10-inch sanitary sewer along Railway Ave. directly adjacent to the development. Downstream (north of Sam Cava Lane) the sewer transitions to a 6-inch sewer. This portion of 6-inch sewer is currently flowing just above its design capacity. The District will utilize the Sewer Connection Fees collected from your proposed development to install the necessary upgrades to the sewer.

Pursuant to District Ordinance Code Section 10.130, the owner is required to pay all applicable fees prior to the recordation of the Final Map. The District will issue a clearance letter for the recording of the Final Map after the fees are paid.

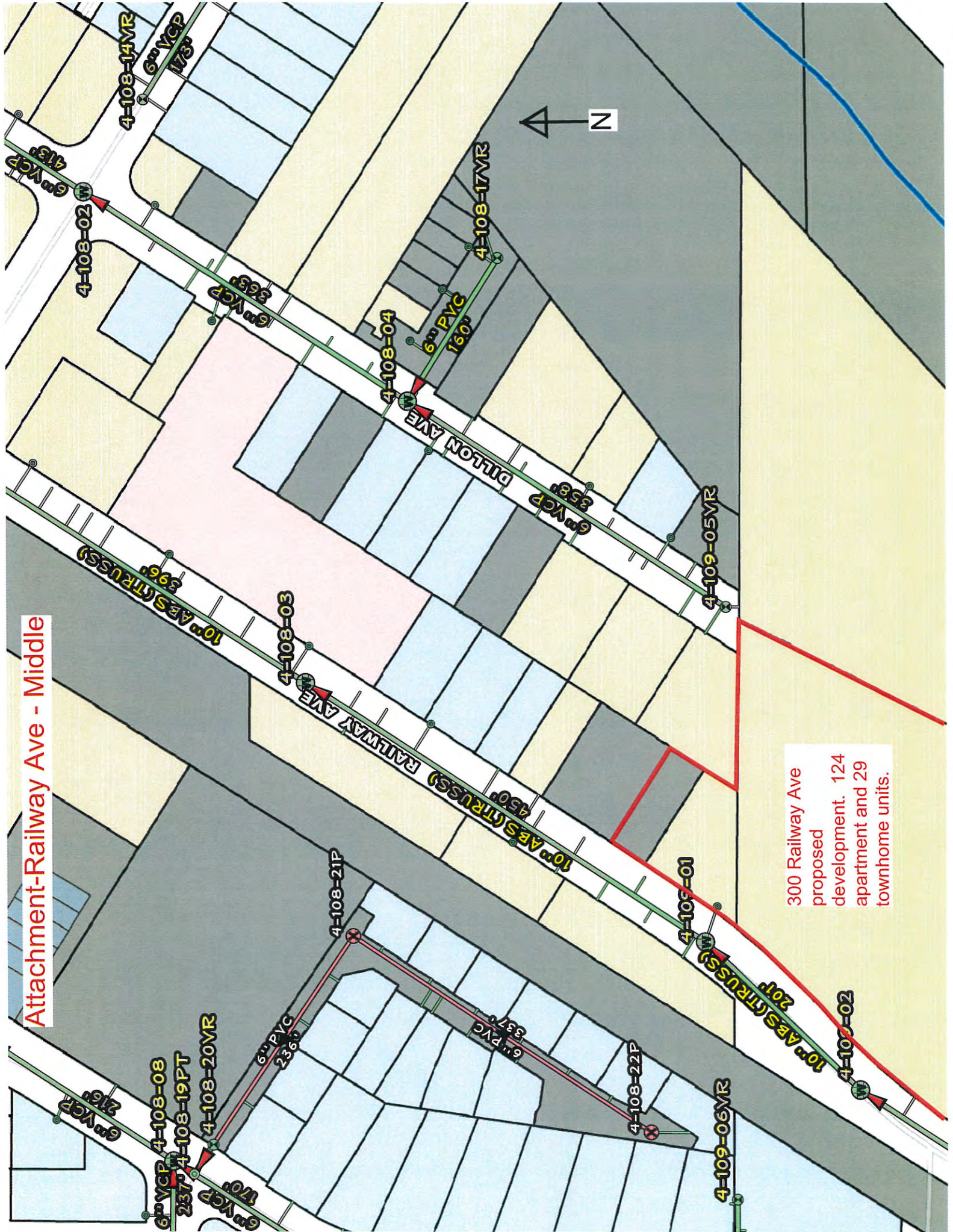
Please contact me at (408) 385-3030 for any additional information.

Sincerely,

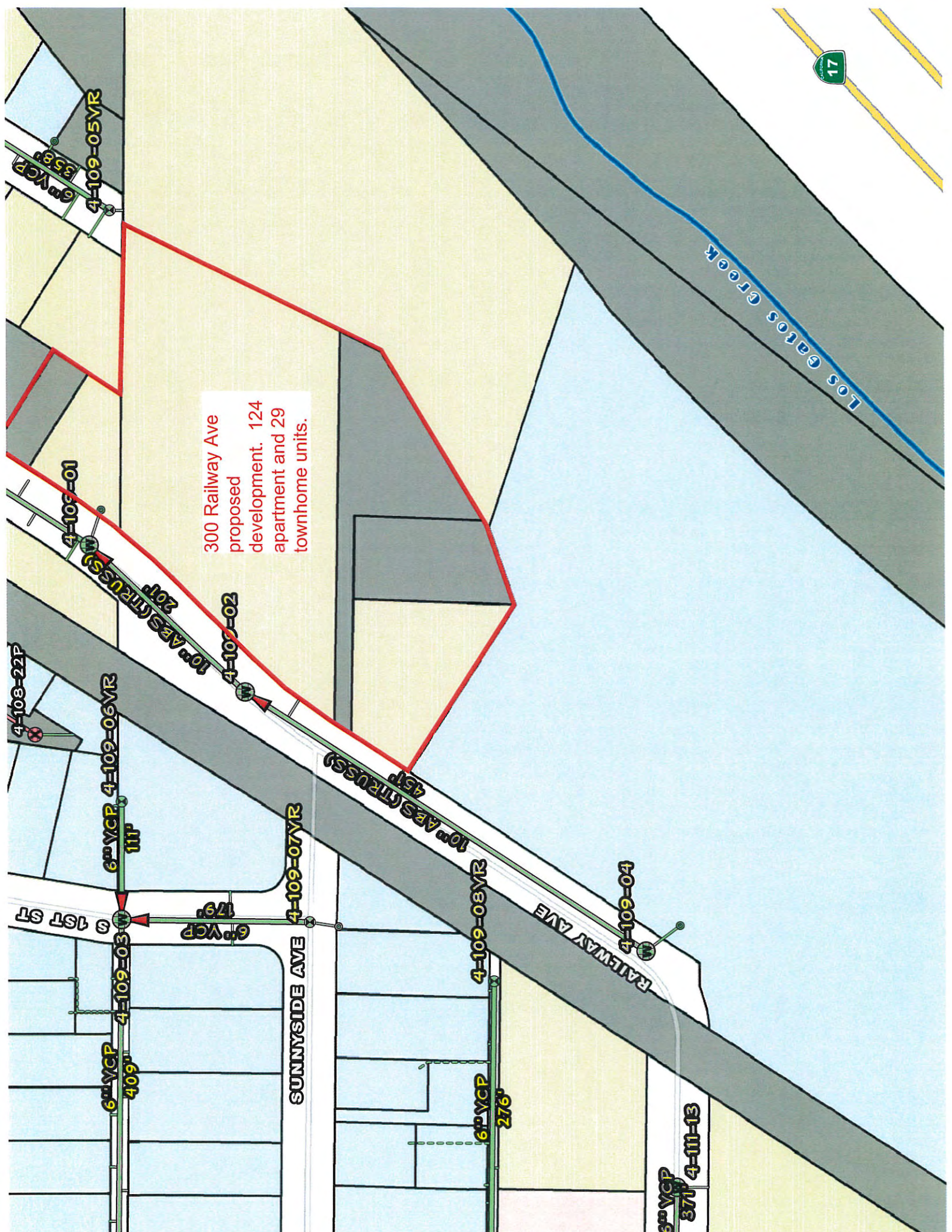
A handwritten signature in black ink, appearing to read 'Alan Kam', is written over the signature line.

Alan Kam
Senior Civil Engineer

Attachment-Railway Ave - Middle



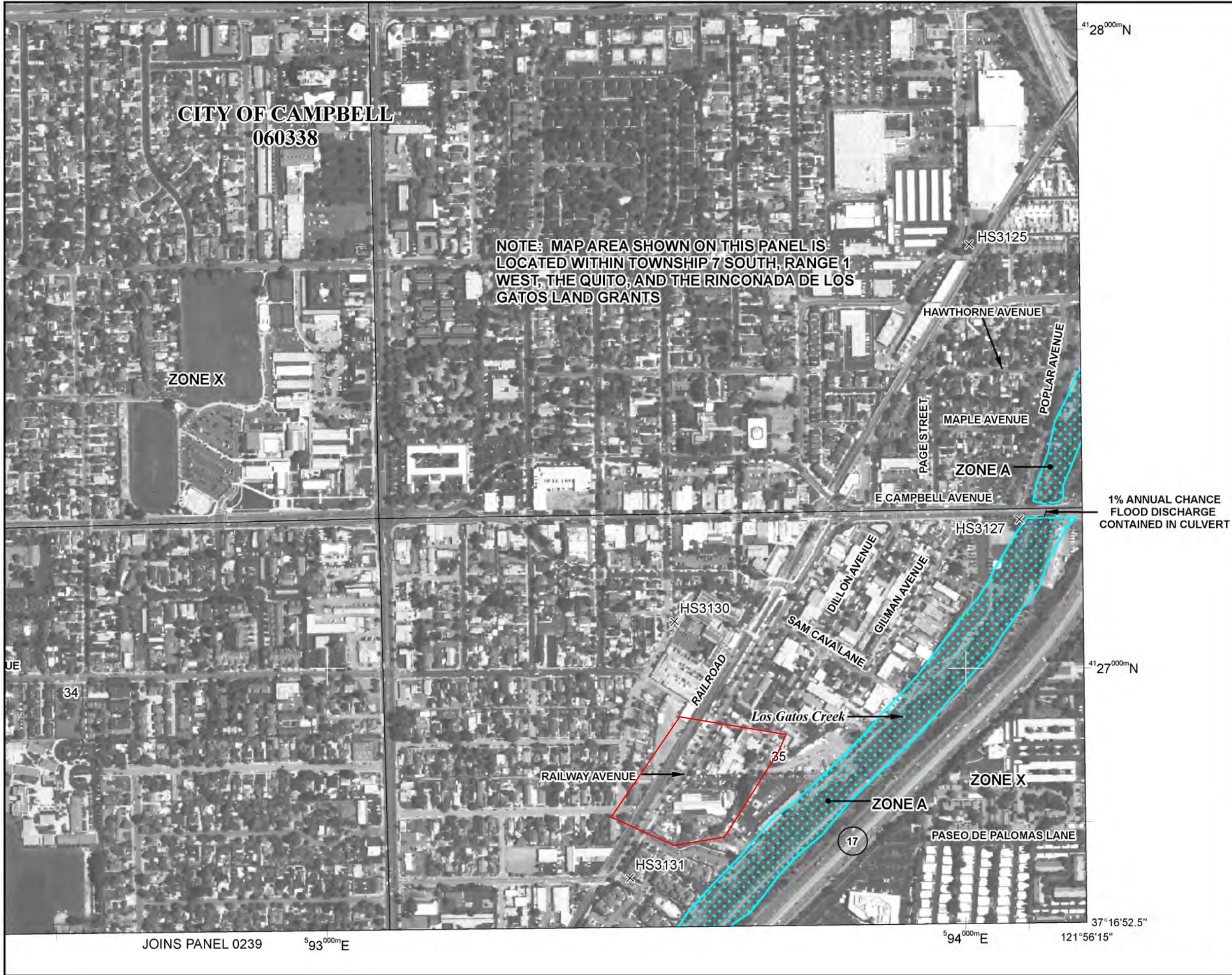
300 Railway Ave
proposed
development. 124
apartment and 29
townhome units.



300 Railway Ave
proposed
development. 124
apartment and 29
townhome units.

ATTACHMENT 10

FLOOD RATE INSURANCE MAP (FEMA)



MAP SCALE 1" = 500'

50 0 500 1000 FEET

METER

NFIP

PANEL 0237H

FIRM

FLOOD INSURANCE RATE MAP

SANTA CLARA COUNTY, CALIFORNIA

AND INCORPORATED AREAS

PANEL 237 OF 830

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAMPBELL, CITY OF	060338	0237	H
SAN JOSE, CITY OF	060349	0237	H
SANTA CLARA COUNTY	060337	0237	H

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
06085C0237H

EFFECTIVE DATE
MAY 18, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

ATTACHMENT 11

ENVIRONMENTAL NOISE ASSESSMENT

Environmental Noise Assessment

Residences at Railway Development

Campbell, California

BAC Job # 2014-355

Prepared For:

St. Anton Capital, LLC.

Attn: Ardie Zahedani
1801 I Street, Suite 200
Sacramento, CA 95811

Prepared By:

Bollard Acoustical Consultants, Inc.



Paul Bollard, President

May 6, 2015



Introduction

This environmental noise assessment was prepared for the proposed Residences at Railway Development Project (project). The proposed project is located along Railway Avenue in the City of Campbell, California. The proposed project consists of a total of 157 residential lots including 4-5 story apartments and 3 story townhomes to the east of Railway Avenue, and 2 story duplexes to the west side of Railway Avenue. Figure 1 shows the project area and Figure 2 shows the project site plan.

The proposed project is located adjacent to (east of) a two-track Valley Transportation Authority (VTA) Light Rail line with an adjacent freight railroad track. The site is 500 feet south of the Campbell Downtown Light Rail Station. Due to very low reported freight train activity on this line, this analysis focuses on noise generated by VTA Light Rail operations. In addition, relative to railroad noise generation, traffic on the lightly travelled Railway Avenue is also considered to be an inconsequential noise source affecting this project site.

Noise Fundamentals

Noise is often defined simply as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. Researchers have generally agreed that A-weighted sound pressure levels (sound levels) are very well correlated with community reaction to noise. The unit of sound level measurement is the decibel (dB), sometimes expressed as dBA. Variations in sound levels over time are represented by statistical descriptors, and by time-weighted composite noise metrics such as the Day-Night Average Level (L_{dn}), or the Community Noise Equivalent Level (CNEL). Throughout this analysis, A-weighted sound pressure levels will be used to describe community noise unless otherwise indicated.

The decibel notation used for sound levels describes a logarithmic relationship of acoustical energy, so that sound levels cannot be added or subtracted in the conventional arithmetic manner. For example, a doubling of acoustical energy results in a change of 3 decibels (dBA), which is usually considered to be barely perceptible. A 10-fold increase in acoustical energy yields a 10 decibel change, which is subjectively like a doubling of loudness.

Community noise is commonly described in terms of the “ambient” noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent sound level (L_{eq}), which corresponds to a steady-state sound level containing the same total energy as a time-varying signal over a given period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, and shows very good correlation with community response to noise.

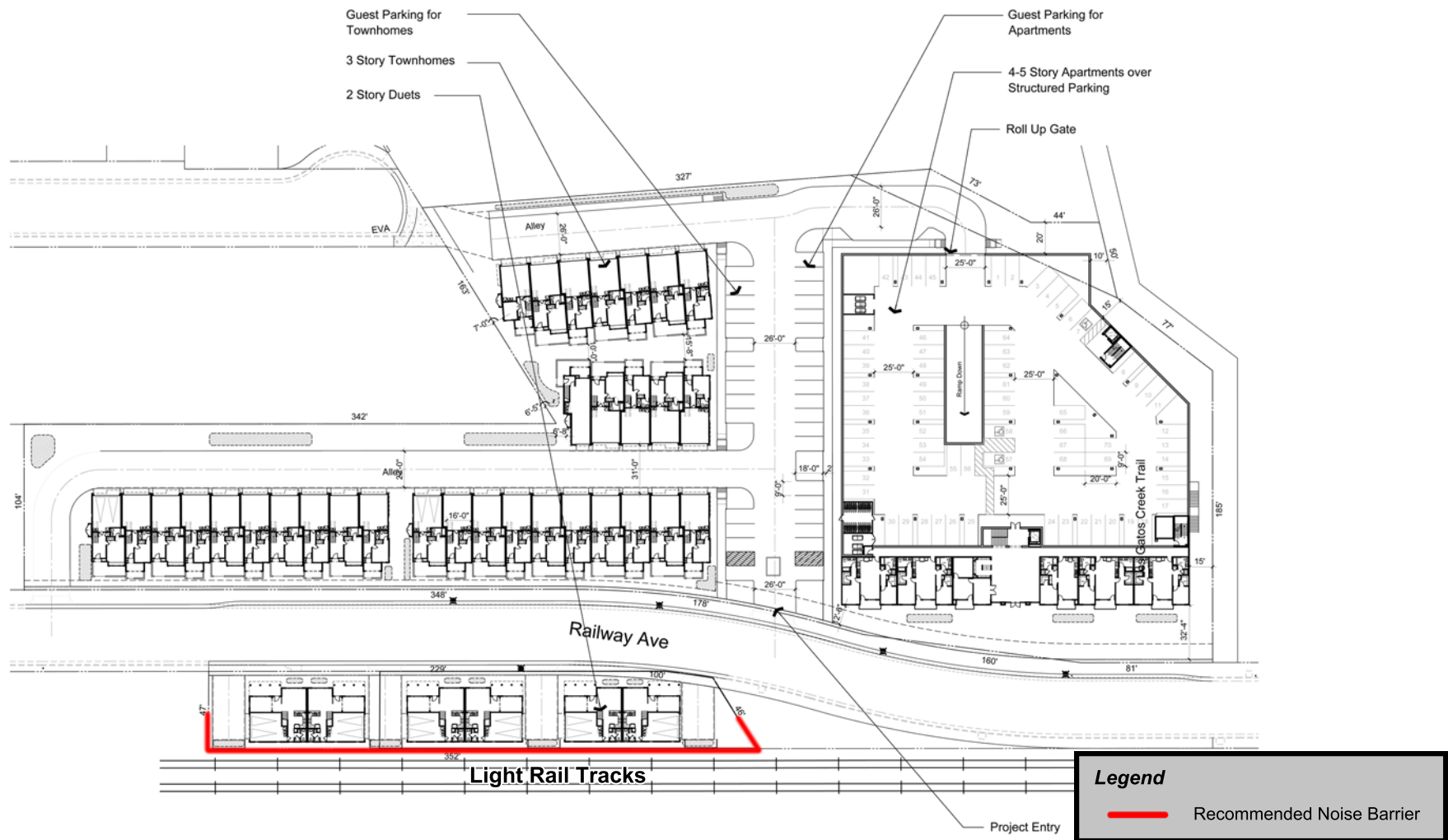
Appendix A provides definitions of acoustical terms used in this report.

Figure 1
Residences at Railway Development - Campbell, California
Project Area and Noise Measurement Locations



Residences at Railway Development - Campbell, California

Proposed Project Site Plan



Single-Event Noise & Sleep Disturbance

A single event is an individual distinct loud activity, such as a train passage, or any other brief and discrete noise-generating activity. Because most noise policies applicable to transportation noise sources are typically specified in terms of 24-hour-averaged descriptors, such as Ldn or CNEL, the potential for annoyance or sleep disturbance associated with individual loud events can be masked by the averaging process.

Extensive studies have been conducted regarding the effects of single-event noise on sleep disturbance, with the Sound Exposure Level (SEL) metric being a common metric used for such assessments. SEL represents the entire sound energy of a given single-event normalized into a one-second period regardless of event duration. As a result, the single-number SEL metric contains information pertaining to both event duration and intensity. Another descriptor utilized to assess single-event noise is the maximum, or Lmax, noise level associated with the event. A problem with utilizing Lmax to assess single events is that the duration of the event is not considered.

There is currently no national consensus regarding the appropriateness of SEL criteria as a supplement or replacement for cumulative noise level metrics such as Ldn and CNEL. Nonetheless, because SEL describes a receiver's total noise exposure from a single impulsive event, SEL is often used to characterize noise from individual brief loud events.

Due to the wide variation in test subjects' reactions to noises of various levels (some test subjects were awakened by indoor SEL values of 50 dB, whereas others slept through indoor SEL values exceeding 80 dB), no definitive consensus has been reached with respect to a universal criterion to apply to environmental noise assessments.

It is estimated that only 10 to 20 percent of the reported cases of sleep disturbance are for reasons relating to transportation noise. Most studies focus on investigating possible secondary effects of sleep disturbance, including reduced perceived sleep quality, increased fatigue, depressed mood or wellbeing, and decreased performance (Carter 1996, INRETS 1993, Passchier-Vermeer 1993, Pearson et al. 1995). Sleep disturbance is recognized as intrinsically undesirable and, thus, is considered an adverse noise impact in and of itself. Sleep disturbance studies have developed predictive models of awakenings caused by transportation noise sources. Predicted awakening percentages as a function of indoor SELs are shown in Table 1.

Table 1
Sleep Disturbance as a Function of Single Event Noise Exposure

Indoor SEL (dBA)	Average Percent Awakened
45	0.8%
50	1.0%
55	1.2%
60	1.5%
65	1.8%
70	2.2%
75	2.8%
80	3.4%
85	4.2%

Notes: Average Percent Awakened = $0.58 + (4.30 \times 10^{-6}) \times \text{SEL}$

Source: Finegold and Bartholomew, 2001. "A Predictive Model of Noise Induced Awakenings from Transportation Sources" In *Noise Control Engineering Journal*, 2001: pp. 331-338.

Vibration

According to the Federal Transit Administration Noise and Vibration Impact Assessment Guidelines (FTA-VA-90-06), ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads.

Train wheels rolling on rails create vibration energy that is transmitted through the track support system into the ground, creating vibration waves that propagate through the various soil and rock strata to the foundations of nearby buildings. The vibration propagates from the foundation throughout the remainder of the building structure. The maximum vibration amplitudes of the floors and walls of a building often will be at the resonance frequencies of various components of the building.

The vibration of floors and walls may cause perceptible vibration, rattling of items such as windows or dishes on shelves, or a rumble noise. The rumble is the noise radiated from the motion of the room surfaces. In essence, the room surfaces act like a giant loudspeaker causing what is called ground-borne noise. Ground-borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities (inches/second). Table 2 shows expected responses to different levels of ground-borne vibration.

Table 2 General Human and Structural Responses to Vibration Levels	
Response	Peak Vibration Threshold (in./sec. ppv)
Structural damage to commercial structures	6
Structural damage to residential structures	2
Architectural damage to structures (cracking, etc.)	1
General threshold of human annoyance	0.1
Approximate threshold of human perception	0.01
Source: Survey of Earth-borne Vibrations due to Highway Construction and Highway Traffic, Caltrans	

Criteria for Acceptable Noise Exposure

City of Campbell General Plan

The City of Campbell General Plan Noise Standards are provided in Table 4 (CNR 10 of the General Plan).

CNR-10.1c Traffic-Related Noise

New residential development shall conform to a traffic related noise exposure standard of 60 dBA CNEL for outdoor noise in noise-sensitive outdoor activity areas and 45 dBA CNEL for indoor noise.

Although the City of Campbell General Plan Policy CNR-10-1c pertains to traffic noise, it is assumed for the purposes of this analysis that a similar standard would be applicable to railroad noise within the City.

Criteria for Acceptable Vibration Exposure

The City of Campbell General Plan does not contain specific standards for assessing vibration-related impacts. As a result, this analysis utilizes the Table 2 level at which the onset of annoyance can be expected, or a peak vibration velocity of 0.1 inches/second, for the assessment of vibration impacts associated with the project operations. It should be noted that Table 2 indicates that 10 times this level of vibration energy would be required to result in architectural damage to structures.

Existing Railroad Noise Environment

The project site is bordered by the existing Valley Transportation Authority (VTA) Light Rail line, and a single heavy rail line, as indicated in Figure 1. Because freight train activity on this line is reported to be approximately 1 train per day, freight train activity is not considered to be a significant noise source affecting the proposed development relative to the large number of daily light-rail train passbys. In addition, any noise mitigation measures required for light-rail activity would further reduce the noise generation of freight train passbys. As a result, this analysis focuses on noise generated by light-rail passbys.

To quantify noise from light-rail train passbys, BAC conducted single-event noise measurements at the locations shown on Figure 1 on January 8, 2015. Noise monitoring equipment consisted of Larson-Davis Laboratories (LDL) Model 820 precision integrating sound level meters. The meters were calibrated in the field before use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements.

Table 3 shows the measured sound exposure level (SEL) at each site. As depicted in Figure 1, the first noise monitoring receiver (Site 1) was placed on the project site at the approximately location of the nearest proposed outdoor activity (yard) areas and residential building facades. Additionally, a second monitoring site (Site 2) was placed behind an existing sound barrier located on the opposite side of the tracks in a very similar residential development to determine the effectiveness of that noise barrier. The distance from each receiver to the specific light rail track is given in Table 3.

Table 3 Light Rail Noise Monitoring Results Residences at Railway Development – January 8, 2015				
Site	Distance to Light Rail (ft)	Record	SEL (dBA)	Mean SEL (dBA)
1	30	1	86.4	86.0
	30	2	83.4	
	30	3	86.1	
	45	4	87.2	
	45	5	86.9	
2	27.5	1	79.7	79.7
	27.5	2	75.7	
	27.5	3	79.3	
	12.5	4	81.6	
	12.5	5	82.3	

Source: Bollard Acoustical Consultants, Inc. 2015

Predicted Railroad Noise Levels at Proposed Residences

The Table 3 data indicates that the mean Sound Exposure Level (SEL) for light-rail train passbys as measured at the nearest proposed residences on the project site was 86 dB SEL. To convert SEL values into Ldn for comparison against City of Campbell exterior and interior noise level standards, the number of daily light rail passbys on these tracks must be known, including the number of nighttime passages. According to VTA schedules, there are a total of 122 daily light rail passbys on these tracks, with 25 of those passbys occurring during nighttime hours (10 p.m. to 7 a.m.).

Using the mean sound exposure level (SEL) and numbers of daily passbys at the project site, the day/night average noise level (Ldn) for isolated railroad activity is calculated using the following equation:

$$L_{dn} = SEL + 10 \log N_{eq} - 49.4 \text{ dB, where:}$$

SEL is the mean measured SEL of the freight or passenger train events, N_{eq} is the sum of the daytime (7 a.m. to 10 p.m.) train events plus 10 times the number of nighttime (10 p.m. to 7 a.m.) train events, and 49.4 is a constant representing 10 times the logarithm of the number of seconds in a day.

Using the formula shown above, Ldn values predicted for the nearest outdoor activity areas, residential building facades, and interior spaces of the project development. To compute interior Ldn values, an offset of 25 dB was applied to the predicted exterior noise levels at the building façade to account for the noise reduction of standard residential building façade construction. In addition, offsets were applied at certain outdoor activity areas to account for the partial shielding of those areas from view of the tracks by proposed structures. The results of this analysis are shown in Table 4.

Table 4 Predicted Sound Levels at Proposed Site				
Location	Distance to C/L of Light Rail Tracks (ft)	Exterior Ldn (dBA)	Offset (dBA)¹	Predicted Ldn (dBA)
Apartment Complex – Interior Spaces	120	55	-25	30
Apartment Complex – Pool & Courtyard	230	50	- 5	45
Townhomes - Outdoor Area	150	53	- 3	50
Townhomes – Interior Spaces	160	53	- 25	28
Duplexes – Interior Spaces	37	62	-25	37
Duplex – Outdoor Area	37	62	0	55
1. This offset is -25 dB where interior noise levels are being evaluated to account for the exterior to interior building façade noise reduction of the proposed residences. Where exterior areas are evaluated, an offset is only applied if the proposed outdoor activity area would be shielded from view of the railroad tracks by intervening buildings. 2. Source: Bollard Acoustical Consultants, Inc. 2015				

Analysis

Noise Exposure at Proposed Apartments

Outdoor Activity Areas:

The outdoor activity area of the proposed apartment building is identified as the pool and courtyard areas indicated on Figure 2. As shown by that figure, the outdoor activity areas would be substantially shielded from view of the railroad tracks by the western wing of the proposed apartment building. This shielding was conservatively estimated to be 5 dB, and the resulting exterior noise level at that location is predicted to be 45 dB Ldn, as indicated in Table 4. Because the pool/courtyard area of the proposed apartment building would be well below the City's 60 Ldn exterior noise standard, no additional noise mitigation measures would be required for this aspect of the project.

Interior Spaces:

Table 4 indicates that, at the exterior façade of the nearest proposed apartments to the railroad tracks the railroad noise exposure is approximately 55 dB Ldn. To achieve compliance with the City of Campbell 45 dBA Ldn interior noise level standard, a building façade noise level reduction of 10 dBA would be required. Standard residential construction (stucco, STC-28 windows, door weather-stripping, exterior wall insulation, composition roof), results in an exterior to interior noise reduction of at least 25 dB with windows closed and approximately 15 dB with windows open. Therefore, standard construction would be acceptable for the apartment complex façades of this development in terms of achieving compliance with the City's 45 dB Ldn interior noise level standard.

The predicted exterior Sound Exposure Level at the nearest apartment building façade is predicted to be approximately 78 dB. To ensure that interior SEL values do not exceed 65 dB SEL within residences, thereby reducing the potential for awakening to less than 2%, a building façade noise reduction of 13 dB would be required. Again, standard construction would be adequate to achieve this degree of noise reduction and additional improvements to the proposed apartment building façade construction does not appear to be warranted.

Noise Exposure at Proposed Townhomes

Outdoor Activity Areas:

The outdoor activity area of the proposed townhomes is considered to be the grass areas located adjacent to the townhomes, as indicated on Figure 2. As shown by that figure, those grass areas would be substantially shielded from view of the railroad tracks by the proposed duplexes to the west of the townhomes. This shielding was conservatively estimated to be 3 dB, and the resulting exterior noise level at the grass areas of the townhomes is predicted to be 50 dB Ldn, as indicated in Table 4. Because the railroad noise exposure at the grass areas of the townhomes would be well below the City's 60 Ldn exterior noise standard, no additional noise mitigation measures would be required for this aspect of the project.

Interior Spaces:

Table 4 indicates that, at the exterior façade of the nearest proposed townhomes to the railroad tracks, the railroad noise exposure is approximately 53 dB Ldn. To achieve compliance with the City of Campbell 45 dBA Ldn interior noise level standard, a building façade noise level reduction of 8 dBA would be required. Therefore, standard construction would be acceptable for the proposed townhomes façades of this development in terms of achieving compliance with the City's 45 dB Ldn interior noise level standard.

The predicted exterior Sound Exposure Level at the nearest townhome building façade is predicted to be approximately 77 dB. To ensure that interior SEL values do not exceed 65 dB SEL within residences, thereby reducing the potential for awakening to less than 2%, a building façade noise reduction of 12 dB would be required. Again, standard construction would be adequate to achieve this degree of noise reduction and additional improvements to the proposed apartment building façade construction does not appear to be warranted.

Noise Exposure at Proposed Duplexes**Outdoor Activity Areas:**

The outdoor activity area of the proposed duplexes is considered to be grass areas to the sides of the units, as indicated on Figure 2. As shown by that figure, those grass areas would not be shielded from view of the railroad tracks, so no offset was applied to these areas. The resulting exterior noise level at the grass areas of the duplex is predicted to be 62 dB Ldn, as indicated in Table 4. Because the railroad noise exposure at the grass areas adjacent to the duplexes would exceed the City's 60 Ldn exterior noise standard, consideration of additional exterior noise attenuation is required for these outdoor spaces.

Because the new development on the opposite sides of the railroad tracks is virtually identical to the exposure of this project to railroad noise, the City of Campbell requested that this analysis determine the effectiveness of the 9-foot tall noise barrier constructed at that location in reducing railroad noise levels at the adjacent residences. BAC conducted such an analysis through monitoring at Site 1 (behind that barrier - See Table 4). After normalizing the Site 1 and Site 2 railroad passby noise measurement results for distance, it was determined that the existing barrier on the west side of the railroad tracks is providing approximately 10 dB in railroad noise reduction in the areas between the residential structures and barriers.

A 10 dB reduction in light rail passby noise exposure would be more than adequate to ensure compliance with City of Campbell 60 dB Ldn exterior noise standards. Given the similar exposure of the proposed duplexes in this development to the recently completed residences on the immediate opposite side of the tracks, this analysis recommends that a barrier similar to that constructed on the west side of the tracks be constructed for this development, at the locations shown on Figure 2. This barrier would ensure compliance with City of Campbell exterior noise standards.

Interior Spaces:

Table 4 indicates that, at the exterior façade of the nearest proposed duplexes to the railroad tracks, the railroad noise exposure is approximately 63 dB Ldn. At first-floor facades which would be shielded by the required noise barrier, building façade noise levels are predicted to be approximately 10 dB lower. To achieve compliance with the City of Campbell 45 dBA Ldn interior noise level standard at unshielded upper floor facades, a building façade noise level reduction of 18 dBA would be required. Therefore, standard construction would be acceptable for the proposed duplex façades of this development in terms of achieving compliance with the City's 45 dB Ldn interior noise level standard.

The predicted exterior Sound Exposure Level at the nearest duplex building façade is predicted to be approximately 86 dB. To ensure that interior SEL values do not exceed 65 dB SEL within residences, thereby reducing the potential for awakening to less than 2%, a building façade noise reduction of 21 dB would be required. Again, standard construction would be adequate to achieve this degree of noise reduction and additional improvements to the proposed apartment building façade construction does not appear to be warranted.

Analysis of Light Rail Vibration

To quantify railroad vibration levels during light-rail passbys, Bollard Acoustical Consultants, Inc. conducted vibration measurements of representative passenger train passbys on January 8, 2015. The measurements were conducted between the existing residences to and sound barrier located on the west side of the tracks, immediately opposite the project site. The vibration measurements were conducted at the same location as the Site 2 noise measurements.

The vibration measurements consisted of peak particle velocity sampling using a Larson Davis Laboratories Model HVM100 Vibration Analyzer with a PCB Electronics Model 353B51 ICP Vibration Transducer. The test system is a Type I instrument designed for use in assessing vibration as perceived by human beings, and meets the full requirements of ISO 8041:1990(E). The results of the vibration measurements are shown in Table 5.

Table 5
Vibration Measurement Results
Residences at Railway Development – January 8, 2015

Site	Description	Passby	Peak Vibration (in./sec.)
2	20 feet from the center line of both light rail tracks	1	0.0018
		2	0.0087
		3	0.0173
		4	0.0075
		5	0.0323
		6	0.0107
		7	0.0393
Source: Bollard Acoustical Consultants, Inc. 2015			

The Table 5 data indicate that measured peak particle velocities during light rail train passbys were well below thresholds for annoyance and damage to structures at the vibration measurement location. As a result, vibration levels are predicted to be similarly below those thresholds at the nearest residences to this development.

Conclusions

The construction of the Residences at Railway Development project is predicted to comply with the exterior and interior noise level standards of the City of Campbell provided the following specific noise mitigation measures are included in the project design:

- Air conditioning should be included in all residences constructed in the Residences at Railway Development to allow occupants to close doors and windows as desired to achieve additional acoustic isolation.
- A noise barrier should be constructed along the light rail as indicated in Figure 2 to provide adequate shielding for the backyards of the duplexes. A barrier similar to the existing barrier constructed immediately opposite the project site would be adequate in reducing railroad noise to acceptable limits at the nearest proposed residences.

These conclusions are based on the site plan shown in Figure 2, Bollard Acoustical Consultants, Inc. site observations, light rail operational data used in calculating the Ldn are based off the light rail schedule provided by Valley Transportation Authority (VTA). Changes to the site plan or deviations from the assumptions cited herein could cause future noise levels to differ from those predicted in this analysis. Bollard Acoustical Consultants, Inc. is not responsible for degradation in acoustic performance of the residential construction due to poor construction practices or failure to comply with applicable building code requirements.

This concludes our environmental noise assessment for the proposed Residences at Railway Development in Campbell, California. Please contact BAC at (916) 663-0500 or paulb@bacnoise.com with any questions or requests for additional information.

Appendix A

Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Masking	The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the Maximum level, which is the highest RMS level.
RT₆₀	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.



Appendix B
Noise and Vibration Measurement Site Photos
Railroad Residential Development – Campbell California – January 8, 2015

Railroad Noise Measurement Site 1 (note barrier on opposite side of tracks)



Railroad Noise & Vibration Measurement Site 2



ATTACHMENT 12

TRANSPORTATION IMPACT ANALYSIS

Transportation Impact Analysis for 226-328 Railway Avenue



Prepared for the
City of Campbell



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- A TIRE Index Table
- B Intersection Level of Service Calculations
- C Campbell Avenue/Page Street Trip-Origins Assessment Table

Executive Summary

The proposed Railway Avenue Residential Project would be located at 226-328 Railway Avenue in the City of Campbell and would consist of up to 29 townhomes, 10 duets, and 126 rental apartments. The project would be expected to generate an average of 1,056 daily trips, including 74 trips during the a.m. peak hour and 89 trips during the p.m. peak hour.

The study area includes eight intersections currently operating acceptably; all eight would be expected to continue operating acceptably under all scenarios evaluated. The proposed project would result in a noticeable change in traffic to a neighborhood street segment on Kennedy Avenue.

Pedestrian access to the proposed project would be via continuous sidewalks along the east side of Railway Avenue. The project as proposed includes crosswalks at the project frontage connecting duets to the continuous sidewalks, and at the pedestrian railroad and light-rail crossing. The crosswalk at the pedestrian railroad and light-rail crossing proposed by the applicants is not recommended due to the short distance between the proposed mid-block crosswalk and the traffic signal at Railway Avenue/Orchard City Drive. As an alternative to the proposed crosswalk at the project frontage connecting the duets to the continuous sidewalks, construction of continuous sidewalks on the west side of Railway Avenue from the duets to the park-and-ride lot would also provide adequate pedestrian access for duet residents to the light rail station and Downtown Campbell. In addition, a crosswalk connecting the townhomes and the apartments on the eastern end of the main driveway is recommended to connect the townhomes to the entrance of the Los Gatos Creek Trail entrance.

Pedestrian access to downtown Campbell and the light-rail station is expected to be adequate as is bicycle and transit access to the proposed project.

Vehicular access to the proposed project would be via driveways on Railway Avenue. Emergency vehicle access, site access at the project driveways and within the site, as well as on-site circulation are expected to be adequate.

The proposed project would require 209 spaces to meet the projected parking demand, and would require 346 spaces to meet the City's Parking Code. The proposed supply is 252 spaces. The adequacy of the proposed supply should consider the projected demand as well as the site's proximity to transit services.

Introduction

Introduction

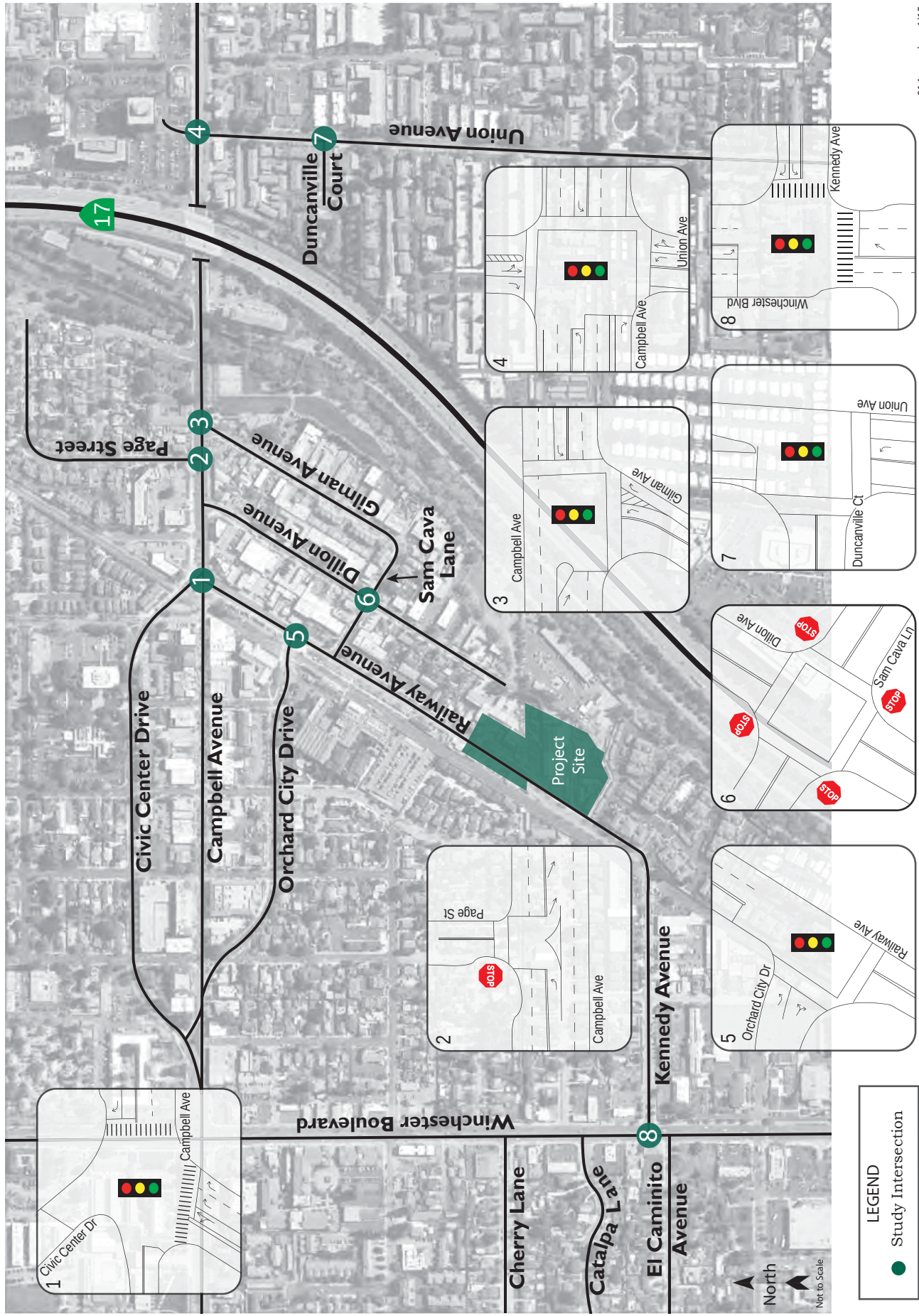
This report presents an analysis of the potential traffic impacts that would be associated with development of a proposed Railway Avenue Residential Project to be located at 226-328 Railway Avenue in the City of Campbell. The traffic study was completed in accordance with the criteria established by the City of Campbell, and is consistent with standard traffic engineering techniques.

Prelude

The purpose of a traffic impact study is to provide City staff and policy makers with data that they can use to make an informed decision regarding the potential traffic impacts of a proposed project, and any associated improvements that would be required in order to mitigate these impacts to a level of insignificance as defined by the City's General Plan or other policies. Vehicular traffic impacts are typically evaluated by determining the number of new trips that the proposed use would be expected to generate, distributing these trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the proposed project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments. Impacts relative to access for pedestrians, bicyclists, and to transit are also addressed.

Project Profile

The proposed project includes up to 29 townhomes, 10 duets, and 126 apartments to be located at 226-328 Railway Avenue in Campbell. The project site is located at 226-328 Railway Avenue, as shown in Figure I.



Transportation Impact Analysis for 226-328 Railway Avenue
Figure 1 – Study Area and Lane Configurations

Transportation Setting

Operational Analysis

Study Area and Periods

The study area included the following intersections:

1. Campbell Avenue/Railway Avenue-Civic Center Drive
2. Campbell Avenue/Page Street
3. Campbell Avenue/Gilman Avenue
4. Campbell Avenue/Union Avenue
5. Orchard City Drive/Railway Avenue
6. Sam Cava Lane/Dillon Avenue
7. Union Avenue/Duncanville Court
8. Winchester Boulevard/Kennedy Avenue

Operating conditions during the a.m. and p.m. peak periods were evaluated at the study intersections to capture the highest potential impacts for the proposed project as well as the highest volumes on the local transportation network. The morning peak hour occurs between 7:00 and 9:00 a.m. and reflects conditions during the home to work or school commute, while the p.m. peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute.

The *East Campbell Avenue Master Plan* includes a recommendation to signalize the intersection of Campbell Avenue/Page Street and implement coordination between the new signal and the signal at Campbell Avenue/Gilman Avenue. The intersection of Campbell Avenue/Page Street is currently an unsignalized intersection with side-street stop controls on Page Street. In order to assess the potential impact to projected operation with a signal at this intersection, all project scenarios were evaluated with both the existing controls and with a traffic signal on Campbell Avenue that would serve both Page Street and Gilman Avenue.

In addition, residential areas are especially sensitive to traffic because relatively small increases in traffic can be noticeable in a neighborhood. In the project vicinity, the following neighborhood streets were included in the study:

1. Sam Cava Lane
2. Kennedy Avenue
3. Gilman Avenue north of Sam Cava Lane
4. El Caminito Avenue west of Winchester Boulevard
5. Catalpa Lane west of Winchester Boulevard
6. Cherry Lane west of Winchester Boulevard
7. California Street north of El Caminito Avenue

Study Intersections

Campbell Avenue/Railway Avenue-Civic Center Drive is a signalized, four-legged intersection, with split-phasing on the east and west approaches and right-turn overlap phasing on the northbound approach. Crosswalks are provided on the east and south legs of the intersection.

Campbell Avenue/Page Street is a “tee” intersection with stop controls on the southbound approach and a crosswalk on the north leg of the intersection crossing Page Street. There is a refuge area on Campbell

Avenue that allows drivers to make southbound left-turns from Page Street in two steps, crossing only one direction of traffic at a time.

Campbell Avenue/Gilman Avenue is a signalized “tee” intersection with protected left-turn phasing on the westbound approach. Crosswalks are provided on the east and south legs of the intersection.

Campbell Avenue/Union Avenue is a signalized, four-legged intersection with protected left-turn phasing on the eastbound and westbound approaches and split phasing on the northbound and southbound approaches. Crosswalks are provided on but the west leg of the intersection.

Orchard City Drive/Railway Avenue is a signalized “tee” intersection with Orchard City Drive one-way into the intersection only. Crosswalks are provided on the west and south legs of the intersection.

Sam Cava Lane/Dillon Avenue is an all-way stop-controlled, four-legged intersection with crosswalks on all legs of the intersection.

Union Avenue/Duncanville Court is a signalized “tee” intersection with permissive left-turn phasing on all approaches. Crosswalks are provided on the west and south legs of the intersection.

Winchester Boulevard/Kennedy Avenue is a signalized “tee” intersection, with protected left-turn phasing on the southbound approach. Crosswalks are provided on the east and south legs of the intersection.

All study intersections are equipped with curb ramps at crosswalks, and study intersections controlled by a traffic signal are also equipped with pedestrian-actuated signals. The locations of the study intersections and the existing lane configurations and controls are shown in Figure I.

Alternative Modes

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the proposed project site. Continuous sidewalk coverage is provided throughout the study area.

- *Railway Avenue* – Continuous sidewalk coverage is provided on the east side of Railway Avenue, but there is an existing gap in sidewalk coverage on the west side of Railway Avenue between the Campbell light rail station and the southern end of Railway Avenue. Curb ramps and crosswalks are generally provided at side street approaches. Lighting is provided by overhead street lights.
- *Campbell Avenue* – Continuous sidewalk coverage is provided on both sides of Campbell Avenue. Curb ramps and crosswalks are generally provided at side street approaches. Lighting is provided by overhead street lights.

Bicycle Facilities

The *Highway Design Manual*, California Department of Transportation (Caltrans), 2012, classifies bikeways into three categories:

- *Class I Multi-Use Path*: a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- *Class II Bike Lane*: a striped and signed lane for one-way bike travel on a street or highway.

- *Class III Bike Route*: signing only for shared use with motor vehicles within the same travel lane on a street or highway.

In the project area, a Class I bike path exists on Los Gatos Creek Trail within City Limits. Class II bike lanes exist on Campbell Avenue east of Gilman Avenue, and a Class III bike route is established on Winchester Boulevard. Bicyclists ride in the roadway along all other streets within the project study area. Table I summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the City's General Plan.

Table I
Bicycle Facility Summary

Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
Los Gatos Creek Trail	I	3.1	City Limits	City Limits
Campbell Ave	II	0.3	Poplar Ave	Barbano Ave
Winchester Blvd	III	1.8	Hamilton Ave	Hacienda Ave
Planned				
Campbell Ave	III	0.6	Winchester Blvd	Poplar Ave
Civic Center Dr	III	0.5	Campbell Ave	Railway Ave
Orchard City Dr	III	0.4	Campbell Ave	Railway Ave

Source: *City of Campbell General Plan*, City of Campbell, 2014

Transit Facilities

The Santa Clara Valley Transportation Authority (VTA) provides light rail service to San Jose and throughout Santa Clara County. The Downtown Campbell light rail station is located along Railway Avenue at Orchard City Drive, approximately 0.2 miles north of the project site. Weekday service is provided between 5:15 a.m. and 12:15 a.m. with approximately 15- to 30-minute headways throughout the day. Weekend service is provided between 6:30 a.m. and 12:00 a.m. with 30-minute headways throughout the day.

In addition, VTA provides fixed-route bus service in Santa Clara County, including the City of Campbell. VTA Route 26 provides services between Sunnyvale and East San Jose through the cities of Cupertino, Saratoga, and Campbell and operates on weekdays with approximately one-half-hour headways between 6:00 a.m. and 11:30 p.m., and weekend service operates with approximately one-half-hour headways between 7:00 a.m. and 10:00 p.m. The Route 26 eastbound bus stop closest to the project site is located on Orchard City Drive at Central Avenue, and the bus stop in the westbound/northbound direction closest to the project site is located on Civic Center Drive at Harrison Avenue.

VTA Route 60 provides north-south services between Great America Park and Levi's Stadium in the City of Santa Clara and Winchester light rail station in the City of Campbell. It operates on weekdays with approximately one-half-hour headways between 7:00 a.m. and 9:30 p.m., on Saturdays with approximately one-half-hour headways between 8:30 a.m. and 9:00 p.m., and on Sundays with approximately one-hour headways between 8:30 a.m. and 8:00 p.m. The bus stops for Route 60 closest to the project site are located on Winchester Boulevard near Kennedy Avenue.

Two bicycles can be carried on VTA light rail trains and most VTA buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on VTA buses at the discretion of the driver.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. VTA Paratransit is designed to serve the needs of individuals with disabilities within City of Campbell and the greater City of Campbell area.

Capacity Analysis

Intersection Level of Service Methodologies

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

The study intersections were analyzed using methodologies published in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2000. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

The level of service for the Campbell Avenue/Page Street intersection, which is unsignalized and has one approach stop controlled, was analyzed using the “Two-Way Stop-Controlled” intersection capacity method from the HCM. This methodology determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

The intersection of Sam Cava Lane/Dillon Avenue was analyzed using the “All-Way Stop-Controlled” Intersection methodology from the HCM. This methodology evaluates delay for each approach based on turning movements, opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole, and is then related to a Level of Service.

The ranges of delay associated with the various levels of service are indicated in Table 2.

Table 2
Intersection Level of Service Criteria

LOS	Two-Way Stop-Controlled	All-Way Stop-Controlled
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Upon stopping, drivers are immediately able to proceed.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 15 seconds. Drivers may wait for one or two vehicles to clear the intersection before proceeding from a stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 15 to 25 seconds. Drivers will enter a queue of one or two vehicles on the same approach, and wait for vehicle to clear from one or more approaches prior to entering the intersection.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 25 to 35 seconds. Queues of more than two vehicles are encountered on one or more approaches.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 35 to 50 seconds. Longer queues are encountered on more than one approach to the intersection.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 50 seconds. Drivers enter long queues on all approaches.

Reference: *Highway Capacity Manual*, Transportation Research Board, 2000

All the remaining study intersections are controlled by traffic signals, or are planned to be signalized, and were analyzed using the signalized methodology published in the HCM as well as the *Traffic Level of Service Analysis Guidelines*, Santa Clara County Transportation Authority, Congestion Management Program, 2003. The signalized methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. It should be noted that the average stopped delay for the signalized intersections was calculated using the TRAFFIX analysis software and correlated to a level of service designation as shown Table 3.

Table 3
Signalized Intersection Level of Service Criteria

Level of Service	Average Control Delay (in seconds per vehicle)	Description
A	Delay ≤ 10.0	Free Flow; minimal to no delay
B+	10.0 < Delay ≤ 12.0	Stable flow, but speeds are beginning to be restricted by traffic conditions; slight delays.
B	12.0 < Delay ≤ 18.0	
B-	18.0 < Delay ≤ 20.0	
C+	20.0 < Delay ≤ 23.0	Stable flow, but most drivers cannot select their own speeds and feel somewhat restricted; acceptable delays.
C	23.0 < Delay ≤ 32.0	
C-	32.0 < Delay ≤ 35.0	
D+	35.0 < Delay ≤ 39.0	Approaching unstable flow, and drivers have difficulty maneuvering; tolerable delays
D	39.0 < Delay ≤ 51.0	
D-	51.0 < Delay ≤ 55.0	
E+	55.0 < Delay ≤ 60.0	Unstable flow with stop and go; delays
E	60.0 < Delay ≤ 75.0	
E-	75.0 < Delay ≤ 80.0	
F	Delay > 80.0	Total breakdown; congested conditions with excessive delays.

Reference: *Traffic Level of Service Guidelines*, Santa Clara County Transportation Authority, 2003

Traffic Operation Standards

The City of Campbell has established a minimum acceptable operating level of LOS D for local intersections not included in the Santa Clara County Congestion Management Program (CMP) network.

The City of Campbell has established criteria to determine the level of significance of traffic impacts based on standards set by the Santa Clara County CMP in the *Transportation Impact Analysis Guidelines*, adopted in October 2014. For local intersections not on the CMP network, a traffic impact is considered significant if:

- The addition of project-generated traffic causes operation of an intersection to deteriorate from an acceptable level of service (LOS D or better) to LOS E or LOS F, or
- For intersections where LOS E operation has been established as acceptable, the project condition causes operation to deteriorate from LOS E to LOS F.

Traffic Infusion on Residential Environment (TIRE) Index Methodology

The effect of adding project-related traffic on the residential streets included in the study area was evaluated based on the Traffic Infusion on Residential Environment (TIRE) index. The TIRE index is a tool that measures the residents' perception of the effect of increased Average Daily Traffic (ADT) on residential streets. TIRE index values range from 0.0 to 5.0 depending on daily traffic volume. An index of 0.0 represents the least infusion of traffic and 5.0 the greatest, and, thereby the poorest residential environment. A TIRE index of 3.0 represents the threshold at which the character of a residential street changes. Residential streets with a TIRE index above this mid-range point of 3.0 typically exhibit higher

traffic volumes, while streets with a TIRE index below 3.0 are usually more suitable for residential activities. According to this methodology, a noticeable change in traffic occurs on the residential street when the difference in index between no project and project conditions is 0.10 or more. An abbreviated list of the TIRE indices is presented in Table 4, while the entire TIRE index table is provided in Appendix A.

Table 4
TIRE Index Table

Existing Volume Range (Daily Vehicles)	TIRE Index	Minimum Daily Volume Increase to Produce 0.10 change in the TIRE Index
281-350	2.5	79
351-450	2.6	94
451-560	2.7	114
561-710	2.8	140
711-890	2.9	170
891-1,100	3.0	220
1,101-1,400	3.1	290
1,401-1,800	3.2	380
1,801-2,200	3.3	500
2,201-2,800	3.4	650

Source: Goodrich Traffic Group

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the a.m. and p.m. peak periods. This condition does not include project-generated traffic volumes. Traffic volume data for five of the eight intersections were collected on April 30, 2014; traffic data for the Winchester Boulevard/Kennedy Avenue intersection was collected on May 14, 2014; and traffic data for the Campbell Avenue/Page Street and Union Avenue/Duncanville Court intersections was collected on March 11, 2015. All traffic volume data was collected on typical days while local schools were in session.

Intersection Levels of Service

Under existing conditions, all of the study intersections are operating acceptably. The existing traffic volumes are shown in Figure 2. A summary of the intersection level of service calculations is contained in Table 5, and copies of the Level of Service calculations are provided in Appendix B.

Table 5
Existing Peak Hour Intersection Levels of Service

Study Intersection <i>Approach</i>	Existing Conditions			
	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. Campbell Ave/Railway Ave-Civic Center Dr	14.9	B	20.5	C+
2. Campbell Ave/Page St	0.7	A	1.6	A
<i>Southbound Page St Approach</i>	23.5	C	58.5	F
3. Campbell Ave/Gilman Ave	11.8	B+	12.2	B
4. Campbell Ave/Union Ave	27.1	C	29.8	C
5. Orchard City Dr/Railway Ave	14.9	B	11.4	B+
6. Sam Cava Ln/Dillon Ave	8.0	A	7.8	A
7. Union Ave/Duncanville Ct	6.1	A	5.3	A
8. Winchester Blvd/Kennedy Ct	12.4	B	11.8	B+

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Project Description

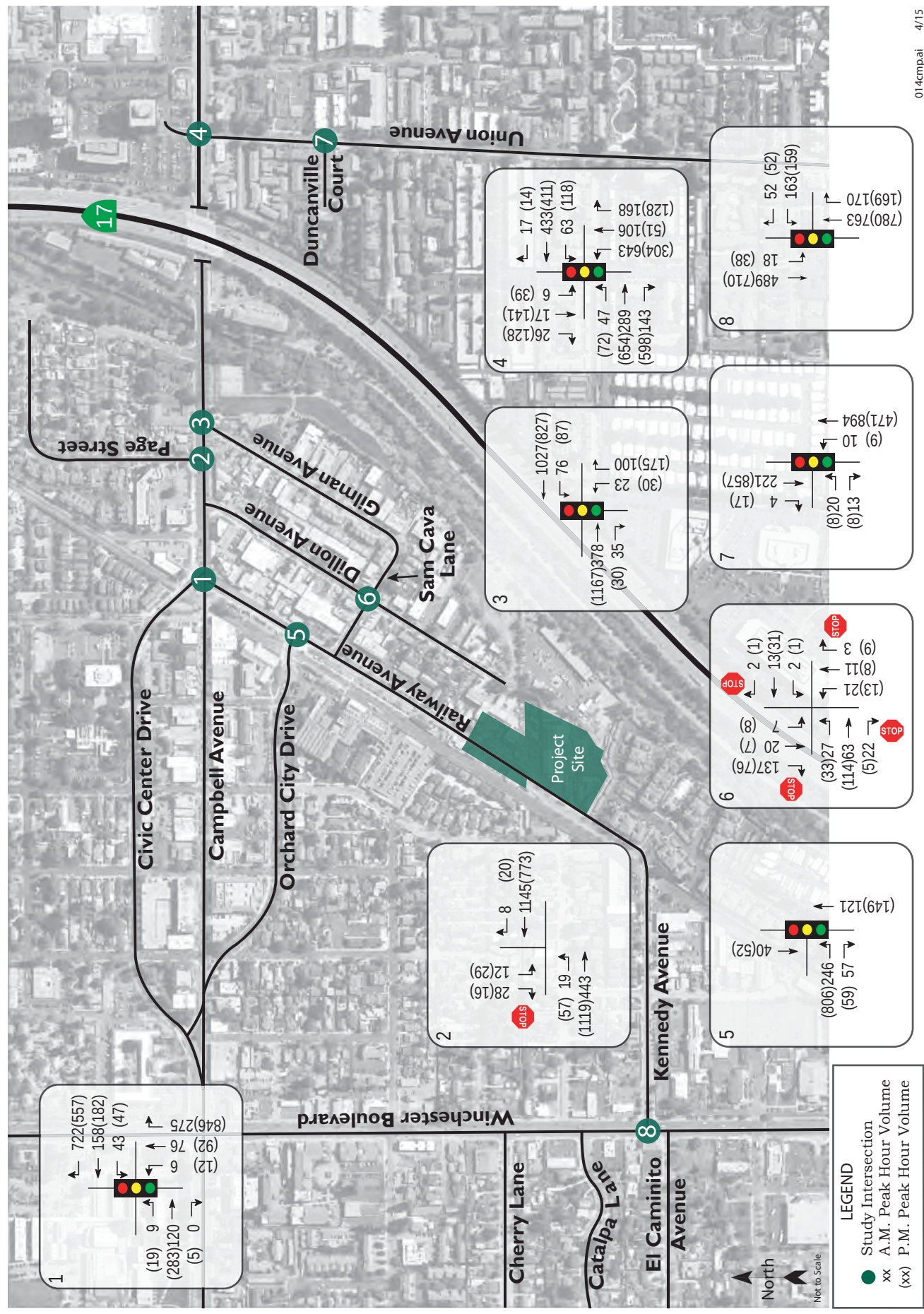
The project includes up to 29 townhomes, 10 duets, and 126 apartments to be located at 226-328 Railway Avenue in the City of Campbell. The majority of the project is located on the east side of Railway Avenue, with the exception of six duet units. Access to the proposed project would be via several driveways on Railway Avenue. The proposed project site plan is shown in Figure 3.

Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 9th Edition, 2012. Rates for the “Apartment” (ITE LU #220) land use were used for the apartment portion of the project, and rates for the “Residential Condominium/Townhouse” (ITE LU #230) land use were used for the townhomes and duets. While there are existing industrial uses on the project site, they appeared to be vacant based on recent observations, and therefore no credit for existing trips that would be eliminated by the proposed project was applied to the analysis.

Trip Reduction

The *Transportation Impact Analysis Guidelines* (2014) adopted by the Santa Clara County Transportation Authority’s Congestion Management Program (CMP) include guidance on trip reductions which are designed to further the Santa Clara County’s CMP goal of encouraging development that reduces system wide traffic congestion and improves air quality in the region. There are three particular strategies that



Transportation Impact Analysis for 226-328 Railway Avenue
Figure 2 – Existing Traffic Volumes



can be used to encourage these types of developments and to accomplish these goals: mixed-use development (which increases internal trips), a strong transportation demand management (TDM) program (which provides incentives and services to encourage alternatives to the automobile), and development near transit stations or major bus lines.

The proposed project site is located within a 2,000-foot walk of the Campbell Light-Rail Station. Developments located near a transit facility encourage transit use and such trips do not affect the adjacent street network. The *Transportation Impact Analysis Guidelines* allow for a maximum trip reduction of nine percent for housing that is within proximity of transit.

Total Project Trip Generation

The expected trip generation potential for the proposed project is indicated in Table 6, with reductions taken for housing near a light rail station. After applying the LRT housing reduction, the proposed project is expected to generate an average of 1,065 daily trips per day, including 74 trips during the a.m. peak hour and 89 during the p.m. peak hour.

Table 6
Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Apartment	126 du	6.65	838	0.51	64	13	51	0.62	78	51	27
Condominium/Townhouse	39 du	5.81	227	0.44	17	3	14	0.52	20	14	6
<i>LRT Housing Reduction</i>		-9%	-96	-9%	-7	-1	-6	-9%	-9	-6	-3
Net Total Trips			1,065		74	15	59		89	59	30

Note: du = dwelling unit

Trip Distribution

The pattern used to allocate new project trips to the street network was based on census data for employment of Campbell residents. The applied distribution assumptions and resulting trips are shown in Table 7.

Table 7
Trip Distribution Assumptions

Route	Percent	Daily Trips	AM Trips	PM Trips
SR 17 North	60%	640	44	55
SR 17 South	20%	213	14	18
Campbell Ave west of Winchester Blvd (via Civic Center Dr, Orchard City Dr)	5%	53	4	4
Winchester Blvd north of Campbell Ave	5%	53	4	4
Campbell Ave east of Union Ave	5%	53	4	4
Union Ave south of Campbell Ave	5%	53	4	4
TOTAL	100%	1,065	74	89

Intersection Operation

Existing plus Project Conditions

Upon the addition of project-related traffic to the Existing volumes, the study intersections are expected to operate acceptably during both peak hours. The intersection of Campbell Avenue/Page Street-Gilman Avenue would operate acceptably with a traffic signal assumed under Existing plus Project conditions. For reference, the intersection of Campbell Avenue/Page Street was also analyzed under its existing unsignalized traffic control, as noted in Table 8. Project traffic volumes are shown in Figure 4.

Table 8 - Existing and Existing plus Project Peak Hour Intersection Levels of Service

Study Intersection <i>Approach</i>	Existing Conditions				Existing plus Project			
	AM Peak Delay	PM Peak LOS	PM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay	PM Peak LOS
1. Campbell Ave/Railway Ave-Civic Center Dr	14.9	B	20.5	C+	15.4	B	20.8	C+
2. Campbell Ave/Page St	0.7	A	1.6	A	0.7	A	1.6	A
<i>Southbound Page St. Approach</i>	23.5	C	58.5	F	23.7	C	60.3	F
With traffic signal at Campbell Ave/Page St-Gilman Ave	n/a				17.5	B	23.9	C
3. Campbell Ave/Gilman Ave	11.8	B+	12.2	B	12.0	B	12.4	B
4. Campbell Ave/Union Ave	27.1	C	29.8	C	27.1	C	29.9	C
5. Orchard City Drive/Railway Ave	14.9	B	11.4	B+	15.7	B	12.1	B+
6. Sam Cava Ln/Dillon Ave	8.0	A	7.8	A	8.0	A	7.8	A
7. Union Ave/Duncanville Ct	6.1	A	5.3	A	6.2	A	5.4	A
8. Winchester Blvd/Kennedy Ave	12.4	B	11.8	B+	13.3	B	12.3	B

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Finding: The study intersections are expected to continue operating acceptably at the same levels of service upon the addition of project-generated traffic.

Background Conditions

Background volumes were developed based on a build-out scenario of traffic associated with approved projects in the study area (as identified by the City of Campbell) added to Existing traffic volumes. The approved projects identified by the City include:

- Dillon Avenue Townhomes (100-unit residential condominiums/townhomes)
- 2295/2305 Winchester Boulevard (16-unit residential condominiums, 3,200 square feet of retail)
- Merrill Gardens (108 senior rental units; 26 apartment units; 21-unit Alzheimer's facility, 16,710 square feet of retail)
- Cottage Place (18 residential townhomes)
- 2135/2145 Winchester Boulevard (5,488 square-foot commercial)

Under these conditions, all of the study intersections are expected to continue operating acceptably. Background volumes are shown in Figure 5, and Background levels of service are summarized in Table 9.

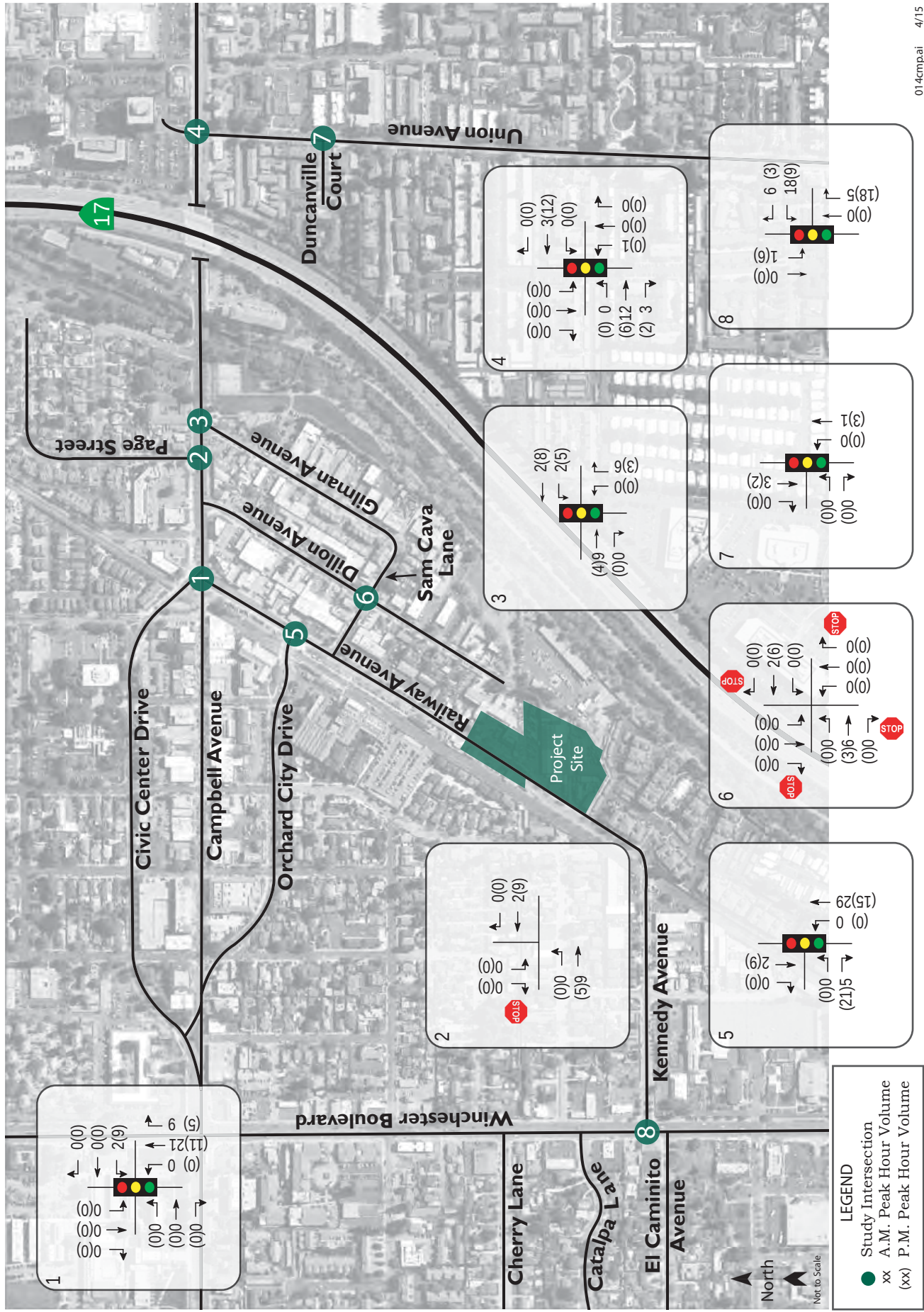
Table 9
Background Peak Hour Intersection Levels of Service

Study Intersection <i>Approach</i>	Background Conditions			
	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. Campbell Ave/Railway Ave-Civic Center Dr	15.0	B	20.5	C+
2. Campbell Ave/Page St	0.7	A	1.6	A
<i>Southbound Page St. Approach</i>	23.6	C	60.2	F
With traffic signal at Campbell Ave/Page St-Gilman Ave	17.6	B	23.9	C
3. Campbell Ave/Gilman Ave	12.4	B	12.5	B
4. Campbell Ave/Union Ave	27.1	C	29.9	C
5. Orchard City Drive/Railway Ave	15.3	B	11.3	B+
6. Sam Cava Ln/Dillon Ave	8.0	A	7.8	A
7. Union Ave/Duncanville Ct	6.2	A	5.3	A
8. Winchester Blvd/Kennedy Ave	12.6	B	11.7	B+

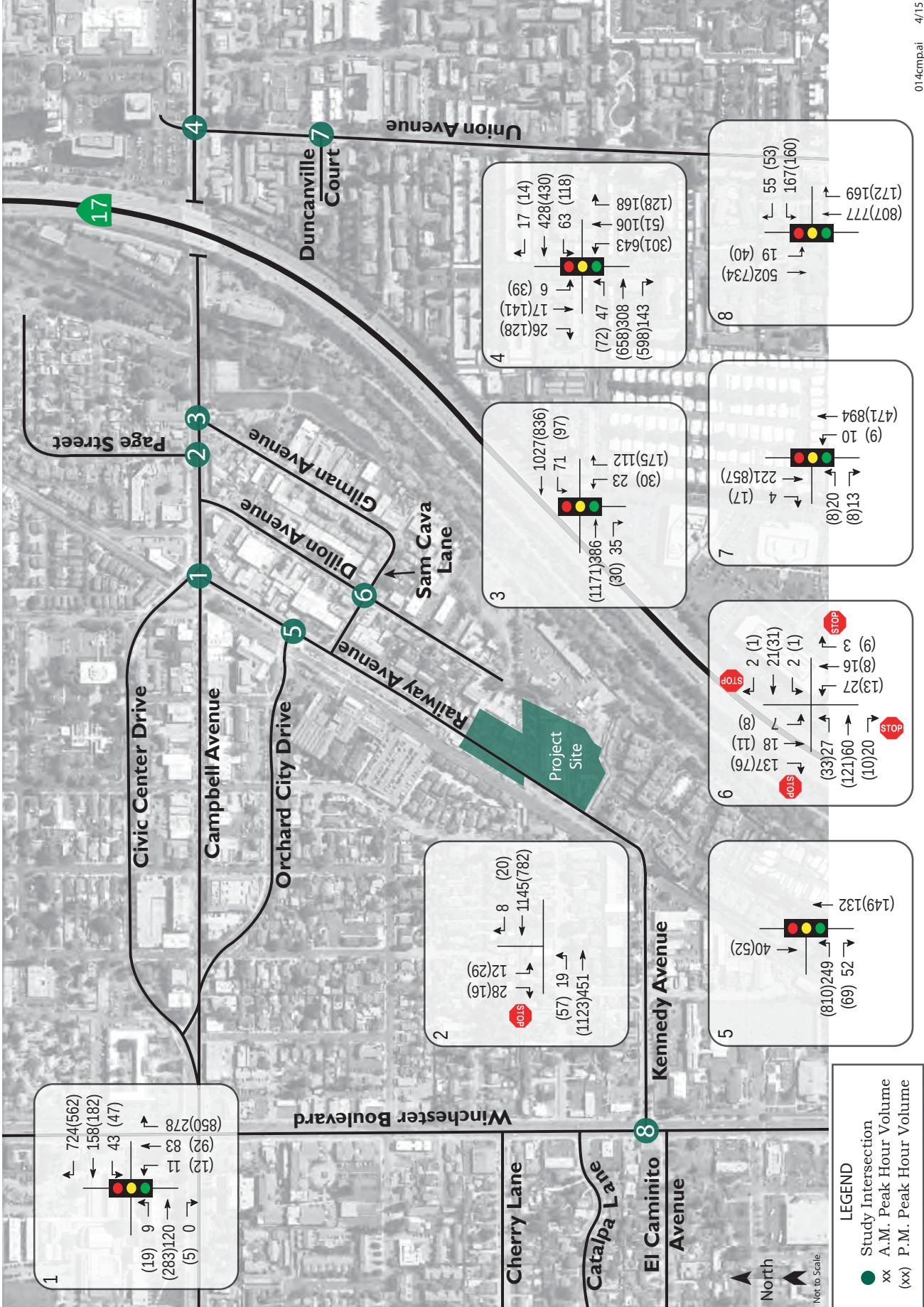
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Background plus Project Conditions

With project-related traffic added to Background volumes, the study intersections would be expected to continue operating acceptably. The intersection of Campbell Avenue/Page Street-Gilman Avenue would be expected to operate acceptably with a traffic signal under Background plus Project conditions, and for reference the intersection was also analyzed under its existing unsignalized traffic control configuration, as noted in Table 10.



Transportation Impact Analysis for 226-328 Railway Avenue
Figure 4 – Project Traffic Volumes



Transportation Impact Analysis for 226-328 Railway Avenue
Figure 5 – Background Traffic Volumes

Table 10
Background and Background plus Project Peak Hour Intersection Levels of Service

Study Intersection <i>Approach</i>	Background Conditions				Background plus Project			
	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS
1. Campbell Ave/Railway Ave-Civic Center Dr	15.0	B	20.5	C+	15.9	B	20.7	C+
2. Campbell Ave/Page St	0.7	A	1.6	A	0.7	A	1.7	A
<i>Southbound Page St. Approach</i>	23.6	C	60.2	F	23.7	C	62.1	F
With traffic signal at Campbell Ave/Page St-Gilman Ave	17.6	B	23.9	C	17.9	B	24.2	C
3. Campbell Ave/Gilman Ave	12.4	B	12.5	B	12.6	B	12.7	B
4. Campbell Ave/Union Ave	27.1	C	29.9	C	27.3	C	30.0	C
5. Orchard City Drive/Railway Ave	15.3	B	11.3	B+	16.0	B	12.0	B+
6. Sam Cava Ln/Dillon Ave	8.0	A	7.8	A	8.0	A	7.9	A
7. Union Ave/Duncanville Ct	6.2	A	5.3	A	6.2	A	5.4	A
8. Winchester Blvd/Kennedy Ave	12.6	B	11.7	B+	13.5	B	12.2	B

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Finding: The study intersections are expected to continue operating acceptably under Background Conditions at the same levels of service as without the project upon the addition of project-generated traffic except that Winchester Boulevard/Kennedy Avenue drops from LOS B+ to LOS B during the evening peak hour.

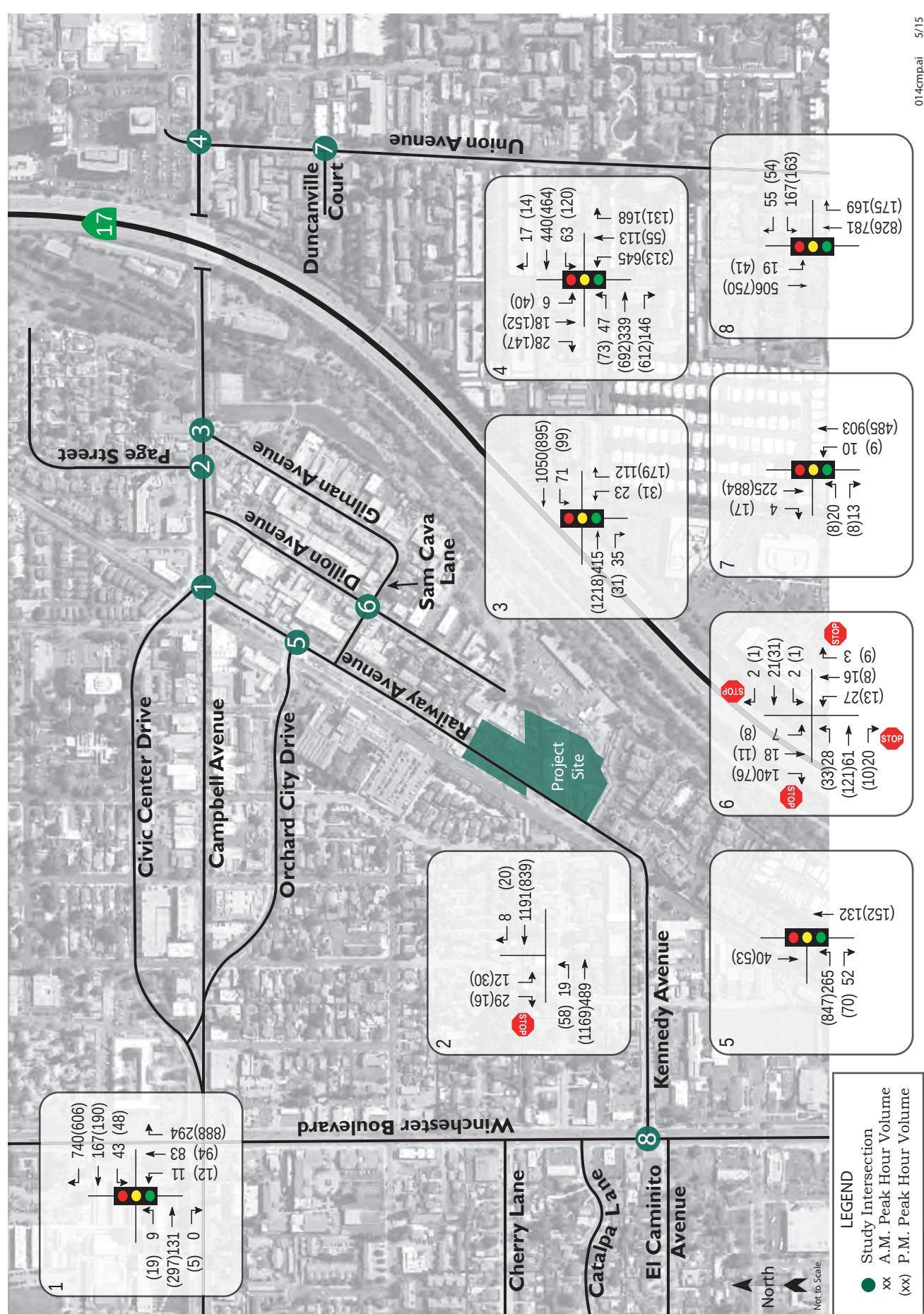
Cumulative Conditions

Cumulative volumes were developed based on a build-out scenario of traffic generated by approved and pending projects in the study area (as identified by the City of Campbell) added to Existing volumes. In addition, a two percent growth rate was applied to Existing volumes to account for any potential future development not yet identified.

Information about the approved projects is indicated above under the Background Conditions section. Land use assumptions for pending projects were provided by the City and include the following projects:

- Steak and Shake Restaurant (3,600 square-foot high-turnover sit-down restaurant)
- Greylands Mixed-Use (42 unit residential, 11,000 square feet of commercial)
- Del-Grande Mixed-Use (40 unit residential, 9,600 square feet of commercial)
- Pruneyard Shopping Center (100,000 square feet of office, 24,000 square-foot retail).

Under the anticipated Cumulative volumes scenario the study intersections would be expected to continue operating acceptably. The intersection of Campbell Avenue/Page Street-Gilman Avenue would be expected to operate acceptably with a traffic signal under Cumulative conditions. Cumulative volumes are shown in Figure 6 and operating conditions are summarized in Table 11.



Transportation Impact Analysis for 226-328 Railway Avenue
Figure 6 – Cumulative Traffic Volumes

Table 11
Cumulative Peak Hour Levels of Service

Study Intersection <i>Approach</i>	Cumulative Conditions			
	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. Campbell Ave/Railway Ave-Civic Center Dr	15.6	B	20.9	C+
2. Campbell Ave/Page St	0.7	A	2.0	A
<i>Southbound Page St. Approach</i>	25.6	D	77.1	F
With traffic signal at Campbell Ave/Page St-Gilman Ave	17.8	B	24.4	C
3. Campbell Ave/Gilman Ave	12.6	B	12.4	B
4. Campbell Ave/Union Ave	28.0	C	24.4	C
5. Orchard City Drive/Railway Ave	15.1	B	11.3	B+
6. Sam Cava Ln/Dillon Ave	8.0	A	7.8	A
7. Union Ave/Duncanville Ct	6.3	A	5.6	A
8. Winchester Blvd/Kennedy Ave	12.6	B	11.8	B+

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Cumulative plus Project Conditions

Upon the addition of project-generated traffic to the anticipated Cumulative volumes, the study intersections are expected to continue operating acceptably. The Cumulative plus Project operating conditions are summarized in Table 12.

Table 12
Cumulative and Cumulative plus Project Peak Hour Levels of Service

Study Intersection <i>Approach</i>	Cumulative Conditions				Cumulative plus Project			
	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS
1. Campbell Ave/Railway Ave-Civic Center Dr	15.6	B	20.9	C+	16.4	B	21.2	C+
2. Campbell Ave/Page St	0.7	A	2.0	A	0.7	A	2.0	A
<i>Southbound Page St. Approach</i>	<i>25.6</i>	<i>D</i>	<i>77.1</i>	<i>F</i>	<i>25.8</i>	<i>D</i>	<i>79.8</i>	<i>F</i>
With traffic signal at Campbell Ave/Page St-Gilman Ave	17.8	B	24.4	C	17.8	B	24.8	C
3. Campbell Ave/Gilman Ave	12.6	B	12.4	B	12.8	B	12.7	B
4. Campbell Ave/Union Ave	28.0	C	24.4	C	28.1	C	24.4	C
5. Orchard City Drive/Railway Ave	15.1	B	11.3	B+	15.9	B	11.9	B+
6. Sam Cava Ln/Dillon Ave	8.0	A	7.8	A	8.1	A	7.9	A
7. Union Ave/Duncanville Ct	6.3	A	5.6	A	6.3	A	5.6	A
8. Winchester Blvd/Kennedy Ave	12.6	B	11.8	B+	13.5	B	12.2	B

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Finding: The study intersections are expected to continue operating acceptably under Cumulative plus Project Conditions, generally at the same levels of service upon adding project-generated traffic as without it.

Campbell Avenue/Page Street Trip-Origins Assessment

Under all scenarios, the Page Street approach to the Campbell Avenue/Page Street intersection operates at LOS F during the p.m. peak. Under Cumulative Conditions, the project would contribute approximately 16 p.m. peak hour trips to the intersection, or approximately 0.5 percent of Cumulative volumes. In comparison, other pending projects would be expected to generate on average 75 trips during the p.m. peak hour to the intersection. A summary of the proposed project and other pending projects, and each projects' projected added trips to Campbell Avenue/Page Street, is included in Appendix C.

Neighborhood Traffic Analysis

The average daily traffic (ADT) on the study neighborhood street segments was determined based on 24-hour machine counts conducted on May 17, 2014, for Gilman Avenue, June 3, 2014, for Cherry Lane and El Caminito Avenue, and March 10, 2015, for all other study neighborhood street segments. Table 13 summarizes the ADT of the neighborhood streets, the TIRE index for street segments under Existing Conditions, and the project-added trips. It is worth noting that no project trips would be expected to use El Caminito Avenue, Catalpa Lane, Cherry Lane, or California Street.

**Table 13
TIRE Index Summary**

Study Segment	Existing Conditions		Volume Needed to Cause +0.1 Increase in TIRE Index	Project Trips	Noticeable Change in Traffic
	ADT	TIRE Index			
Sam Cava Ln	2,539	3.4	650	106	No
Kennedy Ave	685	2.8	140	426	Yes
Gilman Ave (north of Sam Cava Ln)	1,378	3.1	290	106	No
El Caminito Ave (west of Winchester Blvd)	336	2.5	79	0	No
Catalpa Ln (west of Winchester Blvd)	259	2.4	65	0	No
Cherry Ln (west of Winchester Blvd)	1,284	3.1	290	0	No
California St (north of El Caminito Ave)	1,199	3.1	290	0	No

Notes: ADT = Average Daily Traffic

As shown in Table 13, project-related trips would result in an increase greater than +0.1 in the TIRE index on Kennedy Avenue, resulting in a noticeable change in traffic. All other neighborhood street segments would not experience a 0.1 increase in the TIRE index. Based on the project site's location relative to Kennedy Avenue and the greater street network, project-generated traffic headed toward the west may opt to use Kennedy Avenue as well as other streets.

The Neighborhood Traffic Management Program (NTMP) developed by the City of Campbell establishes guidelines on how the City of Campbell would respond to neighborhood traffic issues. On streets serving residential uses such as Kennedy Avenue, the NTMP found that local residents are typically more concerned about speeding than high traffic volumes or cut-through traffic. However, it is worth noting that Kennedy Avenue is not primarily a residential street. It is recommended that the applicant work with City staff to monitor traffic speed and volume changes along Kennedy Avenue and to determine appropriate solutions based on the data and engineering judgment.

Finding: The proposed project would result in a potentially noticeable increase in traffic volumes on Kennedy Avenue.

Alternative Modes

Alternative Modes

Pedestrian Facilities

As part of the proposed project, several pedestrian improvements along Railway Avenue are proposed. The project would include sidewalks along the frontage of the duets on the west side of Railway Avenue. Sidewalks currently exist on the east side of Railway Avenue. In addition, midblock LED-enhanced crosswalks crossing Railway Avenue are proposed at the pedestrian railroad and light-rail crossing to the Downtown Campbell light rail station platform approximately 250 feet south of Railway Avenue/ Orchard City Drive, and at the project frontage connecting the duets with the sidewalks on the east side of Railway Avenue approximately 1,200 feet south of Railway Avenue/Orchard City Drive.

Proposed Mid-Block Crosswalks Crossing Railway Avenue

The project would include proposed mid-block crosswalks crossing Railway Avenue at two locations, as shown in Figure 7. A mid-block crosswalk at the pedestrian railroad and light-rail crossings is proposed as part of the project and would reduce the walking distance to the Downtown Campbell light rail station by approximately 200 feet. However, due to the proposed crossing's proximity to the nearest traffic signal at Orchard City Drive, there may be conflicts associated with vehicular queues at the mid-block crosswalk spilling over into the intersection of Railway Avenue/Orchard City Drive. Additionally, based on the modest gain associated with a relatively small reduction in walking distance to the light rail station from the project site, a mid-block crosswalk at the pedestrian railroad and light rail crossing is not recommended.

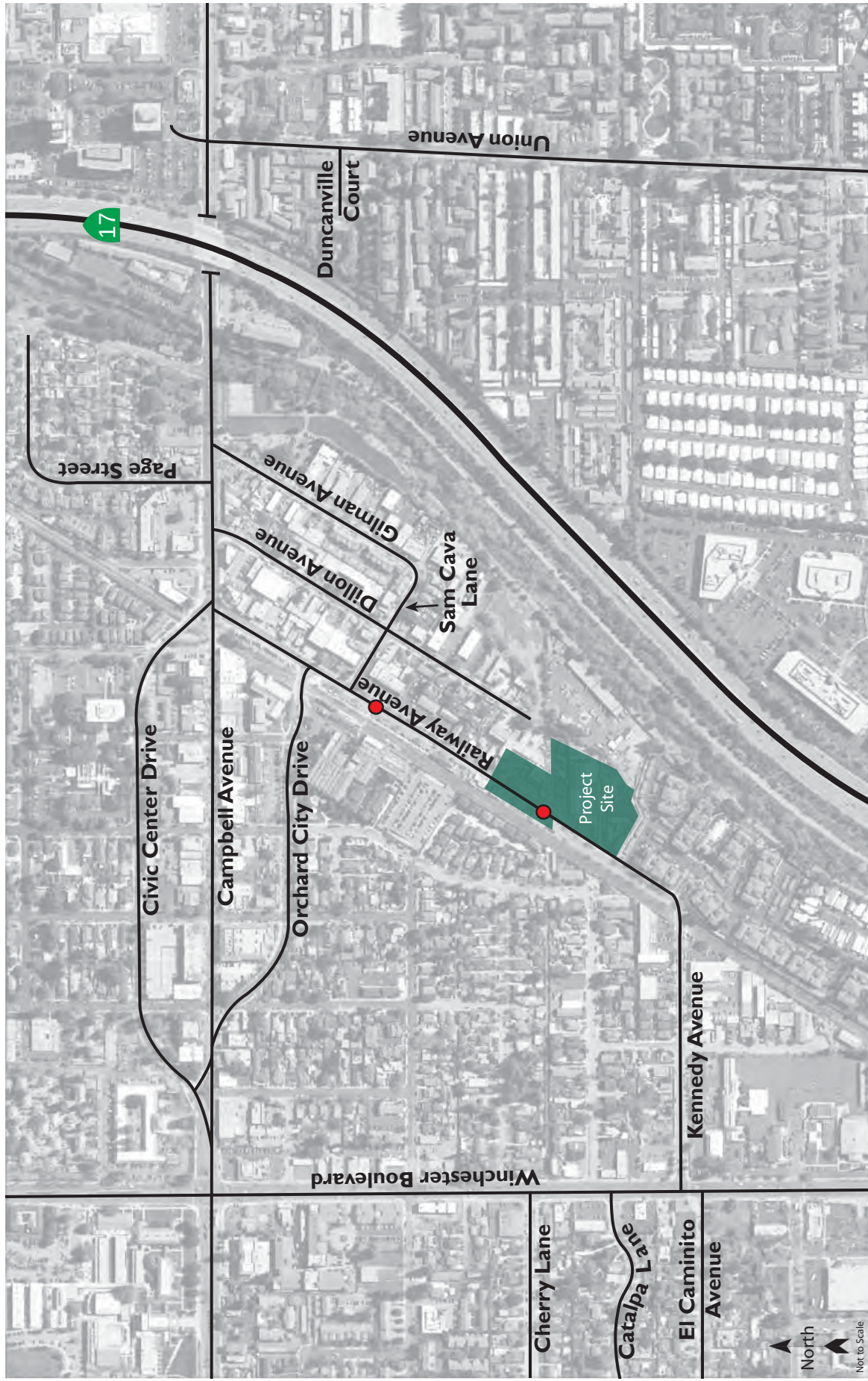
Due to the existing gaps in sidewalk connectivity along the west side of Railway Avenue, a mid-block LED-enhanced crosswalk is proposed as part of the project to connect pedestrians from the duets to the rest of the pedestrian network. The location of the proposed mid-block crosswalk would be in front of the duet units, approximately 1,200 feet south of the intersection of Railway Avenue/Orchard City Drive. A mid-block LED-enhanced crosswalk at the frontage of the duets would improve pedestrian connectivity from these units. However, a proposed mid-block crosswalk is not recommended due to the low pedestrian volume expected on the crosswalk. Alternatively, in order to provide adequate pedestrian connections to destinations to the north, construction of sidewalks along the west side of Railway Avenue north of the project site is recommended to close a sidewalk gap of approximately 250 feet.

Pedestrian Access to Downtown Campbell

Given the proximity of the project site to Downtown Campbell and the light rail station to the north, it is reasonable to assume that some project residents would want to walk or bicycle to the stores in Downtown Campbell and the light rail station. Pedestrian access would be via continuous sidewalks on the east side of Railway Avenue. Residents of the duets would utilize the proposed mid-block crosswalk to cross to the east side of Railway Avenue.

On-Site Pedestrian Paths

A network of on-site pedestrian sidewalks and paths are proposed to connect townhomes, apartments, and duets to both the continuous sidewalks on the east side of Railway Avenue and the nearby Los Gatos Creek Trail to the southeast. Additionally, pedestrians would be able to access Dillon Avenue on the northeast corner of the site via the emergency vehicle access point.



LEGEND

Proposed Midblock Crosswalks

Transportation Impact Analysis for 226-328 Railway Avenue

Figure 7 – Proposed Midblock Crosswalks on Railway Avenue

Given the proximity of the Los Gatos Creek Trail and the connection to the trail on the southeast corner of the project site, it is reasonable to assume that some project residents would walk or bicycle to other locations along the trail. As shown in the most recent site plan, there are no on-site pedestrian facilities connecting the sidewalks and paths near the townhomes on the north side to the sidewalks and paths near the apartments on the south side. A crosswalk and corresponding curb ramps at the eastern end of the main project driveway is recommended to connect the two halves of the on-site pedestrian facilities. This would provide a continuous pedestrian path to the Los Gatos Creek Trail for residents of the townhomes without requiring residents to walk to the sidewalk on Railway Avenue.

Finding: There is a potential for conflicts associated with vehicular queuing at the proposed mid-block crosswalk at the pedestrian railroad and light-rail crossing. Overall, pedestrian access to downtown Campbell and the light rail station is expected to be adequate. However, there is no on-site pedestrian connection between the network of paths to the north near the townhomes and the network of paths to the south near the apartments and the Los Gatos Creek Trail connection.

Recommendation: The proposed mid-block crosswalks on Railway Avenue at the pedestrian railroad and light-rail crossing should not be included in the proposed project. A crosswalk is recommended at the eastern end of the main project driveway to connect the townhomes to the Los Gatos Creek Trail entrance.

Bicycle Facilities

The proposed project would not affect bicycle facilities in the roadway network. The existing 32-foot width for two-way travel on Railway Avenue would adequately accommodate any added project-related bicycle traffic, which is expected to be low based on the peak hour trip generation.

Bicycle Storage

The proposed project would include long-term bicycle storage in the apartment building, per City Code requirements.

Finding: Bicycle facilities and bicycle parking serving the project site would be adequate.

Transit

Existing transit stops are within acceptable walking distance of the site. Existing transit routes are adequate to accommodate project-generated transit trips. Based on the peak hour trip generation, the number of new transit trips would be relatively low. Any transit trips would be spread among the various VTA bus lines and light rail service, and thus not affect load factors or transit operations.

Finding: Transit facilities serving the project site are adequate.

Access and Circulation

Site Access

Access to the project site would be provided from Railway Avenue. In addition, an emergency vehicle access driveway would be located at the end of Dillon Avenue. The proposed project driveways would provide access to the internal circulation system and thereby to all building units and parking areas.

Sight Distance

At unsignalized intersections a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to either cross, turn left, or turn right, without requiring the through traffic to radically alter their speed. Sight distance should be measured from a 3.5-foot height at the location of the driver on the minor road to a 4.25-foot object height in the center of the approaching lane of the major road. Setback for the driver on the crossroad shall be a minimum of 15 feet, measured from the edge of the traveled way.

Sight distances along Railway Avenue for the proposed project driveways were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distance for driveways is based on stopping sight distance with the approach travel speeds as the basis for determining the recommended sight distance. The posted speed limit on Railway Avenue is 25 miles per hour (mph) which translates to a minimum stopping sight distance of 150 feet.

Sight distances at the proposed project driveways on Railway Avenue were field measured. Although sight distance requirements are not technically applicable to urban driveways, the stopping sight distance criterion for private street intersections was applied for evaluation purposes. Railway Avenue is relatively flat and straight to the north and south, resulting in adequate sight distance. However, it should be noted that on-street parking is permitted on the east side of Railway Avenue along the project site's frontage. In order to have a clear line of sight to the north and south, it is recommended that on-street parking be prohibited for 15 feet on both sides of the proposed project driveways.

Site Circulation

Within the project site, vehicular access to individual townhomes, duplexes, and apartments would be via an internal network of 25-foot wide roadways, which allow two-way travel. Based on a review of the site plan, the vehicular circulation of the project site is expected to be adequate.

Emergency Vehicle Access

Construction and occupancy of the proposed project would be expected to result in increased demand for emergency services to the project site. Fire trucks would typically travel to the project site via Union Avenue/Duncanville Court, intersections along Campbell Avenue, and Railway Avenue/Orchard City Drive. Along the emergency vehicle route, optical emergency vehicle pre-emption systems at traffic signals, such as Opticom, is provided along Railway Avenue, while the intersections of Campbell Avenue/Gilman Avenue, Campbell Avenue/ Union Avenue, and Union Avenue/Duncanville Court do not have optical emergency vehicle pre-emption systems. The existing emergency vehicle pre-emption at the latter intersections only allow Fire vehicles to generate pre-emption calls for fire trucks leaving the fire station, and an optical emergency vehicle pre-emption would be more efficient as it could differentiate emergency calls by travel direction of the emergency vehicles.

Based on the expected operation of the study intersections, and the width of on-site roadways allowing emergency vehicles to maneuver within the site, emergency vehicle access throughout the project site is expected to be adequate. Improvements to emergency response time to the proposed project could be made by providing optical emergency vehicle pre-emption equipment at Campbell Avenue/Gilman Avenue, Campbell Avenue/Union Avenue, and Union Avenue/Duncanville Court.

Parking

It is understood that the unit count and mix of the proposed project is not yet finalized. The project as proposed would include 252 parking spaces to accommodate up to 126 apartment units, 29 townhomes, and 10 duets. The parking demand and the City's off-street parking requirements were determined based on this maximum build-out scenario.

Parking demand was estimated using standard rates published by ITE in *Parking Generation*, 4th Edition, 2010. The parking demand of the project was estimated using the published standard rates for Low/Mid-Rise Apartment, Suburban (ITE LU#221) and Residential Condominium/Townhouse, Suburban (ITE LU#230). Residential Condominium/Townhouse, suburban rates were used to estimate the parking generation rates for the duets.

Parking supply requirements for the City of Campbell are based on the *City of Campbell Municipal Code*, Chapter 21.28: Number of parking spaces required. Based on requirements for transit-oriented developments, 2.0 parking spaces per studio or one-bedroom unit and 2.5 parking spaces per two-bedroom unit are required. In addition, two spaces are required for each townhome or duet unit. The mix of apartment sizes were estimated based on the most recent site plan. It is estimated that 25 percent of apartments would be two-bedroom apartments and the remaining units would be studios or one-bedroom apartments. The proposed project's expected parking demand and City of Campbell off-street parking requirements are shown in Table 14.

**Table 14
Parking Analysis Summary**

Land Use	Units	ITE Parking Generation		City Requirements	
		Rate	Est. Parking Demand	Rate	Spaces Required
Low/Mid-Rise Apartment, Suburban	126 du	1.23	155	2.0/studio-1 br (94)	188
				2.5/2 br (32)	80
Residential Condominium/Townhouse, Suburban	39 du	1.38	54	2.0/du	78
Total			209		346

Note: du = dwelling unit; br = bedroom

* Because ITE *Parking Generation* did not have parking generation rates for duets, Residential Condominium/Townhouse, Urban (LU#230) rates were used instead

Finding: The parking requirement per the City's code is substantially higher than the projected parking demand and the proposed parking supply. Given the proximity to the light-rail line, the City may wish to consider a parking variance to allow a lower parking supply, thereby encouraging use of transit.

Recommendation: The applicant should work with the City to gain approval of a parking supply that is less than that indicated by application of the rates contained in the City's Municipal Code.

Conclusions and Recommendations

Conclusions

- The proposed project would generate an average of 1,065 daily trips, including 74 trips during the a.m. peak hour and 89 trips during the p.m. peak hour.
- Operation of the study intersections is currently acceptable, and would continue to be acceptable with the addition of project-related trips.
- All study intersections are expected to continue operating acceptably under Background conditions with and without the project.
- All study intersections are expected to continue operating acceptably under Cumulative conditions with and without the project.
- The proposed project would increase the TIRE index on Kennedy Avenue by more than +0.1. All other study neighborhood street segments would experience a less-than 0.1 change in the TIRE index.
- The proposed crosswalk at the pedestrian railroad and light-rail crossing would result in potential conflicts with the nearby intersection at Railway Avenue/Orchard City Drive.
- As an alternative to the proposed mid-block crosswalk at the project frontage, continuous sidewalks could be constructed on the western side of Railway Avenue to provide continuous pedestrian access for residents of the duets to the light rail station and Downtown Campbell.
- There is no direct pedestrian connection between the townhomes and the Los Gatos Creek Trail entrance at the southeast corner of the project site.
- Pedestrian access to downtown Campbell and the light-rail station is expected to be adequate. Bicycle, and transit access to the proposed project are expected to be adequate.
- On-site circulation is expected to be adequate.
- Emergency vehicle access to the project site is expected to be adequate.
- The proposed project would require 209 parking spaces to meet projected parking demand, and would require 346 off-street parking spaces to meet the City's off-street parking requirements. With the proposed 252 spaces, the projected demand would be satisfied, but not the City's Code.

Recommendations

- It is recommended that the crosswalk proposed at the pedestrian railroad and light-rail crossing be eliminated from the project due to potential conflicts with the intersection of Railway Avenue/ Orchard City Drive.
- It is recommended that a crosswalk be included at the eastern end of the main project driveway as part of the proposed project.
- In order to have a clear line of sight to the north and south, it is recommended that on-street parking be prohibited for 15 feet on both sides of the proposed project driveways.
- The applicant should work with the City to gain approval of a parking supply that is less than that indicated by application of the rates contained in the City's Municipal Code.

Study Participants and References

Study Participants

Principal in Charge:	Mark E. Spencer, TE, PE
Transportation Engineer:	Sam Lam, PE
Assistant Engineer:	Alex Zhang
Technician/Graphics:	Deborah J. Mizell
Editing/Formatting:	Angela McCoy
Report Review:	Dalene J. Whitlock, PE, PTOE

References

Campbell Municipal Code, Municipal Code Corporation, 2015
City of Campbell General Plan, City of Campbell, 2014
East Campbell Avenue Master Plan, City of Campbell, 2007
Highway Capacity Manual, Transportation Research Board, 2000
Highway Design Manual, 6th Edition, California Department of Transportation, 2012
Parking Generation, 4th Edition, Institute of Transportation Engineers, 2010
Santa Clara Valley Bikeways Map, Santa Clara Valley Transportation Authority, 2011
Santa Clara Valley Bus & Rail Map, Santa Clara Valley Transportation Authority, 2015
Santa Clara Valley Transportation Authority, <http://www.vta.org>
Traffic Level of Service Analysis Guidelines, Santa Clara Valley Transportation Authority, 2003
Transportation Impact Analysis Guidelines, Santa Clara Valley Transportation Authority, 2014
Trip Generation Manual, 9th Edition, Institute of Transportation Engineers, 2012

CMP014



Appendix A

TIRE Index Table

TIRE Index Table

Existing Volume Range (Vehicles per Day)	TIRE Index	Minimum Daily Volume Increase to Produce	
		a .1 Change in the TIRE Index	a .2 Change in the TIRE Index
29-35	1.5	+6	+15
36-44	1.6	+8	+20
45-56	1.7	+10	+25
57-70	1.8	+13	+32
71-89	1.9	+17	+41
90-110	2.0	+22	+52
111-140	2.1	+29	+65
141-180	2.2	+40	+80
181-220	2.3	+52	+100
221-280	2.4	+65	+125
281-350	2.5	+79	+160
351-450	2.6	+94	+205
451-560	2.7	+114	+260
561-710	2.8	+140	+330
711-890	2.9	+170	+415
891-1,100	3.0	+220	+520
1,101-1,400	3.1	+290	+650
1,401-1,800	3.2	+380	+800
1,801-2,200	3.3	+500	+1,000
2,201-2,800	3.4	+650	+1,300
2,801-3,500	3.5	+825	+1,700
3,501-4,500	3.6	+1,025	+2,200
4,501-5,600	3.7	+1,250	+2,800
5,601-7,100	3.8	+1,500	+3,500
7,101-8,900	3.9	+1,800	+4,300
8,901-11,000	4.0	+2,300	+5,300
11,001-14,000	4.1	+3,000	+6,500
14,001-18,000	4.2	+4,000	+8,000
18,001-22,000	4.3	+5,200	+10,000
22,001-28,000	4.4	+6,600	+13,000
28,001-35,000	4.5	+8,200	+17,000
35,001-45,000	4.6	+10,000	+22,000
45,001-56,000	4.7	+12,200	+28,000
56,001-71,000	4.8	+14,800	+35,000
71,001-89,000	4.9	+18,000	+43,000

Source: Goodrich Traffic Group, based on curve shapes found in work by Donald Appleyard at the University of California at Berkeley and consider earlier thought by Buchanan of the Ministry of Transport, England.

Appendix B

Intersection Level of Service Calculations

AM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.553
Loss Time (sec): 12 Average Delay (sec/veh): 14.9
Optimal Cycle: 44 Level of Service: BStreet Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 0 0 0 1 0 0 0 0 1 0 1Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 6 76 275 0 0 0 9 120 0 43 158 722
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: 6 76 275 0 0 0 9 120 0 43 158 722
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: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 7 84 305 0 0 0 10 133 0 48 175 801
Reduced Vol: 0 0 0 0 0 0 0 0 0 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
Final Volume: 7 84 305 0 0 0 10 133 0 48 175 801Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.95 0.83 0.92 1.00 0.92 0.95 0.95 0.92 0.92 0.92 0.92
Lanes: 0.07 0.93 2.00 0.00 0.00 0.00 0.07 0.93 0.00 0.08 0.28 1.64
Final Sat.: 132 1668 3150 0 0 0 126 1674 0 134 492 2874Capacity Analysis Module:
Vol/Sat: 0.05 0.05 0.10 0.00 0.00 0.00 0.08 0.08 0.00 0.36 0.36 0.28
Crit Moves: ****
Green Time: 10.0 10.0 73.8 0.0 0.0 0.0 14.2 14.2 0.0 63.8 63.8 63.8
Volume/Cap: 0.51 0.51 0.13 0.00 0.00 0.00 0.56 0.56 0.00 0.56 0.56 0.44
Delay/Veh: 52.5 52.5 3.9 0.0 0.0 0.0 48.5 48.5 0.0 11.4 11.4 9.7
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: 52.5 52.5 3.9 0.0 0.0 0.0 48.5 48.5 0.0 11.4 11.4 9.7
LOS by Move: D- D- A A A D D A B+ A
HCM2kAVGQ: 3 3 2 0 0 0 5 5 0 12 12 8

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

PM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.618
Loss Time (sec): 12 Average Delay (sec/veh): 20.5
Optimal Cycle: 50 Level of Service: C+Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 2 0 0 0 0 0 0 1 0 0 1Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 12 92 846 0 0 0 19 283 5 47 182 557
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: 12 92 846 0 0 0 19 283 5 47 182 557
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: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 13 100 921 0 0 0 21 308 5 51 198 606
Reduced Vol: 0 0 0 0 0 0 0 0 0 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
Final Volume: 13 100 921 0 0 0 21 308 5 51 198 606Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.12 0.88 2.00 0.00 0.00 0.00 0.07 0.91 0.02 0.10 0.34 1.56
Final Sat.: 217 1664 3150 0 0 0 117 1740 31 167 646 2738Capacity Analysis Module:
Vol/Sat: 0.06 0.06 0.29 0.00 0.00 0.00 0.18 0.18 0.18 0.31 0.31 0.22
Crit Moves: ****
Green Time: 10.0 10.0 59.5 0.0 0.0 0.0 28.5 28.5 28.5 49.5 49.5 49.5
Volume/Cap: 0.60 0.60 0.49 0.00 0.00 0.00 0.62 0.62 0.62 0.62 0.62 0.45
Delay/Veh: 56.5 56.5 12.5 0.0 0.0 0.0 36.3 36.3 36.3 20.5 20.5 17.2
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: 56.5 56.5 12.5 0.0 0.0 0.0 36.3 36.3 36.3 20.5 20.5 17.2
LOS by Move: E+ E+ B A A D+ D+ C+ B
HCM2kAVGQ: 4 4 10 0 0 0 10 10 10 13 13 8

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

AM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
Intersection #2 Campbell Ave/Page st

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C [23.5]

Street Name:		Page St		Campbell Ave	
Approach:	North Bound	South Bound	East Bound	West Bound	
	L - T - R	L - T - R	L - T - R	L - T - R	

Control: Stop Sign Stop Sign
Rights: Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0

Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 0 0 12 0 28 19 443 0 0 1145 8
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 12 0 28 19 443 0 0 1145 8
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 0 13 0 30 20 469 0 0 1212 8
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 13 0 30 20 469 0 0 1212 8

Critical Gap Module:
Critical Gap:xxxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx

Capacity Module:
Conflict Vol: xxxx xxxx 1490 1725 610 1220 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx 117 90 442 578 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx 114 87 442 578 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx 0.11 0.00 0.07 0.03 xxxx xxxxx xxxxx xxxxx

Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxxx xxxxx 0.1 xxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx xxxxx 11.4 xxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx 237 xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx xxxxx 0.6 xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxxx xxxxx 23.5 xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * C * * * * *
ApproachDel: xxxxxx 23.5 xxxxxx xxxxxx
ApproachLOS: * * * * *
Note: Queue reported is the number of cars per lane.

PM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
Intersection #2 Campbell Ave/Page st

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: F [58.5]

Street Name:		Page St		Campbell Ave	
Approach:	North Bound	South Bound	East Bound	West Bound	
	L - T - R	L - T - R	L - T - R	L - T - R	

Control: Stop Sign Stop Sign
Rights: Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0

Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 0 0 29 0 16 57 1119 0 0 773 20
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 29 0 16 57 1119 0 0 773 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87
PHF Volume: 0 0 0 33 0 18 66 1292 0 0 893 23
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 33 0 18 66 1292 0 0 893 23

Critical Gap Module:
Critical Gap:xxxxx xxxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx xxxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx

Capacity Module:
Conflict Vol: xxxx xxxx 1882 2328 458 916 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx 87 38 555 753 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx 81 34 555 753 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx 0.41 0.00 0.03 0.09 xxxx xxxxx xxxxx xxxxx

Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxxx xxxxx 0.3 xxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx xxxxx 10.2 xxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx 117 xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx xxxxx 1.9 xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxxx xxxxx 58.5 xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * F * * * * *
ApproachDel: xxxxxx 58.5 xxxxxx xxxxxx
ApproachLOS: * * * * *
Note: Queue reported is the number of cars per lane.

AM Peak Hour - Existing Conditions (Page St Signal)
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #2 Campbell Ave/Page St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.402
Loss Time (sec): 9 Average Delay (sec/veh): 5.7
Optimal Cycle: 36 Level of Service: A

Street Name: Page St Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 0 0 0 10 10 10 7 10 0 0 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 4.0
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0

Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 0 0 12 0 28 19 443 0 0 1145 8
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 12 0 28 19 443 0 0 1145 8
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 0 13 0 30 20 469 0 0 1212 8
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 0 0 0 30 20 469 0 0 1212 8
PCE Adj: 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
Final Volume: 0 0 13 0 30 20 469 0 0 1212 8

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
Lanes: 0.00 0.00 0.00 0.30 0.00 0.70 1.00 2.00 0.00 0.00 1.99 0.01
Final Sat.: 0 0 0 525 0 1225 1750 3800 0 0 3674 26

Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.02 0.00 0.02 0.01 0.12 0.00 0.00 0.33 0.33
Crit Moves: 0.0 0.0 0.0 10.0 0.0 10.0 7.0 81.0 0.0 0.0 74.0 74.0
Green Time: 0.0 0.0 0.0 0.24 0.00 0.24 0.16 0.15 0.00 0.00 0.45 0.45
Volume/Cap: 0.00 0.00 0.00 0.24 0.00 0.24 0.16 0.15 0.00 0.00 0.45 0.45
Delay/Veh: 0.0 0.0 0.0 42.2 0.0 42.2 44.4 2.1 0.0 0.0 5.2 5.2
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: 0.0 0.0 0.0 42.2 0.0 42.2 44.4 2.1 0.0 0.0 5.2 5.2
LOS by Move: A A A D A D A A A A A A
HCM2kAVGQ: 0 0 0 1 0 1 2 0 0 0 7 7

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

PM Peak Hour - Existing Conditions (Page St Signal)
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #2 Campbell Ave/Page St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.406
Loss Time (sec): 9 Average Delay (sec/veh): 7.2
Optimal Cycle: 36 Level of Service: A

Street Name: Page St Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 0 0 0 10 10 10 7 10 0 0 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 4.0
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0

Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 0 0 29 0 16 57 1119 0 0 773 20
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 29 0 16 57 1119 0 0 773 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87
PHF Volume: 0 0 33 0 18 66 1292 0 0 893 23
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 0 0 0 33 0 18 66 1292 0 0 893 23
PCE Adj: 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
Final Volume: 0 0 33 0 18 66 1292 0 0 893 23

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.00 0.00 0.00 0.64 0.00 0.36 1.00 2.00 0.00 0.00 1.95 0.05
Final Sat.: 0 0 0 1128 0 622 1750 3800 0 0 3696 96

Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.03 0.00 0.03 0.04 0.34 0.00 0.00 0.24 0.24
Crit Moves: 0.0 0.0 0.0 10.0 0.0 10.0 18.2 81.0 0.0 0.0 62.8 62.8
Green Time: 0.0 0.0 0.0 0.30 0.00 0.30 0.21 0.42 0.00 0.00 0.38 0.38
Volume/Cap: 0.00 0.00 0.00 0.30 0.00 0.30 0.21 0.42 0.00 0.00 0.38 0.38
Delay/Veh: 0.0 0.0 0.0 42.7 0.0 42.7 35.1 2.8 0.0 0.0 9.2 9.2
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: 0.0 0.0 0.0 42.7 0.0 42.7 35.1 2.8 0.0 0.0 9.2 9.2
LOS by Move: A A A D A D A A A A A A
HCM2kAVGQ: 0 0 0 2 0 2 6 0 0 0 7 7

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

AM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.342
Loss Time (sec): 9 Average Delay (sec/veh): 11.8
Optimal Cycle: 33 Level of Service: B+

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include Include Include Include
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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 23 0 100 0 0 0 0 378 35 76 1027 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: 23 0 100 0 0 0 0 378 35 76 1027 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: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
PHF Volume: 25 0 110 0 0 0 0 415 38 83 1127 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 25 0 110 0 0 0 0 415 38 83 1127 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
Final Volume: 25 0 110 0 0 0 0 415 38 83 1127 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 0.92 0.98 0.95 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.83 0.17 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3386 314 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.00 0.06 0.00 0.00 0.00 0.00 0.12 0.12 0.05 0.30 0.00
Crit Moves: ****
Green Time: 13.2 0.0 65.3 0.0 0.0 0.0 0.0 25.7 25.7 52.1 77.8 0.0
Volume/Cap: 0.11 0.00 0.10 0.00 0.00 0.00 0.00 0.48 0.48 0.09 0.38 0.00
Delay/Veh: 38.5 0.0 6.5 0.0 0.0 0.0 0.0 31.8 31.8 12.1 3.6 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: 38.5 0.0 6.5 0.0 0.0 0.0 0.0 31.8 31.8 12.1 3.6 0.0
LOS by Move: D+ A A A A A A C B A A
HCM2kAVGQ: 1 0 1 0 0 0 0 6 6 1 6 0

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

PM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.556
Loss Time (sec): 9 Average Delay (sec/veh): 12.2
Optimal Cycle: 38 Level of Service: B

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include Include Include
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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 30 0 175 0 0 0 0 1167 30 87 827 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: 30 0 175 0 0 0 0 1167 30 87 827 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: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 33 0 190 0 0 0 0 1270 33 95 900 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 33 0 190 0 0 0 0 1270 33 95 900 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
Final Volume: 33 0 190 0 0 0 0 1270 33 95 900 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.95 0.05 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3697 95 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.02 0.00 0.11 0.00 0.00 0.00 0.00 0.34 0.34 0.05 0.24 0.00
Crit Moves: ****
Green Time: 19.6 0.0 29.3 0.0 0.0 0.0 0.0 61.7 61.7 9.7 71.4 0.0
Volume/Cap: 0.10 0.00 0.37 0.00 0.00 0.00 0.00 0.56 0.56 0.12 0.33 0.00
Delay/Veh: 33.1 0.0 28.5 0.0 0.0 0.0 0.0 11.5 11.5 47.1 5.4 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: 33.1 0.0 28.5 0.0 0.0 0.0 0.0 11.5 11.5 47.1 5.4 0.0
LOS by Move: C- A A A A A B+ D A A
HCM2kAVGQ: 1 0 5 0 0 0 0 12 12 4 5 0

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

AM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.612
Loss Time (sec): 12 Average Delay (sec/veh): 27.1
Optimal Cycle: 49 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Protected Protected
Rights: Include Ovl Include
Min. Green: 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
Lanes: 1 0 1 0 0 0 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 643 106 168 6 17 26 47 289 143 63 433 17
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: 643 106 168 6 17 26 47 289 143 63 433 17
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: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 691 114 180 6 18 28 50 310 154 68 465 18
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 691 114 180 6 18 28 50 310 154 68 465 18
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
Final Volume: 691 114 180 6 18 28 50 310 154 68 465 18

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 0.92 0.92 0.95 0.95 0.92 0.92 1.00 0.92 0.92 0.97 0.95
Lanes: 1.54 0.18 0.28 0.26 0.74 1.00 1.00 2.00 1.00 1.00 1.92 0.08
Final Sat.: 2695 312 494 470 1330 1750 1750 3800 1750 1750 3560 140

Capacity Analysis Module:
Vol/Sat: 0.26 0.37 0.37 0.01 0.01 0.02 0.03 0.08 0.09 0.04 0.13 0.13
Crit Moves: ****
Green Time: 52.3 52.3 52.3 10.0 10.0 17.0 7.0 15.1 67.4 10.6 18.7 18.7
Volume/Cap: 0.49 0.70 0.70 0.14 0.14 0.09 0.41 0.54 0.13 0.37 0.70 0.70
Delay/Veh: 15.5 19.5 19.5 41.4 41.4 35.1 46.8 40.3 5.9 42.8 41.2 41.2
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: 15.5 19.5 19.5 41.4 41.4 35.1 46.8 40.3 5.9 42.8 41.2 41.2
LOS by Move: B B- D D D D A D D
HCM2kAvgQ: 9 16 16 1 1 1 2 5 2 2 8 8

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

PM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.645
Loss Time (sec): 12 Average Delay (sec/veh): 29.8
Optimal Cycle: 53 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Protected Protected
Rights: Include Ovl Include
Min. Green: 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
Lanes: 1 0 1 0 0 0 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 304 51 128 39 141 128 72 654 598 118 411 14
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: 304 51 128 39 141 128 72 654 598 118 411 14
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: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 341 57 144 44 158 144 81 734 671 132 461 16
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 341 57 144 44 158 144 81 734 671 132 461 16
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
Final Volume: 341 57 144 44 158 144 81 734 671 132 461 16

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.47 0.14 0.39 0.23 0.77 1.00 1.00 2.00 1.00 1.00 1.93 0.07
Final Sat.: 2564 273 685 404 1461 1750 1750 3800 1750 1750 3684 125

Capacity Analysis Module:
Vol/Sat: 0.13 0.21 0.21 0.11 0.11 0.08 0.05 0.19 0.38 0.08 0.13 0.13
Crit Moves: ****
Green Time: 32.5 32.5 32.5 16.8 16.8 30.6 13.8 27.0 59.5 11.7 24.9 24.9
Volume/Cap: 0.41 0.64 0.64 0.64 0.64 0.27 0.33 0.72 0.64 0.64 0.51 0.51
Delay/Veh: 26.5 30.5 30.5 43.4 43.4 26.5 39.7 35.5 14.7 49.0 32.7 32.7
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: 26.5 30.5 30.5 43.4 43.4 26.5 39.7 35.5 14.7 49.0 32.7 32.7
LOS by Move: C C C D D D B D C-
HCM2kAvgQ: 6 10 10 7 7 4 3 11 15 5 7 7

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

AM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #5 Railway Ave/Orchard City DrCycle (sec): 100 Critical Vol./Cap.(X): 0.206
Loss Time (sec): 9 Average Delay (sec/veh): 14.9
Optimal Cycle: 29 Level of Service: BStreet Name: Railway Ave Orchard City Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Split Phase Split Phase
Rights: Include Include Include Include Include
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
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 0 0 0 0 0
Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 0 121 0 0 40 0 246 0 57 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: 0 121 0 0 40 0 246 0 57 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: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 0 136 0 0 45 0 277 0 64 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 136 0 0 45 0 277 0 64 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
Final Volume: 0 136 0 0 45 0 277 0 64 0 0 0Saturation 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.00 0.00 0.00 1.00 0.00 0.00 1.00 0.32 0.00 0.00 0.00
Final Sat.: 0 1900 0 0 1900 0 2946 0 554 0 0 0 0Capacity Analysis Module:
Vol/Sat: 0.00 0.07 0.00 0.00 0.02 0.00 0.09 0.00 0.12 0.00 0.00 0.00
Crit Moves: ****
Green Time: 0.0 34.8 0.0 0.0 34.8 0.0 56.2 0.0 56.2 0.0 0.0 0.0
Volume/Cap: 0.00 0.21 0.00 0.00 0.07 0.00 0.17 0.00 0.21 0.00 0.00 0.00
Delay/Veh: 0.0 23.1 0.0 0.0 21.8 0.0 10.6 0.0 10.9 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: 0.0 23.1 0.0 0.0 21.8 0.0 10.6 0.0 10.9 0.0 0.0 0.0
LOS by Move: A C+ A C+ A B+ A A A
HCM2kAVGQ: 0 3 0 0 1 0 3 0 3 0 0 0Note: Queue reported is the number of cars per lane.
*****PM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #5 Railway Ave/Orchard City DrCycle (sec): 100 Critical Vol./Cap.(X): 0.399
Loss Time (sec): 9 Average Delay (sec/veh): 11.4
Optimal Cycle: 29 Level of Service: B+Street Name: Railway Ave Orchard City Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Split Phase Split Phase
Rights: Include Include Include Include Include
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
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 0 0 0 0
Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 0 149 0 0 52 0 806 0 59 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: 0 149 0 0 52 0 806 0 59 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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 158 0 0 55 0 856 0 63 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 158 0 0 55 0 856 0 63 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
Final Volume: 0 158 0 0 55 0 856 0 63 0 0 0Saturation 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.00 0.00 0.00 1.00 0.00 0.00 1.00 0.13 0.00 0.00 0.00
Final Sat.: 0 1900 0 0 1900 0 3277 0 223 0 0 0 0Capacity Analysis Module:
Vol/Sat: 0.00 0.08 0.00 0.00 0.03 0.00 0.26 0.00 0.28 0.00 0.00 0.00
Crit Moves: ****
Green Time: 0.0 20.8 0.0 0.0 20.8 0.0 70.2 0.0 70.2 0.0 0.0 0.0
Volume/Cap: 0.00 0.40 0.00 0.00 0.14 0.00 0.37 0.00 0.40 0.00 0.00 0.00
Delay/Veh: 0.0 34.8 0.0 0.0 32.4 0.0 6.1 0.0 6.3 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: 0.0 34.8 0.0 0.0 32.4 0.0 6.1 0.0 6.3 0.0 0.0 0.0
LOS by Move: A C- A C- A A A A A
HCM2kAVGQ: 0 4 0 0 1 0 6 0 7 0 0 0Note: Queue reported is the number of cars per lane.

AM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
Intersection #6 Dillon Ave/Sam Cava LnCycle (sec): 100 Critical Vol./Cap.(X): 0.223
Loss Time (sec): 0 Average Delay (sec/veh): 8.0
Optimal Cycle: 0 Level of Service: AStreet Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 0 1 0 0 0Volume Module: >> Count Date: 30 Apr 2014 << 7:15 - 8:15 am
Base Vol: 21 11 3 7 20 137 27 63 22 2 13 2
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 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 21 11 3 7 20 137 27 63 22 2 13 2
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 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80
PHF Volume: 26 14 4 9 25 170 34 78 27 2 16 2
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 26 14 4 9 25 170 34 78 27 2 16 2
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 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 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 26 14 4 9 25 170 34 78 27 2 16 2Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.60 0.31 0.09 0.04 0.12 0.84 0.24 0.56 0.20 0.12 0.76 0.12
Final Sat.: 459 241 66 39 112 764 191 446 156 89 578 89Capacity Analysis Module:
Vol/Sat: 0.06 0.06 0.06 0.22 0.22 0.22 0.18 0.18 0.18 0.18 0.03 0.03
Crit Moves: ****
Delay/Veh: 7.8 7.8 7.8 7.9 7.9 7.9 8.2 8.2 8.2 8.2 7.6 7.6
Delay 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
AdjDel/Veh: 7.8 7.8 7.8 7.9 7.9 7.9 8.2 8.2 8.2 8.2 7.6 7.6
LOS by Move: A A A A A A A A A A A A
ApproachDel: 7.8 7.8 7.9 8.2 8.2 8.2 7.6 7.6
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
ApprAdjDel: 7.8 7.8 7.9 8.2 8.2 8.2 7.6 7.6
LOS by Appr: A A A A A A A A
AllWayAVQ: 0.1 0.1 0.1 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.0 0.0 0.0 0.0
Note: Queue reported is the number of cars per lane.PM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
Intersection #6 Dillon Ave/Sam Cava LnCycle (sec): 100 Critical Vol./Cap.(X): 0.188
Loss Time (sec): 0 Average Delay (sec/veh): 7.8
Optimal Cycle: 0 Level of Service: AStreet Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 0 1 0 0 0Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 13 8 9 8 7 76 33 114 5 1 31 1
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 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 13 8 9 8 7 76 33 114 5 1 31 1
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 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
PHF Volume: 13 8 9 8 7 79 34 118 5 1 32 1
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 8 9 8 7 79 34 118 5 1 32 1
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 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 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 13 8 9 8 7 79 34 118 5 1 32 1Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.43 0.27 0.30 0.09 0.08 0.83 0.22 0.75 0.03 0.03 0.94 0.03
Final Sat.: 346 213 240 79 69 747 181 626 27 25 761 25Capacity Analysis Module:
Vol/Sat: 0.04 0.04 0.04 0.11 0.11 0.11 0.11 0.19 0.19 0.19 0.04 0.04 0.04
Crit Moves: ****
Delay/Veh: 7.5 7.5 7.5 7.3 7.3 7.3 8.2 8.2 8.2 8.2 7.5 7.5
Delay 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
AdjDel/Veh: 7.5 7.5 7.5 7.3 7.3 7.3 8.2 8.2 8.2 8.2 7.5 7.5
LOS by Move: A A A A A A A A A A A A
ApproachDel: 7.5 7.5 7.3 8.2 8.2 8.2 7.5 7.5
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
ApprAdjDel: 7.5 7.5 7.3 8.2 8.2 8.2 7.5 7.5
LOS by Appr: A A A A A A A A
AllWayAVQ: 0.0 0.0 0.0 0.1 0.1 0.1 0.2 0.2 0.2 0.2 0.0 0.0 0.0
Note: Queue reported is the number of cars per lane.

AM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #7 Union Ave/Duncanville Ct

Cycle (sec): 100 Critical Vol./Cap.(X): 0.556
Loss Time (sec): 6 Average Delay (sec/veh): 6.1
Optimal Cycle: 33 Level of Service: A

Street Name: Union Ave Duncanville Ct
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include
Min. Green: 7 10 0 0 10 10 10 10 10 10 0 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 4.0
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0

Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 10 894 0 0 221 4 20 0 13
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: 10 894 0 0 221 4 20 0 13
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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 11 954 0 0 236 4 21 0 14
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 11 954 0 0 236 4 21 0 14
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
Final Volume: 11 954 0 0 236 4 21 0 14

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 0.95 0.92 0.92 0.92 0.92 0.92 0.92 0.92
Lanes: 1.00 1.00 0.00 0.00 0.98 0.02 0.61 0.00 0.39 0.00 0.00 0.00
Final Sat.: 1750 1900 0 0 1768 32 1961 0 689 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.50 0.00 0.00 0.13 0.13 0.02 0.00 0.02 0.00 0.00 0.00
Crit Moves: ****
Green Time: 28.9 84.0 0.0 0.0 55.1 55.1 10.0 0.0 10.0 0.0 0.0 0.0
Volume/Cap: 0.02 0.60 0.00 0.00 0.24 0.24 0.20 0.00 0.20 0.00 0.00 0.00
Delay/Veh: 25.4 3.2 0.0 0.0 11.8 11.8 41.9 0.0 41.9 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: 25.4 3.2 0.0 0.0 11.8 11.8 41.9 0.0 41.9 0.0 0.0 0.0
LOS by Move: C A A B+ B+ D A D A A A
HCM2kAVGQ: 0 10 0 0 4 4 1 0 1 0 0 0

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

PM Peak Hour - Existing Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #7 Union Ave/Duncanville Ct

Cycle (sec): 100 Critical Vol./Cap.(X): 0.540
Loss Time (sec): 6 Average Delay (sec/veh): 5.3
Optimal Cycle: 33 Level of Service: A

Street Name: Union Ave Duncanville Ct
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include
Min. Green: 7 10 0 0 10 10 10 10 10 10 0 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 4.0
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0

Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 9 471 0 0 857 17 8 0 8
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: 9 471 0 0 857 17 8 0 8
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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 10 503 0 0 916 18 9 0 9
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 10 503 0 0 916 18 9 0 9
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
Final Volume: 10 503 0 0 916 18 9 0 9

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 1.00 0.00 0.00 0.98 0.02 0.50 0.00 0.50 0.00 0.00 0.00
Final Sat.: 1750 1900 0 0 1860 37 875 0 875 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.26 0.00 0.00 0.49 0.49 0.01 0.00 0.01 0.00 0.00 0.00
Crit Moves: ****
Green Time: 7.0 84.0 0.0 0.0 77.0 77.0 10.0 0.0 10.0 0.0 0.0 0.0
Volume/Cap: 0.08 0.32 0.00 0.00 0.64 0.64 0.10 0.00 0.10 0.00 0.00 0.00
Delay/Veh: 43.8 1.9 0.0 0.0 6.2 6.2 41.1 0.0 41.1 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: 43.8 1.9 0.0 0.0 6.2 6.2 41.1 0.0 41.1 0.0 0.0 0.0
LOS by Move: D A A A A A D A D A A A
HCM2kAVGQ: 0 4 0 0 13 13 1 0 1 0 0 0

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

AM Peak Hour - Existing Conditions (Page St Signal)
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.424
Loss Time (sec): 9 Average Delay (sec/veh): 12.4
Optimal Cycle: 36 Level of Service: B

Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 0 0 10 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 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 1 0 0 0 1

Volume Module: >> Count Date: 14 May 2014 << 7:45 - 8:45 am
Base Vol: 0 763 170 18 489 0 0 0 0 0 163 0 52
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: 0 763 170 18 489 0 0 0 0 163 0 52
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: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 0 828 184 20 530 0 0 0 0 177 0 56
Reduced Vol: 0 0 0 0 0 0 0 0 0 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
Final Volume: 0 828 184 20 530 0 0 0 0 177 0 56

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 0.98 0.95 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.63 0.37 1.00 2.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00
Final Sat.: 0 3025 674 1750 3800 0 0 0 0 1750 0 1750

Capacity Analysis Module:
Vol/Sat: 0.00 0.27 0.27 0.01 0.14 0.00 0.00 0.00 0.00 0.00 0.10 0.00 0.03
Crit Moves: ****
Green Time: 0.0 61.3 61.3 7.0 68.3 0.0 0.0 0.0 0.0 22.7 0.0 22.7
Volume/Cap: 0.00 0.45 0.45 0.16 0.20 0.00 0.00 0.00 0.00 0.45 0.00 0.14
Delay/Veh: 0.0 10.4 10.4 44.3 5.9 0.0 0.0 0.0 0.0 34.1 0.0 31.1
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: 0.0 10.4 10.4 44.3 5.9 0.0 0.0 0.0 0.0 34.1 0.0 31.1
LOS by Move: A B+ B+ D A A A A C- A C
HCM2kAVGQ: 0 8 8 1 3 0 0 0 0 5 0 2

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

PM Peak Hour - Existing Conditions (Page St Signal)
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.411
Loss Time (sec): 9 Average Delay (sec/veh): 11.8
Optimal Cycle: 36 Level of Service: B+

Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 0 10 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 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 1 0 0 0 1

Volume Module: >> Count Date: 14 May 2014 << 5:00 - 6:00 pm
Base Vol: 0 780 169 38 710 0 0 0 0 159 0 52
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: 0 780 169 38 710 0 0 0 0 159 0 52
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: 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume: 0 798 173 39 726 0 0 0 0 163 0 53
Reduced Vol: 0 0 0 0 0 0 0 0 0 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
Final Volume: 0 798 173 39 726 0 0 0 0 163 0 53

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.62 0.38 1.00 2.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00
Final Sat.: 0 3076 667 1750 3800 0 0 0 0 1750 0 1750

Capacity Analysis Module:
Vol/Sat: 0.00 0.26 0.26 0.02 0.19 0.00 0.00 0.00 0.00 0.00 0.09 0.00 0.03
Crit Moves: ****
Green Time: 0.0 61.8 61.8 7.0 68.8 0.0 0.0 0.0 0.0 22.2 0.0 22.2
Volume/Cap: 0.00 0.42 0.42 0.32 0.28 0.00 0.00 0.00 0.00 0.42 0.00 0.14
Delay/Veh: 0.0 10.0 10.0 45.7 6.1 0.0 0.0 0.0 0.0 34.1 0.0 31.4
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: 0.0 10.0 10.0 45.7 6.1 0.0 0.0 0.0 0.0 34.1 0.0 31.4
LOS by Move: A A A D A A A A C- A C
HCM2kAVGQ: 0 8 8 2 4 0 0 0 0 5 0 1

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

AM Existing plus Project				Sat Apr 18, 2015 12:23:31				Page 2-1					
AM Peak Hour - Existing plus Project Conditions													
Traffic Impact Study for 226-328 Railway Avenue													
City of Campbell													
Trip Generation Report													
				Forecast for AM									
Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total % Of Trips Total					
1	226-328 Rail	1.00	Apartment	12.00	46.00	12	46	58	78.4				
1	226-328 Rail	1.00	Townhome	3.00	13.00	3	13	16	21.6				
	Zone 1 Subtotal					15	59	74	100.0				
TOTAL								15	59	74	100.0		

PM Existing plus Project				Sat Apr 18, 2015 12:23:37				Page 2-1					
PM Peak Hour - Existing plus Project Conditions													
Traffic Impact Study for 226-328 Railway Avenue													
City of Campbell													
Trip Generation Report													
				Forecast for PM									
Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total % Of Trips Total					
1	226-328 Rail	1.00	Apartment	46.00	25.00	46	25	71	79.8				
1	226-328 Rail	1.00	Townhome	13.00	5.00	13	5	18	20.2				
	Zone 1 Subtotal					59	30	89	100.0				
TOTAL								59	30	89	100.0		

PM Existing plus Project				Sat Apr 18, 2015 12:23:37				Page 2-1			

PM Peak Hour - Existing plus Project Conditions											
Traffic Impact Study for 226-328 Railway Avenue											
City of Campbell											

Trip Generation Report											

				Forecast for PM							

Zone	Subzone	Amount	Units	Rate	Rate	Trips	Trips	Total % Of			
#				In	Out	In	Out	Trips Total			

1	226-328 Rail	1.00	Apartment	46.00	25.00	46	25	71	79.8		
1	226-328 Rail	1.00	Townhome	13.00	5.00	13	5	18	20.2		
	Zone 1 Subtotal					59	30	89	100.0		

TOTAL								89	100.0		

AM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.552
Loss Time (sec): 12 Average Delay (sec/veh): 15.4
Optimal Cycle: 44 Level of Service: B

Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 0 0 0 1 0 0 0 0 1 0 1

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 6 76 275 0 0 9 120 0 43 158 722
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 6 76 275 0 0 9 120 0 43 158 722
Added Vol: 0 21 9 0 0 0 0 0 2 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 6 97 284 0 0 9 120 0 45 158 722
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 7 108 315 0 0 10 133 0 50 175 801
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 7 108 315 0 0 10 133 0 50 175 801
PCE Adj: 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
FinalVolume: 7 108 315 0 0 10 133 0 50 175 801

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.06 0.94 2.00 0.00 0.00 0.00 0.08 0.92 0.00 0.08 0.26 1.66
Final Sat.: 110 1780 3150 0 0 132 1757 0 143 501 2895

Capacity Analysis Module:
Vol/Sat: 0.06 0.06 0.10 0.00 0.00 0.00 0.08 0.08 0.00 0.35 0.35 0.28
Crit Moves: ****
Green Time: 10.9 10.9 74.3 0.0 0.0 0.0 13.7 13.7 0.0 63.3 63.3 63.3
Volume/Cap: 0.55 0.55 0.13 0.00 0.00 0.00 0.55 0.55 0.00 0.55 0.55 0.44
Delay/Veh: 52.4 52.4 3.8 0.0 0.0 0.0 48.5 48.5 0.0 11.5 11.5 9.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 52.4 52.4 3.8 0.0 0.0 0.0 48.5 48.5 0.0 11.5 11.5 9.9
LOS by Move: D- D- A A A D D A B+ A
HCM2kAvgQ: 4 4 2 0 0 0 5 0 0 12 12 8

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

PM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.631
Loss Time (sec): 12 Average Delay (sec/veh): 20.8
Optimal Cycle: 51 Level of Service: C+

Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 2 0 0 0 0 0 0 1 0 0 1

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 12 92 846 0 0 19 283 5 47 182 557
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 12 92 846 0 0 19 283 5 47 182 557
Added Vol: 0 11 5 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 12 103 851 0 0 19 283 5 56 182 557
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 13 112 926 0 0 21 308 5 61 198 606
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 112 926 0 0 21 308 5 61 198 606
PCE Adj: 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
FinalVolume: 13 112 926 0 0 21 308 5 61 198 606

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.11 0.89 2.00 0.00 0.00 0.00 0.07 0.91 0.02 0.11 0.33 1.56
Final Sat.: 197 1687 3150 0 0 117 1740 31 195 634 2721

Capacity Analysis Module:
Vol/Sat: 0.07 0.07 0.29 0.00 0.00 0.00 0.18 0.18 0.18 0.31 0.31 0.22
Crit Moves: ****
Green Time: 10.5 10.5 60.0 0.0 0.0 0.0 28.0 28.0 28.0 49.4 49.4 49.4
Volume/Cap: 0.63 0.63 0.49 0.00 0.00 0.00 0.63 0.63 0.63 0.63 0.63 0.45
Delay/Veh: 57.2 57.2 12.3 0.0 0.0 0.0 37.1 37.1 37.1 20.8 20.8 17.2
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 57.2 57.2 12.3 0.0 0.0 0.0 37.1 37.1 37.1 20.8 20.8 17.2
LOS by Move: E+ E+ B A A A D+ D+ C+ C+ B
HCM2kAvgQ: 4 4 10 0 0 0 10 10 10 14 14 8

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

AM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C [23.7]

Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0
Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 0 0 12 0 28 19 443 0 0 1145 8
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 12 0 28 19 443 0 0 1145 8
Added Vol: 0 0 0 0 0 0 0 0 0 0 2
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 12 0 28 19 452 0 0 1147 8
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 0 13 0 30 20 478 0 0 1214 8
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 13 0 30 20 478 0 0 1214 8
Critical Gap Module:
Critical Gap:xxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx
Capacity Module:
Conflict Vol: xxxx xxxx 1497 1737 611 1222 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx 115 88 442 577 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx 112 85 442 577 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx 0.11 0.00 0.07 0.03 xxxx xxxxx xxxxx xxxxx
Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.1 xxxx xxxxx xxxxx xxxxx
Control Del:xxxx xxxx xxxxx 11.5 xxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx 235 xxxxx xxxx xxxx xxxxx xxxxx xxxxx
SharedQueue:xxxx xxxx 0.6 xxxxx xxxx xxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxx xxxx 23.7 xxxxx xxxx xxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * C * * * * *
ApproachDel: xxxxx 23.7 xxxxx xxxxx
ApproachLOS: * * * * *

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

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PM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: F [60.3]

Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0
Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 0 0 29 0 16 57 1119 0 0 773 20
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 29 0 16 57 1119 0 0 773 20
Added Vol: 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 29 0 16 57 1124 0 0 782 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87
PHF Volume: 0 0 0 0 33 0 18 66 1298 0 0 903 23
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 0 33 0 18 66 1298 0 0 903 23
Critical Gap Module:
Critical Gap:xxxx xxxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx
Capacity Module:
Conflict Vol: xxxx xxxx 1695 2344 463 926 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx 85 37 551 746 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx 80 34 551 746 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx 0.42 0.00 0.03 0.09 xxxx xxxxx xxxxx xxxxx
Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.3 xxxx xxxxx xxxxx xxxxx
Control Del:xxxx xxxx xxxxx 10.3 xxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx 114 xxxxx xxxx xxxx xxxxx xxxxx xxxxx
SharedQueue:xxxx xxxx 2.0 xxxxx xxxx xxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxx xxxx 60.3 xxxxx xxxx xxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * F * * * * *
ApproachDel: xxxxx 60.3 xxxxx xxxxx
ApproachLOS: * * * * *

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

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

Level Of Service Computation Report															
2000 HCM Operations Method (Base Volume Alternative)															
Intersection #2 Campbell Ave/Page-Gilman															
Cycle (sec):	100	Critical Vol./Cap.(X):			0.626										
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):			23.9										
Optimal Cycle:	43	Level Of Service:			C										
Street Name: Campbell Ave															
Approach:	Page-Gilman			Page-Gilman			Campbell Ave								
Movement:	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	
Control:	Protected			Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include			Include		
Min. Green:	0	0	0	10	10	10	7	10	0	0	10	10	10	10	
Lanes:	0	0	1	0	0	1	0	0	1	0	1	0	1	0	
Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm															
Base Vol:	30	0	178	29	0	16	57	1093	30	92	815	20			
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:	30	0	178	29	0	16	57	1093	30	92	815	20			
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:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
PHF Volume:	35	0	206	33	0	18	66	1262	35	106	941	23			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	35	0	206	33	0	18	66	1262	35	106	941	23			
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:	35	0	206	33	0	18	66	1262	35	106	941	23			
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	0.92	1.00	0.92	1.00	0.92	1.00	0.92	1.00	0.92	1.00	0.92	1.00			
Lanes:	0.14	0.00	0.86	0.64	0.00	0.36	1.00	1.94	0.06	1.00	1.95	0.05			
Final Sat.:	252	0	1498	1128	0	622	1750	3690	101	1750	3701	91			
Capacity Analysis Module:															
Vol/Sat:	0.14	0.00	0.14	0.03	0.00	0.03	0.04	0.34	0.34	0.06	0.25	0.25			
Crit Moves:	***			***		***	***		***	***					
Green Time:	20.6	0.0	17.7	12.9	0.0	10.0	13.0	51.3	51.3	9.1	47.4	47.4			
Volume/Cap:	0.67	0.00	0.78	0.23	0.00	0.30	0.29	0.67	0.67	0.67	0.54	0.54			
Delay/Veh:	41.3	0.0	50.9	39.6	0.0	42.7	40.0	18.9	18.9	54.3	18.9	18.9			
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	0.0	50.9	39.6	0.0	42.7	40.0	18.9	18.9	54.3	18.9	18.9			
LOS by Move:	D	A	D	D	A	D	D	B	B	D	B	B			
HCM2kAvgQ:	8	0	10	2	0	2	2	15	15	5	11	11			
Note: Queue reported is the number of cars per lane.															

Level Of Service Computation Report														
2000 HCM Operations Method (Base Volume Alternative)														

Intersection #2 Campbell Ave/Page-Gilman														

Cycle (sec):	100	Critical Vol./Cap.(X):										0.440		
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):										17.5		
Optimal Cycle:	36	Level Of Service:										B		

Street Name: Page-Gilman Campbell Ave														
Approach:	North Bound			South Bound			East Bound			West Bound				
Movement:	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R			
Control:	Protected			Protected			Protected			Protected				
Rights:	Include			Include			Include			Include				
Min. Green:	0	0	0	10	10	10	7	10	0	0	10	10		
Lanes:	0	0	1	0	0	1	0	0	1	0	1	0	1	0

Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am														
Base Vol:	23	0	106	12	0	28	19	417	35	78	1021	8		
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:	23	0	106	12	0	28	19	417	35	78	1021	8		
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:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		
PHF Volume:	24	0	112	13	0	30	20	441	37	83	1080	8		
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0		
Reduced Vol:	24	0	112	13	0	30	20	441	37	83	1080	8		
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:	24	0	112	13	0	30	20	441	37	83	1080	8		

Saturation Flow Module:														
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Adjustment:	0.92	1.00	0.92	1.00	0.92	1.00	0.92	1.00	0.92	1.00	0.92	1.00		
Lanes:	0.18	0.00	0.82	0.30	0.00	0.70	1.00	1.83	0.17	1.00	1.98	0.02		
Final Sat.:	312	0	1438	525	0	1225	1750	3483	292	1750	3768	30		

Capacity Analysis Module:														
Vol/Sat:	0.08	0.00	0.08	0.02	0.00	0.02	0.01	0.13	0.13	0.05	0.29	0.29		
Crit Moves:	*****													
Green Time:	19.7	0.0	15.8	10.0	0.0	6.1	7.0	47.5	47.5	17.7	58.2	58.2		
Volume/Cap:	0.40	0.00	0.49	0.24	0.00	0.40	0.16	0.27	0.27	0.27	0.49	0.49		
Delay/Veh:	35.7	0.0	39.8	42.2	0.0	47.6	44.4	15.9	15.9	36.0	12.4	12.4		
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:	35.7	0.0	39.8	42.2	0.0	47.6	44.4	15.9	15.9	36.0	12.4	12.4		
LOS by Move:	D+	A	D	D	A	D	D	B	B	D+	B	B		
HCM2kAVGQ:	4	0	5	1	0	2	1	4	4	3	10	10		

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

AM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.342
Loss Time (sec): 9 Average Delay (sec/veh): 12.0
Optimal Cycle: 33 Level of Service: B

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include
Min. Green: 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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 23 0 100 0 0 0 0 378 35 76 1027 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: 23 0 100 0 0 0 0 378 35 76 1027 0
Added Vol: 0 0 6 0 0 0 0 9 0 2 2 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 23 0 106 0 0 0 0 387 35 78 1029 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
PHF Adj: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
PHF Volume: 25 0 116 0 0 0 0 425 38 86 1130 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 25 0 116 0 0 0 0 425 38 86 1130 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
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 25 0 116 0 0 0 0 425 38 86 1130 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.82 0.18 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3460 313 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.00 0.07 0.00 0.00 0.00 0.00 0.00 0.12 0.12 0.05 0.30
Crit Moves: ****
Green Time: 13.9 0.0 65.3 0.0 0.0 0.0 0.0 25.7 25.7 51.4 77.1 0.0
Volume/Cap: 0.10 0.00 0.10 0.00 0.00 0.00 0.00 0.48 0.48 0.10 0.39 0.00
Delay/Veh: 37.8 0.0 6.5 0.0 0.0 0.0 0.0 31.8 31.8 12.5 3.8 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
AdjDel/Veh: 37.8 0.0 6.5 0.0 0.0 0.0 0.0 31.8 31.8 12.5 3.8 0.0
LOS by Move: D+ A A A A A A C B A A
HCM2kAVGQ: 1 0 1 0 0 0 0 6 6 1 6 0

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

PM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.563
Loss Time (sec): 9 Average Delay (sec/veh): 12.4
Optimal Cycle: 38 Level of Service: B

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include
Min. Green: 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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 30 0 175 0 0 0 0 1167 30 87 827 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
Initial Bse: 30 0 175 0 0 0 0 1167 30 87 827 0
Added Vol: 0 0 3 0 0 0 0 4 0 5 8 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 30 0 178 0 0 0 0 1171 30 92 835 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
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 33 0 194 0 0 0 0 1274 33 100 909 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 33 0 194 0 0 0 0 1274 33 100 909 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
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 33 0 194 0 0 0 0 1274 33 100 909 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.95 0.05 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3697 95 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.02 0.00 0.11 0.00 0.00 0.00 0.00 0.34 0.34 0.06 0.24 0.00
Crit Moves: ****
Green Time: 19.7 0.0 29.8 0.0 0.0 0.0 0.0 61.2 61.2 10.2 71.3 0.0
Volume/Cap: 0.09 0.00 0.37 0.00 0.00 0.00 0.00 0.56 0.56 0.34 0.00
Delay/Veh: 33.0 0.0 28.1 0.0 0.0 0.0 0.0 11.8 11.8 46.9 5.5 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
AdjDel/Veh: 33.0 0.0 28.1 0.0 0.0 0.0 0.0 11.8 11.8 46.9 5.5 0.0
LOS by Move: C- A C A A A B+ D A A
HCM2kAVGQ: 1 0 5 0 0 0 0 12 12 4 5 0

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

AM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.604
Loss Time (sec): 12 Average Delay (sec/veh): 27.1
Optimal Cycle: 49 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Protected Protected Protected Protected
Rights: Include Include Ovl Ovl Include Include
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
Lanes: 1 0 1 0 0 0 1 0 0 1 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 643 106 168 6 17 26 47 289 143 63 433 17
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: 643 106 168 6 17 26 47 289 143 63 433 17
Added Vol: 1 0 0 0 0 0 0 0 12 3 0 3
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 644 106 168 6 17 26 47 301 146 63 436 17
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: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 692 114 180 6 18 28 50 323 157 68 468 18
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 692 114 180 6 18 28 50 323 157 68 468 18
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: 692 114 180 6 18 28 50 323 157 68 468 18

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.55 0.17 0.28 0.28 0.72 1.00 1.00 2.00 1.00 1.00 1.92 0.08
Final Sat.: 2709 316 500 485 1374 1750 1750 3800 1750 1750 3646 142

Capacity Analysis Module:
Vol/Sat: 0.26 0.36 0.36 0.01 0.01 0.02 0.03 0.09 0.09 0.04 0.13 0.13
Crit Moves: ****
Green Time: 52.4 52.4 52.4 10.0 10.0 17.0 7.0 15.1 67.4 10.6 18.6 18.6
Volume/Cap: 0.49 0.69 0.69 0.13 0.13 0.13 0.09 0.41 0.56 0.13 0.37 0.69
Delay/Veh: 15.4 19.2 19.2 41.4 41.4 35.1 46.8 40.7 5.9 42.8 40.9 40.9
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: 15.4 19.2 19.2 41.4 41.4 35.1 46.8 40.7 5.9 42.8 40.9 40.9
LOS by Move: B B- D D+ D D A D D
HCM2kAVGQ: 9 15 15 1 1 2 5 2 2 2 8 8

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

PM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.646
Loss Time (sec): 12 Average Delay (sec/veh): 29.9
Optimal Cycle: 53 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Protected Protected Protected Protected
Rights: Include Include Ovl Ovl Include Include
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
Lanes: 1 0 1 0 0 0 1 0 0 1 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 304 51 128 39 141 128 72 654 598 118 411 14
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: 304 51 128 39 141 128 72 654 598 118 411 14
Added Vol: 3 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: -3 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 304 51 128 39 141 128 72 660 600 118 423 14
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: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 341 57 144 44 158 144 81 741 673 132 475 16
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 341 57 144 44 158 144 81 741 673 132 475 16
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: 341 57 144 44 158 144 81 741 673 132 475 16

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.47 0.14 0.39 0.23 0.77 1.00 1.00 2.00 1.00 1.00 1.93 0.07
Final Sat.: 2564 273 685 404 1461 1750 1750 3800 1750 1750 3668 121

Capacity Analysis Module:
Vol/Sat: 0.13 0.21 0.21 0.11 0.11 0.08 0.05 0.19 0.38 0.08 0.13 0.13
Crit Moves: ****
Green Time: 32.4 32.4 32.4 16.8 16.8 30.4 13.6 27.1 59.5 11.7 25.2 25.2
Volume/Cap: 0.41 0.65 0.65 0.65 0.65 0.27 0.34 0.72 0.65 0.65 0.51 0.51
Delay/Veh: 26.5 30.6 30.6 43.5 43.5 26.7 40.0 35.5 14.7 49.2 32.6 32.6
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: 26.5 30.6 30.6 43.5 43.5 26.7 40.0 35.5 14.7 49.2 32.6 32.6
LOS by Move: C C C D D C D D+ B D C-
HCM2kAVGQ: 6 10 10 7 7 4 3 12 15 5 7 7

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

AM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.229
Loss Time (sec): 9 Average Delay (sec/veh): 15.7
Optimal Cycle: 29 Level of Service: B

Street Name: Railway Ave Orchard City Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Include Split Phase Split Phase
Rights: Include Include Include Include Include Include
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
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 0 121 0 0 40 0 246 0 57 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: 0 121 0 0 40 0 246 0 57 0 0 0
Added Vol: 0 29 0 0 2 0 0 0 5 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 150 0 0 42 0 246 0 62 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: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 0 169 0 0 47 0 277 0 70 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 169 0 0 47 0 277 0 70 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: 0 169 0 0 47 0 277 0 70 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.00 0.00 0.00 1.00 0.00 0.00 1.00 0.34 0.00 0.00 0.00
Final Sat.: 0 1900 0 0 1900 0 2914 0 586 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.09 0.00 0.00 0.02 0.00 0.10 0.00 0.12 0.00 0.00 0.00
Crit Moves: ****
Green Time: 0 0 38.9 0 0 0.0 52.1 0 0 52.1 0 0 0 0
Volume/Cap: 0.00 0.23 0.00 0.00 0.06 0.00 0.18 0.00 0.23 0.00 0.00 0.00
Delay/Veh: 0.0 20.6 0.0 0.0 19.2 0.0 12.7 0.0 13.1 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: 0.0 20.6 0.0 0.0 19.2 0.0 12.7 0.0 13.1 0.0 0.0 0.0
LOS by Move: A C+ A B- A B A B A A A A
HCM2kAVGQ: 0 3 0 0 1 0 3 0 4 0 0 0

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

PM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.423
Loss Time (sec): 9 Average Delay (sec/veh): 12.1
Optimal Cycle: 30 Level of Service: B

Street Name: Railway Ave Orchard City Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Include Split Phase Split Phase
Rights: Include Include Include Include Include Include
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
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 0 149 0 0 52 0 806 0 59 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: 0 149 0 0 52 0 806 0 59 0 0 0
Added Vol: 0 15 0 0 9 0 0 0 21 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 164 0 0 61 0 806 0 80 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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 174 0 0 65 0 856 0 85 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 174 0 0 65 0 856 0 85 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: 0 174 0 0 65 0 856 0 85 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.00 0.00 0.00 1.00 0.00 0.00 1.00 0.17 0.00 0.00 0.00
Final Sat.: 0 1900 0 0 1900 0 3210 0 290 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.09 0.00 0.00 0.03 0.00 0.27 0.00 0.29 0.00 0.00 0.00
Crit Moves: ****
Green Time: 0 0 21.7 0 0 0.0 21.7 0 0 69.3 0 0 69.3 0 0 0 0
Volume/Cap: 0.00 0.42 0.00 0.00 0.16 0.00 0.38 0.00 0.42 0.00 0.00 0.00
Delay/Veh: 0.0 34.5 0.0 0.0 31.9 0.0 6.5 0.0 6.8 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: 0.0 34.5 0.0 0.0 31.9 0.0 6.5 0.0 6.8 0.0 0.0 0.0
LOS by Move: A C- A A C A A A A A A A
HCM2kAVGQ: 0 5 0 0 2 0 7 0 7 0 0 0

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

AM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)
Intersection #6 Dillon Ave/Sam Cava Ln

Cycle (sec): 100 Critical Vol./Cap.(X): 0.225
Loss Time (sec): 0 Average Delay (sec/veh): 8.0
Optimal Cycle: 0 Level of Service: A

Street Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:15 - 8:15 am
Base Vol: 21 11 3 7 20 137 27 63 22 2 13 2
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: 21 11 3 7 20 137 27 63 22 2 13 2
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: 21 11 3 7 20 137 27 69 22 2 15 2
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: 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80
PHF Volume: 26 14 4 9 25 170 34 86 27 2 19 2
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 26 14 4 9 25 170 34 86 27 2 19 2
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: 26 14 4 9 25 170 34 86 27 2 19 2

Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.60 0.31 0.09 0.04 0.12 0.84 0.23 0.58 0.19 0.10 0.79 0.11
Final Sat.: 456 239 65 39 111 758 181 462 147 79 594 79

Capacity Analysis Module:
Vol/Sat: 0.06 0.06 0.06 0.22 0.22 0.22 0.19 0.19 0.19 0.03 0.03 0.03
Crit Moves: ****
Delay/Veh: 7.8 7.8 7.8 7.9 7.9 7.9 8.3 8.3 8.3 7.6 7.6 7.6
Delay 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
AdjDel/Veh: 7.8 7.8 7.8 7.9 7.9 7.9 8.3 8.3 8.3 7.6 7.6 7.6
LOS by Move: A A A A A A A A A A A A
ApproachDel: 7.8 7.8 7.9 7.9 8.3 8.3 1.00 1.00 1.00 7.6 7.6
Delay 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
ApprAdjDel: 7.8 7.8 7.9 7.9 8.3 8.3 7.6 7.6 7.6 7.6 7.6 7.6
LOS by Appr: A A A A A A A A A A A A
AllWayAVGQ: 0.1 0.1 0.1 0.3 0.3 0.3 0.2 0.2 0.2 0.0 0.0 0.0

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

PM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)
Intersection #6 Dillon Ave/Sam Cava Ln

Cycle (sec): 100 Critical Vol./Cap.(X): 0.192
Loss Time (sec): 0 Average Delay (sec/veh): 7.8
Optimal Cycle: 0 Level of Service: A

Street Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 13 8 9 8 7 76 33 114 5 1 31 1
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: 13 8 9 8 7 76 33 114 5 1 31 1
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: 13 8 9 8 7 76 33 117 5 1 37 1
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: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
PHF Volume: 13 8 9 8 7 79 34 121 5 1 38 1
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 8 9 8 7 79 34 121 5 1 38 1
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: 13 8 9 8 7 79 34 121 5 1 38 1

Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.43 0.27 0.30 0.09 0.08 0.83 0.21 0.76 0.03 0.02 0.95 0.03
Final Sat.: 345 212 239 78 68 741 177 629 27 21 768 21

Capacity Analysis Module:
Vol/Sat: 0.04 0.04 0.04 0.11 0.11 0.11 0.19 0.19 0.19 0.05 0.05 0.05
Crit Moves: ****
Delay/Veh: 7.5 7.5 7.5 7.3 7.3 7.3 8.2 8.2 8.2 7.5 7.5 7.5
Delay 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
AdjDel/Veh: 7.5 7.5 7.5 7.3 7.3 7.3 8.2 8.2 8.2 7.5 7.5 7.5
LOS by Move: A A A A A A A A A A A A
ApproachDel: 7.5 7.5 7.3 7.3 8.2 8.2 1.00 1.00 1.00 7.5 7.5
Delay 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
ApprAdjDel: 7.5 7.5 7.3 7.3 8.2 8.2 7.5 7.5 7.5 7.5 7.5 7.5
LOS by Appr: A A A A A A A A A A A A
AllWayAVGQ: 0.0 0.0 0.0 0.1 0.1 0.1 0.2 0.2 0.2 0.0 0.0 0.0

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

AM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #7 Union Ave/Duncanville Ct

Cycle (sec): 100 Critical Vol./Cap.(X): 0.556
Loss Time (sec): 6 Average Delay (sec/veh): 6.2
Optimal Cycle: 33 Level of Service: A

Street Name: Union Ave Duncanville Ct
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 7 10 0 0 10 10 10 10 10 10 0 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 4.0
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 10 894 0 0 221 4 20 0 13 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: 10 894 0 0 221 4 20 0 13 0 0 0
Added Vol: 0 1 0 0 0 3 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 10 895 0 0 224 4 20 0 13 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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 11 955 0 0 239 4 21 0 14 0 0 0
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 11 955 0 0 239 4 21 0 14 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: 11 955 0 0 239 4 21 0 14 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 1.00 0.00 0.00 0.98 0.02 0.61 0.00 0.39 0.00 0.00 0.00
Final Sat.: 1750 1900 0 0 1864 33 1061 0 689 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.50 0.00 0.00 0.13 0.13 0.02 0.00 0.02 0.00 0.00 0.00
Crit Moves: ****
Green Time: 29.7 84.0 0.0 0.0 54.3 54.3 10.0 0.0 10.0 0.0 0.0 0.0
Volume/Cap: 0.02 0.60 0.00 0.00 0.24 0.24 0.20 0.00 0.20 0.00 0.00 0.00
Delay/Veh: 24.9 3.2 0.0 0.0 12.1 12.1 41.9 0.0 41.9 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: 24.9 3.2 0.0 0.0 12.1 12.1 41.9 0.0 41.9 0.0 0.0 0.0
LOS by Move: C A A A B B B D A D A A A
HCM2kAVGQ: 0 10 0 0 4 4 1 0 1 0 0 0

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

PM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #7 Union Ave/Duncanville Ct

Cycle (sec): 100 Critical Vol./Cap.(X): 0.541
Loss Time (sec): 6 Average Delay (sec/veh): 5.4
Optimal Cycle: 33 Level of Service: A

Street Name: Union Ave Duncanville Ct
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 7 10 0 0 10 10 10 10 0 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
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 9 471 0 0 857 17 8 0 8 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: 9 471 0 0 857 17 8 0 8 0 0
Added Vol: 0 3 0 0 0 2 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 9 474 0 0 859 17 8 0 8 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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 10 506 0 0 918 18 9 0 9 0 0
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 10 506 0 0 918 18 9 0 9 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: 10 506 0 0 918 18 9 0 9 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 1.00 0.00 0.00 0.98 0.02 0.50 0.00 0.50 0.00 0.00 0.00
Final Sat.: 1750 1900 0 0 1860 37 875 0 875 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.27 0.00 0.00 0.00 0.49 0.49 0.01 0.00 0.01 0.00 0.00
Crit Moves: ****
Green Time: 7.0 84.0 0.0 0.0 77.0 77.0 10.0 0.0 10.0 0.0 0.0 0.0
Volume/Cap: 0.08 0.32 0.00 0.00 0.64 0.64 0.10 0.00 0.10 0.00 0.00 0.00
Delay/Veh: 43.8 1.9 0.0 0.0 6.2 6.2 41.1 0.0 41.1 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: 43.8 1.9 0.0 0.0 6.2 6.2 41.1 0.0 41.1 0.0 0.0 0.0
LOS by Move: D A A A A D A D A A A
HCM2kAVGQ: 0 4 0 0 13 13 1 0 1 0 0 0

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

AM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.435
Loss Time (sec): 9 Average Delay (sec/veh): 13.3
Optimal Cycle: 36 Level of Service: B

Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 0 10 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 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 1 0 0 0 1

Volume Module: >> Count Date: 14 May 2014 << 7:45 - 8:45 am
Base Vol: 0 763 170 18 489 0 0 0 0 163 0 52
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 763 170 18 489 0 0 0 0 163 0 52
Added Vol: 0 0 5 1 0 0 0 0 0 18 0 6
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 763 175 19 489 0 0 0 0 181 0 58
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 0 828 190 21 530 0 0 0 0 196 0 63
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 828 190 21 530 0 0 0 0 196 0 63
PCE Adj: 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
FinalVolume: 0 828 190 21 530 0 0 0 0 196 0 63

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.00 1.60 0.40 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00
Final Sat.: 0 3042 698 1750 3800 0 0 0 0 1750 0 1750

Capacity Analysis Module:
Vol/Sat: 0.00 0.27 0.27 0.01 0.14 0.00 0.00 0.00 0.00 0.11 0.00 0.04
Crit Moves: *****
Green Time: 0.0 59.5 59.5 7.0 66.5 0.0 0.0 0.0 0.0 24.5 0.0 24.5
Volume/Cap: 0.00 0.46 0.46 0.17 0.21 0.00 0.00 0.00 0.00 0.46 0.00 0.15
Delay/Veh: 0.0 11.4 11.4 44.4 6.6 0.0 0.0 0.0 0.0 32.9 0.0 29.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 11.4 11.4 44.4 6.6 0.0 0.0 0.0 0.0 32.9 0.0 29.7
LOS by Move: A B+ D A A A A C- A C
HCM2kAvgQ: 0 9 9 1 3 0 0 0 0 6 0 2

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

PM Peak Hour - Existing plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.427
Loss Time (sec): 9 Average Delay (sec/veh): 12.3
Optimal Cycle: 36 Level of Service: B

Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 10 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
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 1 0 0 0 1

Volume Module: >> Count Date: 14 May 2014 << 5:00 - 6:00 pm
Base Vol: 0 780 169 38 710 0 0 0 0 159 0 52
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 780 169 38 710 0 0 0 0 159 0 52
Added Vol: 0 0 18 6 0 0 0 0 0 9 0 3
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 780 187 44 710 0 0 0 0 168 0 55
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume: 0 798 191 45 726 0 0 0 0 172 0 56
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 798 191 45 726 0 0 0 0 172 0 56
PCE Adj: 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
FinalVolume: 0 798 191 45 726 0 0 0 0 172 0 56

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.00 1.59 0.41 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00
Final Sat.: 0 3015 723 1750 3800 0 0 0 0 1750 0 1750

Capacity Analysis Module:
Vol/Sat: 0.00 0.26 0.26 0.03 0.19 0.00 0.00 0.00 0.00 0.10 0.00 0.03
Crit Moves: *****
Green Time: 0.0 61.3 61.3 7.0 68.3 0.0 0.0 0.0 0.0 22.7 0.0 22.7
Volume/Cap: 0.00 0.43 0.43 0.37 0.28 0.00 0.00 0.00 0.00 0.43 0.00 0.14
Delay/Veh: 0.0 10.3 10.3 46.3 6.3 0.0 0.0 0.0 0.0 33.9 0.0 31.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 10.3 10.3 46.3 6.3 0.0 0.0 0.0 0.0 33.9 0.0 31.0
LOS by Move: A B+ B+ A A A A C- A C
HCM2kAvgQ: 0 8 8 2 4 0 0 0 0 5 0 2

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

Trip Generation Report

Forecast for AM Approved Projects

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total % Of Trips
2	Dillon Ave T	1.00	DillonAveTwnhm	25.00	-1.00	25	-1	24 14.9
	Zone 2 Subtotal					25	-1	24 14.9
3	2295-2305 Wi	1.00	2295-2305 Winc	8.00	6.00	8	6	14 8.7
	Zone 3 Subtotal					8	6	14 8.7
4	Merrill Gard	1.00	MerrillGardens	49.00	38.00	49	38	87 54.0
	Zone 4 Subtotal					49	38	87 54.0
5	Cofftage Pl	1.00	Cottage Place	4.00	2.00	4	2	6 3.7
	Zone 5 Subtotal					4	2	6 3.7
6	2135/2145 Wi	1.00	2135/2145 Winc	13.00	17.00	13	17	30 18.6
	Zone 6 Subtotal					13	17	30 18.6
TOTAL								
						99	62	161 100.0

Trip Generation Report

Forecast for PM Approved Projects

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total % Of Trips
2	Dillon Ave T	1.00	DillonAveTwnhm	-13.00	30.00	-13	30	17 18.5
	Zone 2 Subtotal					-13	30	17 18.5
3	2295-2305 Wi	1.00	2295-2305 Winc	2.00	6.00	2	6	8 8.7
	Zone 3 Subtotal					2	6	8 8.7
4	Merrill Gard	1.00	MerrillGardens	30.00	31.00	30	31	61 66.3
	Zone 4 Subtotal					30	31	61 66.3
5	Cofftage Pl	1.00	Cottage Place	1.00	5.00	1	5	6 6.5
	Zone 5 Subtotal					1	5	6 6.5
6	2135/2145 Wi	1.00	2135/2145 Winc	0.00	0.00	0	0	0 0.0
	Zone 6 Subtotal					0	0	0 0.0
TOTAL								
						20	72	92 100.0

AM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.546
Loss Time (sec): 12 Average Delay (sec/veh): 15.0
Optimal Cycle: 44 Level of Service: B
*****Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 0 0 0 1 0 0 0 0 1 0 1
*****Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 6 76 275 0 0 9 120 0 43 158 722
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 6 76 275 0 0 9 120 0 43 158 722
Added Vol: 5 7 3 0 0 0 0 0 0 0 2
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 11 83 278 0 0 9 120 0 43 158 724
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 12 92 309 0 0 10 133 0 48 175 804
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 12 92 309 0 0 10 133 0 48 175 804
PCE Adj: 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
FinalVolume: 12 92 309 0 0 10 133 0 48 175 804

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.13 0.87 2.00 0.00 0.00 0.00 0.08 0.92 0.00 0.08 0.26 1.66
Final Sat.: 220 1661 3150 0 0 132 1757 0 137 502 2901

Capacity Analysis Module:

Vol/Sat: 0.06 0.06 0.10 0.00 0.00 0.00 0.08 0.08 0.00 0.35 0.35 0.28
Crit Moves: ****
Green Time: 10.2 10.2 74.1 0.0 0.0 0.0 13.9 13.9 0.0 64.0 64.0 64.0
Volume/Cap: 0.55 0.55 0.13 0.00 0.00 0.00 0.55 0.55 0.00 0.55 0.55 0.43
Delay/Veh: 53.5 53.5 3.8 0.0 0.0 0.0 48.1 48.1 0.0 11.1 11.1 9.6
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 53.5 53.5 3.8 0.0 0.0 0.0 48.1 48.1 0.0 11.1 11.1 9.6
LOS by Move: D- D- A A A D D A B+ A
HCM2kAvgQ: 3 3 2 0 0 0 5 5 0 11 11 8

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

PM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.620
Loss Time (sec): 12 Average Delay (sec/veh): 20.5
Optimal Cycle: 50 Level of Service: C+
*****Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 2 0 0 0 0 0 0 1 0 0 1
*****Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 12 92 846 0 0 19 283 5 47 182 557
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 12 92 846 0 0 19 283 5 47 182 557
Added Vol: 0 0 4 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 12 92 850 0 0 19 283 5 47 182 562
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 13 100 925 0 0 21 308 5 51 198 612
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 100 925 0 0 21 308 5 51 198 612
PCE Adj: 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
FinalVolume: 13 100 925 0 0 21 308 5 51 198 612

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.12 0.88 2.00 0.00 0.00 0.00 0.07 0.91 0.02 0.09 0.34 1.57
Final Sat.: 217 1664 3150 0 0 117 1740 31 166 643 2742

Capacity Analysis Module:

Vol/Sat: 0.06 0.06 0.29 0.00 0.00 0.00 0.18 0.18 0.18 0.31 0.31 0.22
Crit Moves: ****
Green Time: 10.0 10.0 59.5 0.0 0.0 0.0 28.5 28.5 28.5 49.5 49.5 49.5
Volume/Cap: 0.60 0.60 0.49 0.00 0.00 0.00 0.62 0.62 0.62 0.62 0.62 0.45
Delay/Veh: 56.5 56.5 12.5 0.0 0.0 0.0 36.4 36.4 36.4 20.5 20.5 17.2
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 56.5 56.5 12.5 0.0 0.0 0.0 36.4 36.4 36.4 20.5 20.5 17.2
LOS by Move: E+ E+ B A A A D+ D+ C+ B
HCM2kAvgQ: 4 4 10 0 0 0 10 10 10 13 13 8

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

AM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C [23.6]

Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0
Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 0 0 12 0 28 19 443 0 0 1145 8
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 12 0 28 19 443 0 0 1145 8
Added Vol: 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 12 0 28 19 451 0 0 1145 8
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 0 13 0 30 20 477 0 0 1212 8
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 13 0 30 20 477 0 0 1212 8
Critical Gap Module:
Critical Gap:xxxx 6.8 6.5 6.9 4.1 xxxx xxxx xxxx xxxx
FollowUpTim:xxxx 3.5 4.0 3.3 2.2 xxxx xxxx xxxx xxxx
Capacity Module:
Conflict Vol: xxxx xxxx 1495 1733 610 1220 xxxx xxxx xxxx xxxx
Potent Cap.: xxxx xxxx 116 89 442 578 xxxx xxxx xxxx xxxx
Move Cap.: xxxx xxxx 113 86 442 578 xxxx xxxx xxxx xxxx
Volume/Cap: xxxx xxxx 0.11 0.00 0.07 0.03 xxxx xxxx xxxx xxxx
Level of Service Module:
2Way95thQ: xxxx xxxx xxxx 0.1 xxxx xxxx 0.1 xxxx xxxx
Control Del:xxxx xxxx xxxx 11.4 xxxx xxxx 11.4 xxxx xxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx 236 xxxx 236 xxxx 236 xxxx 236 xxxx
SharedQueue:xxxx xxxx 0.6 xxxx 0.6 xxxx 0.6 xxxx 0.6 xxxx
Shrd ConDel:xxxx xxxx 23.6 xxxx 23.6 xxxx 23.6 xxxx 23.6 xxxx
Shared LOS: * * * * * C * * * * *
ApproachDel: xxxxxx 23.6 xxxxxx
ApproachLOS: * * * * *

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

PM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: F [60.2]

Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0
Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 0 0 29 0 16 57 1119 0 0 773 20
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 29 0 16 57 1119 0 0 773 20
Added Vol: 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 29 0 16 57 1123 0 0 782 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87
PHF Volume: 0 0 0 0 33 0 18 66 1297 0 0 903 23
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 0 33 0 18 66 1297 0 0 903 23
Critical Gap Module:
Critical Gap:xxxx xxxx 6.8 6.5 6.9 4.1 xxxx xxxx xxxx xxxx
FollowUpTim:xxxx 3.5 4.0 3.3 2.2 xxxx xxxx xxxx xxxx
Capacity Module:
Conflict Vol: xxxx xxxx 1695 2343 463 926 xxxx xxxx xxxx xxxx
Potent Cap.: xxxx xxxx 85 37 551 746 xxxx xxxx xxxx xxxx
Move Cap.: xxxx xxxx 80 34 551 746 xxxx xxxx xxxx xxxx
Volume/Cap: xxxx xxxx 0.42 0.00 0.03 0.09 xxxx xxxx xxxx xxxx
Level of Service Module:
2Way95thQ: xxxx xxxx xxxx 0.3 xxxx xxxx 0.3 xxxx xxxx
Control Del:xxxx xxxx xxxx 10.3 xxxx xxxx 10.3 xxxx xxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx 115 xxxx 115 xxxx 115 xxxx 115 xxxx
SharedQueue:xxxx xxxx 2.0 xxxx 2.0 xxxx 2.0 xxxx 2.0 xxxx
Shrd ConDel:xxxx xxxx 60.2 xxxx 60.2 xxxx 60.2 xxxx 60.2 xxxx
Shared LOS: * * * * * F * * * * *
ApproachDel: xxxxxx 60.2 xxxxxx
ApproachLOS: * * * * *

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

AM Peak Hour - Background Conditions (Page St Signal)
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #2 Campbell Ave/Page-Gilman

Cycle (sec): 100 Critical Vol./Cap. (X): 0.443
Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 17.6
Optimal Cycle: 36 Level Of Service: B

Street Name: Page-Gilman Campbell Ave
Approach: North Bound South Bound East Bound West Bound

Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	0	10	10	10	7	10	0	0	10	10	
Lanes:	0	0	1	0	0	0	0	1	0	1	0	1	0	1	0

Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am												
Base Vol:	23	0	112	12	0	28	19	416	35	71	1019	8
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:	23	0	112	12	0	28	19	416	35	71	1019	8
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:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	24	0	119	13	0	30	20	440	37	75	1078	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	0	119	13	0	30	20	440	37	75	1078	8
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:	24	0	119	13	0	30	20	440	37	75	1078	8

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	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.17	0.00	0.83	0.30	0.00	0.70	1.00	1.83	0.17	1.00	1.98	0.02
Final Sat.:	298	0	1452	525	0	1225	1750	3482	293	1750	3768	30

Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.08	0.02	0.00	0.02	0.01	0.13	0.13	0.04	0.29	0.29
Crit Moves:	****											
Green Time:	20.4	0.0	16.4	10.0	0.0	6.0	7.0	48.2	48.2	16.4	57.6	57.6
Volume/Cap:	0.40	0.00	0.50	0.24	0.00	0.40	0.16	0.26	0.26	0.26	0.50	0.50
Delay/Veh:	35.3	0.0	39.4	42.2	0.0	47.7	44.4	15.4	15.4	37.0	12.8	12.8
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:	35.3	0.0	39.4	42.2	0.0	47.7	44.4	15.4	15.4	37.0	12.8	12.8
LOS by Move:	D+	A	D	D	A	D	D	B	B	D+	B	B
HCM2kAvgQ:	4	0	5	1	0	2	1	4	4	2	10	10

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

PM Peak Hour - Background Conditions (Page St Signal)
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #2 Campbell Ave/Page-Gilman

Cycle (sec): 100 Critical Vol./Cap. (X): 0.627
Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 23.9
Optimal Cycle: 43 Level Of Service: C

Street Name: Page-Gilman Campbell Ave
Approach: North Bound South Bound East Bound West Bound

Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Protected			Protected					
Rights:	Include			Include			Include			Include					
Min. Green:	0	0	0	0	10	10	10	7	10	0	0	10	10		
Lanes:	0	0	1	0	0	0	1	0	1	0	1	0	1	0	

Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm												
Base Vol:	30	0	175	29	0	16	57	1093	30	97	816	20
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:	30	0	175	29	0	16	57	1093	30	97	816	20
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:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	35	0	202	33	0	18	66	1262	35	112	942	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	0	202	33	0	18	66	1262	35	112	942	23
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:	35	0	202	33	0	18	66	1262	35	112	942	23

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	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.15	0.00	0.85	0.64	0.00	0.36	1.00	1.94	0.06	1.00	1.95	0.05
Final Sat.:	256	0	1494	1128	0	622	1750	3690	101	1750	3702	91

Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.14	0.03	0.00	0.03	0.04	0.34	0.34	0.06	0.25	0.25
Crit Moves:	****											
Green Time:	20.2	0.0	17.4	12.9	0.0	10.0	13.1	51.2	51.2	9.6	47.7	47.7
Volume/Cap:	0.67	0.00	0.78	0.23	0.00	0.30	0.29	0.67	0.67	0.67	0.53	0.53
Delay/Veh:	41.6	0.0	51.5	39.7	0.0	42.7	39.9	19.0	19.0	53.6	18.7	18.7
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:	41.6	0.0	51.5	39.7	0.0	42.7	39.9	19.0	19.0	53.6	18.7	18.7
LOS by Move:	D	A	D-	D	A	D	D	B-	B-	D-	B-	B-
HCM2kAvgQ:	8	0	10	2	0	2	2	15	15	5	11	11

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

AM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.403
Loss Time (sec): 9 Average Delay (sec/veh): 12.4
Optimal Cycle: 36 Level of Service: B

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include
Min. Green: 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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 23 0 100 0 0 0 0 378 35 76 1027 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: 23 0 100 0 0 0 0 378 35 76 1027 0
Added Vol: 0 0 12 0 0 0 0 8 0 0 -5 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 23 0 112 0 0 0 0 386 35 71 1027 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
PHF Adj: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
PHF Volume: 25 0 123 0 0 0 0 424 38 78 1127 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 25 0 123 0 0 0 0 424 38 78 1127 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
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 25 0 123 0 0 0 0 424 38 78 1127 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.82 0.18 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3459 314 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.00 0.07 0.00 0.00 0.00 0.00 0.00 0.12 0.12 0.04 0.30
Crit Moves: ****
Green Time: 13.1 0.0 68.2 0.0 0.0 0.0 0.0 22.8 22.8 55.2 77.9 0.0
Volume/Cap: 0.11 0.00 0.10 0.00 0.00 0.00 0.00 0.54 0.54 0.08 0.38 0.00
Delay/Veh: 38.6 0.0 5.5 0.0 0.0 0.0 0.0 34.7 34.7 10.6 3.5 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
AdjDel/Veh: 38.6 0.0 5.5 0.0 0.0 0.0 0.0 34.7 34.7 10.6 3.5 0.0
LOS by Move: D+ A A A A A C- B+ A A
HCM2kAvgQ: 1 0 1 0 0 0 0 7 7 1 6 0

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

PM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.565
Loss Time (sec): 9 Average Delay (sec/veh): 12.5
Optimal Cycle: 38 Level of Service: B

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include
Min. Green: 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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 30 0 175 0 0 0 0 1167 30 87 827 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
Initial Bse: 30 0 175 0 0 0 0 1167 30 87 827 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: 30 0 175 0 0 0 0 1171 30 97 836 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
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 33 0 190 0 0 0 0 1274 33 106 910 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 33 0 190 0 0 0 0 1274 33 106 910 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
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 33 0 190 0 0 0 0 1274 33 106 910 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.95 0.05 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3697 95 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.02 0.00 0.11 0.00 0.00 0.00 0.00 0.00 0.34 0.34 0.06 0.24
Crit Moves: ****
Green Time: 19.3 0.0 30.0 0.0 0.0 0.0 0.0 61.0 61.0 10.7 71.7 0.0
Volume/Cap: 0.10 0.00 0.36 0.00 0.00 0.00 0.00 0.56 0.56 0.33 0.33 0.00
Delay/Veh: 33.3 0.0 28.0 0.0 0.0 0.0 0.0 11.9 11.9 46.4 5.3 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
AdjDel/Veh: 33.3 0.0 28.0 0.0 0.0 0.0 0.0 11.9 11.9 46.4 5.3 0.0
LOS by Move: C- A A A A A B+ D A A
HCM2kAvgQ: 1 0 5 0 0 0 0 12 12 4 5 0

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

AM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.601
Loss Time (sec): 12 Average Delay (sec/veh): 27.1
Optimal Cycle: 49 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Protected Ovl Protected Include
Rights: 7 10 10 7 10 10 7 10 10 7 10 10
Min. Green: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Y+R: 1 0 1 0 0 0 1 0 2 0 1 1 0 1 1 0
Lanes: 1 0 1 0 0 0 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 643 106 168 6 17 26 47 289 143 63 433 17
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: 643 106 168 6 17 26 47 289 143 63 433 17
Added Vol: 0 0 0 0 0 0 0 19 0 0 -5 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 643 106 168 6 17 26 47 308 143 63 428 17
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: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 691 114 180 6 18 28 50 331 154 68 460 18
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 691 114 180 6 18 28 50 331 154 68 460 18
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: 691 114 180 6 18 28 50 331 154 68 460 18

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.55 0.17 0.28 0.28 0.72 1.00 1.00 2.00 1.00 1.00 1.92 0.08
Final Sat.: 2708 316 501 485 1374 1750 1750 3800 1750 1750 3643 145

Capacity Analysis Module:
Vol/Sat: 0.26 0.36 0.36 0.01 0.01 0.02 0.03 0.09 0.09 0.04 0.13 0.13
Crit Moves: 52.6 52.6 52.6 10.0 10.0 17.0 7.0 14.9 67.5 10.5 18.4 18.4
Green Time: 0.48 0.69 0.69 0.13 0.13 0.09 0.41 0.58 0.13 0.37 0.69 0.69
Volume/Cap: 15.3 19.0 19.0 41.4 41.4 35.1 46.8 41.2 5.8 43.0 40.9 40.9
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: 15.3 19.0 19.0 41.4 41.4 35.1 46.8 41.2 5.8 43.0 40.9 40.9
LOS by Move: B B- D D D A D D D
HCM2kAVGQ: 9 15 15 1 1 2 6 2 2 2 8 8

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

PM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.645
Loss Time (sec): 12 Average Delay (sec/veh): 29.9
Optimal Cycle: 53 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Protected Ovl Protected Include
Rights: 7 10 10 7 10 10 7 10 10 7 10 10
Min. Green: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Y+R: 1 0 1 0 0 0 1 0 2 0 1 1 0 1 1 0
Lanes: 1 0 1 0 0 0 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 304 51 128 39 141 128 72 654 598 118 411 14
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: 304 51 128 39 141 128 72 654 598 118 411 14
Added Vol: 0 0 0 0 0 0 0 4 0 0 0 0
PasserByVol: -3 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 301 51 128 39 141 128 72 658 598 118 430 14
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: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 338 57 144 44 158 144 81 738 671 132 483 16
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 338 57 144 44 158 144 81 738 671 132 483 16
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: 338 57 144 44 158 144 81 738 671 132 483 16

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.47 0.14 0.39 0.23 0.77 1.00 1.00 2.00 1.00 1.00 1.93 0.07
Final Sat.: 2559 274 688 404 1461 1750 1750 3800 1750 1750 3670 119

Capacity Analysis Module:
Vol/Sat: 0.13 0.21 0.21 0.11 0.11 0.08 0.05 0.19 0.38 0.08 0.13 0.13
Crit Moves: 32.4 32.4 32.4 16.8 16.8 30.3 13.5 27.1 59.5 11.7 25.3 25.3
Green Time: 0.41 0.64 0.64 0.64 0.64 0.27 0.34 0.72 0.64 0.64 0.52 0.52
Volume/Cap: 26.6 30.7 30.7 43.4 43.4 26.8 40.1 35.4 14.7 49.0 32.6 32.6
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: 26.6 30.7 30.7 43.4 43.4 26.8 40.1 35.4 14.7 49.0 32.6 32.6
LOS by Move: C C C D D C D D C- C- C-
HCM2kAVGQ: 6 10 10 7 7 4 3 12 15 5 7 7

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

AM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.211
Loss Time (sec): 9 Average Delay (sec/veh): 15.3
Optimal Cycle: 29 Level of Service: B

Street Name: Railway Ave Orchard City Dr												
Approach:			North Bound			South Bound			East Bound			
Movement:			L	-	T	-	R	L	-	T	-	R
Control:			Protected			Protected			Split Phase			
Rights:			Include			Include			Include			
Min. Green:			7	10	10	7	10	10	7	10	10	10
Y+R:			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:			0	0	1	0	0	1	0	0	0	0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am

Base Vol:	0	121	0	40	0	246	0	57	0	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:	0	121	0	40	0	246	0	57	0	0	0	0
Added Vol:	0	11	0	0	0	3	0	-5	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	132	0	40	0	249	0	52	0	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:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	0	149	0	45	0	281	0	59	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	149	0	45	0	281	0	59	0	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:	0	149	0	45	0	281	0	59	0	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	1.00	0.92	1.00	0.92	1.00	0.92
Lanes:	0.00	1.00	0.00	0.00	1.00	0.00	1.71	0.00	0.29	0.00	0.00	0.00
Final Sat.:	0	1900	0	0	1900	0	2984	0	516	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.08	0.00	0.00	0.02	0.00	0.09	0.00	0.11	0.00	0.00	0.00
Crit Moves:	****											
Green Time:	0	0	37.1	0	0	53.9	0	0	53.9	0	0	0
Volume/Cap:	0.00	0.21	0.00	0.00	0.06	0.00	0.17	0.00	0.21	0.00	0.00	0.00
Delay/Veh:	0	21.6	0	0	20.3	0	11.8	0	12.1	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:	0	21.6	0	0	20.3	0	11.8	0	12.1	0	0	0
LOS by Move:	A	C+	A	A	C	A	B	A	B	A	A	A
HCM2kAVGQ:	0	3	0	0	1	0	3	0	3	0	0	0

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

PM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.407
Loss Time (sec): 9 Average Delay (sec/veh): 11.3
Optimal Cycle: 30 Level of Service: B+

Street Name: Railway Ave												
Approach:			North Bound			South Bound			East Bound			
Movement:			L	-	T	-	R	L	-	T	-	R
Control:			Protected			Protected			Split Phase			
Rights:			Include			Include			Include			
Min. Green:			7	10	10	7	10	10	7	10	10	7
Y+R:			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:			0	0	1	0	0	1	0	0	1	0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm

Base Vol:	0	149	0	52	0	806	0	59	0	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:	0	149	0	52	0	806	0	59	0	0	0	0
Added Vol:	0	0	0	0	0	4	0	10	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	149	0	52	0	810	0	69	0	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:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	158	0	55	0	860	0	73	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	158	0	55	0	860	0	73	0	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:	0	158	0	55	0	860	0	73	0	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	1.00	0.92	1.00	0.92	1.00	0.92
Lanes:	0.00	1.00	0.00	0.00	1.00	0.00	1.85	0.00	0.15	0.00	0.00	0.00
Final Sat.:	0	1900	0	0	1900	0	3245	0	255	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.08	0.00	0.00	0.03	0.00	0.26	0.00	0.29	0.00	0.00	0.00
Crit Moves:	****											
Green Time:	0	0	20.4	0	0	20.4	0	0	70.6	0	0	0
Volume/Cap:	0.00	0.41	0.00	0.00	0.14	0.00	0.38	0.00	0.41	0.00	0.00	0.00
Delay/Veh:	0	35.2	0	0	32.8	0	6.0	0	6.2	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:	0	35.2	0	0	32.8	0	6.0	0	6.2	0	0	0
LOS by Move:	A	D+	A	A	C-	A	A	A	A	A	A	A
HCM2kAVGQ:	0	4	0	0	1	0	6	0	7	0	0	0

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

AM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)
Intersection #6 Dillon Ave/Sam Cava LnCycle (sec): 100 Critical Vol./Cap.(X): 0.222
Loss Time (sec): 0 Average Delay (sec/veh): 8.0
Optimal Cycle: 0 Level of Service: AStreet Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0Volume Module: >> Count Date: 30 Apr 2014 << 7:15 - 8:15 am
Base Vol: 21 11 3 7 20 137 27 63 22 2 13 2
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: 21 11 3 7 20 137 27 63 22 2 13 2
Added Vol: 6 5 0 0 -2 0 0 0 -3 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 27 16 3 7 18 137 27 60 20 2 21 2
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: 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80
PHF Volume: 34 20 4 9 22 170 34 75 25 2 26 2
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 34 20 4 9 22 170 34 75 25 2 26 2
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: 34 20 4 9 22 170 34 75 25 2 26 2Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.59 0.35 0.06 0.04 0.11 0.85 0.25 0.56 0.19 0.08 0.84 0.08
Final Sat.: 448 265 50 39 101 768 197 439 146 60 629 60Capacity Analysis Module:
Vol/Sat: 0.07 0.07 0.07 0.22 0.22 0.22 0.17 0.17 0.17 0.17 0.04 0.04
Crit Moves: ****
Delay/Veh: 7.9 7.9 7.9 7.9 7.9 7.9 8.2 8.2 8.2 7.7 7.7 7.7
Delay 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
AdjDel/Veh: 7.9 7.9 7.9 7.9 7.9 7.9 8.2 8.2 8.2 7.7 7.7 7.7
LOS by Move: A A A A A A A A A A A A
ApproachDel: 7.9 7.9 7.9 8.2 8.2 8.2 1.00 1.00 1.00 1.00 1.00
Delay 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
ApprAdjDel: 7.9 7.9 7.9 8.2 8.2 8.2 1.00 1.00 1.00 1.00 1.00 1.00
LOS by Appr: A A A A A A A A A A A A
AllWayAVGQ: 0.1 0.1 0.1 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.0 0.0

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

PM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)
Intersection #6 Dillon Ave/Sam Cava LnCycle (sec): 100 Critical Vol./Cap.(X): 0.203
Loss Time (sec): 0 Average Delay (sec/veh): 7.8
Optimal Cycle: 0 Level of Service: AStreet Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 13 8 9 8 7 76 33 114 5 1 31 1
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: 13 8 9 8 7 76 33 114 5 1 31 1
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: 13 8 9 8 11 76 33 121 10 1 31 1
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: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
PHF Volume: 13 8 9 8 11 79 34 125 10 1 32 1
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 8 9 8 11 79 34 125 10 1 32 1
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: 13 8 9 8 11 79 34 125 10 1 32 1Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.43 0.27 0.30 0.08 0.12 0.80 0.20 0.74 0.06 0.03 0.94 0.03
Final Sat.: 343 211 237 74 102 706 168 616 51 24 756 24Capacity Analysis Module:
Vol/Sat: 0.04 0.04 0.04 0.11 0.11 0.11 0.20 0.20 0.20 0.04 0.04 0.04
Crit Moves: ****
Delay/Veh: 7.5 7.5 7.5 7.4 7.4 7.4 8.2 8.2 8.2 7.5 7.5 7.5
Delay 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
AdjDel/Veh: 7.5 7.5 7.5 7.4 7.4 7.4 8.2 8.2 8.2 7.5 7.5 7.5
LOS by Move: A A A A A A A A A A A A
ApproachDel: 7.5 7.5 7.4 8.2 8.2 8.2 1.00 1.00 1.00 1.00 1.00
Delay 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
ApprAdjDel: 7.5 7.5 7.4 8.2 8.2 8.2 1.00 1.00 1.00 1.00 1.00 1.00
LOS by Appr: A A A A A A A A A A A A
AllWayAVGQ: 0.0 0.0 0.0 0.1 0.1 0.1 0.2 0.2 0.2 0.0 0.0 0.0

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

AM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.428
Loss Time (sec): 9 Average Delay (sec/veh): 12.6
Optimal Cycle: 36 Level of Service: B
*****Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 0 10 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 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 1 0 0 0 1Volume Module: >> Count Date: 14 May 2014 << 7:45 - 8:45 am
Base Vol: 0 763 170 18 489 0 0 0 0 163 0 52
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 763 170 18 489 0 0 0 0 163 0 52
Added Vol: 0 14 -1 1 13 0 0 0 0 4 0 3
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 777 169 19 502 0 0 0 0 167 0 55
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 0 843 183 21 544 0 0 0 0 181 0 60
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 843 183 21 544 0 0 0 0 181 0 60
PCE Adj: 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
FinalVolume: 0 843 183 21 544 0 0 0 0 181 0 60Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.62 0.38 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
Final Sat.: 0 3074 669 1750 3800 0 0 0 0 1750 0 1750Capacity Analysis Module:
Vol/Sat: 0.00 0.27 0.27 0.01 0.14 0.00 0.00 0.00 0.00 0.10 0.00 0.03
Crit Moves: ****
Green Time: 0 61.0 61.0 7.0 68.0 0 0 0 0 23.0 0 23.0
Volume/Cap: 0.00 0.45 0.45 0.17 0.21 0.00 0.00 0.00 0.00 0.45 0.00 0.15
Delay/Veh: 0.0 10.6 10.6 44.4 6.0 0.0 0.0 0.0 0.0 33.8 0.0 30.8
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: 0.0 10.6 10.6 44.4 6.0 0.0 0.0 0.0 0.0 33.8 0.0 30.8
LOS by Move: A B+ D A A A A C-
HCM2kAVGQ: 0 9 9 1 3 0 0 0 0 5 0 2

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

PM Peak Hour - Background Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.422
Loss Time (sec): 9 Average Delay (sec/veh): 11.7
Optimal Cycle: 36 Level of Service: B+
*****Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 10 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
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 1 0 0 0 1Volume Module: >> Count Date: 14 May 2014 << 5:00 - 6:00 pm
Base Vol: 0 780 169 38 710 0 0 0 0 159 0 52
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: 0 780 169 38 710 0 0 0 0 159 0 52
Added Vol: 0 27 3 2 24 0 0 0 0 1 0 1
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 807 172 40 734 0 0 0 0 160 0 53
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: 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume: 0 825 176 41 751 0 0 0 0 164 0 54
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 825 176 41 751 0 0 0 0 164 0 54
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: 0 825 176 41 751 0 0 0 0 164 0 54Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.62 0.38 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
Final Sat.: 0 3086 658 1750 3800 0 0 0 0 1750 0 1750Capacity Analysis Module:
Vol/Sat: 0.00 0.27 0.27 0.02 0.20 0.00 0.00 0.00 0.00 0.09 0.00 0.03
Crit Moves: ****
Green Time: 0 62.2 62.2 7.0 69.2 0 0 0 0 21.8 0 21.8
Volume/Cap: 0.00 0.43 0.43 0.33 0.29 0.00 0.00 0.00 0.00 0.43 0.00 0.14
Delay/Veh: 0.0 9.9 9.9 45.9 6.0 0.0 0.0 0.0 0.0 34.5 0.0 31.8
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: 0.0 9.9 9.9 45.9 6.0 0.0 0.0 0.0 0.0 34.5 0.0 31.8
LOS by Move: A A D A A A A C-
HCM2kAVGQ: 0 8 8 2 4 0 0 0 0 5 0 1

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

AM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.561
Loss Time (sec): 12 Average Delay (sec/veh): 15.9
Optimal Cycle: 45 Level of Service: B

Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 0 0 0 1 0 0 0 0 1 0 1

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 6 76 275 0 0 9 120 0 43 158 722
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 6 76 275 0 0 9 120 0 43 158 722
Added Vol: 5 27 12 0 0 0 0 0 2 0 2
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 11 103 287 0 0 9 120 0 45 158 724
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 12 114 319 0 0 10 133 0 50 175 804
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 12 114 319 0 0 10 133 0 50 175 804
PCE Adj: 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
Final Volume: 12 114 319 0 0 10 133 0 50 175 804

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.10 0.90 2.00 0.00 0.00 0.00 0.08 0.92 0.00 0.08 0.26 1.66
Final Sat.: 182 1703 3150 0 0 132 1757 0 143 500 2897

Capacity Analysis Module:
Vol/Sat: 0.07 0.07 0.10 0.00 0.00 0.00 0.08 0.08 0.00 0.35 0.35 0.28
Crit Moves: *****
Green Time: 12.0 12.0 74.5 0.0 0.0 0.0 13.5 13.5 0.0 62.5 62.5 62.5
Volume/Cap: 0.56 0.56 0.14 0.00 0.00 0.00 0.56 0.56 0.00 0.56 0.56 0.44
Delay/Veh: 51.2 51.2 3.7 0.0 0.0 0.0 49.1 49.1 0.0 12.1 12.1 10.3
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 51.2 51.2 3.7 0.0 0.0 0.0 49.1 49.1 0.0 12.1 12.1 10.3
LOS by Move: D- D- A A A D D A B B B+
HCM2kAvgQ: 4 4 2 0 0 0 5 5 0 12 12 8

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

Traffic 8.0.0715 (c) 2008 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

PM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.633
Loss Time (sec): 12 Average Delay (sec/veh): 20.7
Optimal Cycle: 51 Level of Service: C+

Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 2 0 0 0 0 0 0 1 0 0 1

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 12 92 846 0 0 19 283 5 47 182 557
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 12 92 846 0 0 19 283 5 47 182 557
Added Vol: 0 10 9 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 12 102 855 0 0 19 283 5 56 182 562
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 13 111 930 0 0 21 308 5 61 198 612
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 111 930 0 0 21 308 5 61 198 612
PCE Adj: 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
Final Volume: 13 111 930 0 0 21 308 5 61 198 612

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.11 0.89 2.00 0.00 0.00 0.00 0.07 0.91 0.02 0.11 0.33 1.56
Final Sat.: 198 1685 3150 0 0 117 1740 31 194 631 2724

Capacity Analysis Module:
Vol/Sat: 0.07 0.07 0.30 0.00 0.00 0.00 0.18 0.18 0.18 0.31 0.31 0.22
Crit Moves: *****
Green Time: 10.4 10.4 60.0 0.0 0.0 0.0 28.0 28.0 0.0 49.6 49.6 49.6
Volume/Cap: 0.63 0.63 0.49 0.00 0.00 0.00 0.63 0.63 0.63 0.63 0.63 0.45
Delay/Veh: 57.5 57.5 12.3 0.0 0.0 0.0 37.2 37.2 37.2 20.7 20.7 17.1
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 57.5 57.5 12.3 0.0 0.0 0.0 37.2 37.2 37.2 20.7 20.7 17.1
LOS by Move: E+ E+ B A A D+ D+ C+ C+ B
HCM2kAvgQ: 4 4 10 0 0 0 10 10 10 14 14 9

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

Traffic 8.0.0715 (c) 2008 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

AM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C [23.7]

Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0
Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 0 0 0 12 0 28 19 443 0 0 1145 8
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: 0 0 0 12 0 28 19 443 0 0 1145 8
Added Vol: 0 0 0 0 0 0 0 17 0 0 0 2
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 0 12 0 28 19 460 0 0 1147 8
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: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 0 0 13 0 30 20 487 0 0 1214 8
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 13 0 30 20 487 0 0 1214 8
Critical Gap Module:
Critical Gap:xxxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx
Capacity Module:
Conflict Vol: xxxx xxxx 1502 1745 611 1222 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx 115 87 442 577 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx 112 84 442 577 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx 0.11 0.00 0.07 0.03 xxxx xxxxx xxxxx xxxxx
Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx 0.1 xxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx xxxx xxxxx 11.5 xxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx 234 xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx xxxxx 0.6 xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxxx xxxxx 23.7 xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * C * * * * *
ApproachDel: xxxxxx 23.7 xxxxxx xxxxxx
ApproachLOS: * * * * *
Note: Queue reported is the number of cars per lane.

PM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: F [62.1]

Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0
Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 0 0 0 29 0 16 57 1119 0 0 773 20
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: 0 0 0 29 0 16 57 1119 0 0 773 20
Added Vol: 0 0 0 0 0 0 0 9 0 0 0 18
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 0 29 0 16 57 1128 0 0 791 20
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: 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87
PHF Volume: 0 0 0 33 0 18 66 1303 0 0 913 23
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 33 0 18 66 1303 0 0 913 23
Critical Gap Module:
Critical Gap:xxxxx xxxxx xxxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx xxxxx xxxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx
Capacity Module:
Conflict Vol: xxxx xxxx xxxxx 1708 2359 468 936 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx 84 36 547 740 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx xxxxx 78 33 547 740 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx xxxxx 0.43 0.00 0.03 0.09 xxxx xxxxx xxxxx xxxxx
Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx 0.3 xxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx xxxx xxxxx 10.3 xxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx 112 xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx xxxxx 2.0 xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxxx xxxxx 62.1 xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * F * * * * *
ApproachDel: xxxxxx 62.1 xxxxxx xxxxxx
ApproachLOS: * * * * *
Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report												
2000 HCM Operations Method (Base Volume Alternative)												
Intersection #2 Campbell Ave/Page-Gilman												
Cycle (sec):	100	Critical Vol./Cap.(X):		0.448								
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):		17.9								
Optimal Cycle:	36	Level Of Service:		B								
Street Name: Page-Gilman Campbell Ave												
Approach:	North Bound	South Bound	East Bound	West Bound								
Movement:	L - T - R	L - T - R	L - T - R	L - T - R	L	T	R	L	T	R		
Control:	Protected	Protected	Protected	Protected								
Rights:	Include	Include	Include	Include								
Min. Green:	0 0 1 0 0	0 10 10 10	7 10 0	0 0 10 10								
Lanes:	0 0 1 0 0	0 0 1 0 0	1 0 1 1 0	1 0 1 1 0								
Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am												
Base Vol:	23 0 118 12 0	28 19 425 35	73 1021 8									
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:	23 0 118 12 0	28 19 425 35	73 1021 8									
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:	0.95 0.95 0.95	0.95 0.95 0.95	0.95 0.95 0.95	0.95 0.95 0.95								
PHF Volume:	24 0 125 13 0	30 20 450 37	77 1080 8									
Reduct Vol:	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0									
Reduced Vol:	24 0 125 13 0	30 20 450 37	77 1080 8									
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:	24 0 125 13 0	30 20 450 37	77 1080 8									
Saturation Flow Module:												
Sat/Lane:	1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900								
Adjustment:	0.92 1.00 0.92	0.92 1.00 0.92	0.92 1.00 0.92	0.92 1.00 0.92								
Lanes:	0.16 0.00 0.84	0.30 0.00 0.70	1.00 1.84 0.16	1.00 1.98 0.02								
Final Sat.:	285 0 1465 525 0	1225 1750 3488 287	1750 3768 30									
Capacity Analysis Module:												
Vol/Sat:	0.09 0.00 0.09	0.02 0.00 0.02	0.01 0.13 0.13	0.04 0.29 0.29								
Crit Moves:	****	****	****	****								
Green Time:	21.0 0.0 17.0	10.0 0.0 6.0	7.0 47.7 47.7	16.3 57.0 57.0								
Volume/Cap:	0.41 0.00 0.50	0.24 0.00 0.41	0.16 0.27 0.27	0.27 0.50 0.50								
Delay/Veh:	34.8 0.0 39.1	42.2 0.0 47.9	44.4 15.8 15.8	37.1 13.1 13.1								
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:	34.8 0.0 39.1	42.2 0.0 47.9	44.4 15.8 15.8	37.1 13.1 13.1								
LOS by Move:	C- A D	D A D	D B B	D+ B B								
HCM2kAvgQ:	5 0 5 1 0 2	1 4 4 2 10 10										
Note: Queue reported is the number of cars per lane.												

Level Of Service Computation Report											
2000 HCM Operations Method (Base Volume Alternative)											
Intersection #2 Campbell Ave/Page-Gilman											
Cycle (sec):	100	Critical Vol./Cap.(X):		0.635							
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):		24.2							
Optimal Cycle:	44	Level Of Service:		C							
Street Name: Page-Gilman Campbell Ave											
Approach:	North Bound	South Bound	East Bound	West Bound							
Movement:	L - T - R	L - T - R	L - T - R	L - T - R	L	T	R	L	T	R	
Control:	Protected	Protected	Protected	Protected							
Rights:	Include	Include	Include	Include							
Min. Green:	0 0 1 0 0	0 10 10 10	7 10 0	0 0 10 10							
Lanes:	0 0 1 0 0	0 0 1 0 0	1 0 1 1 0	1 0 1 1 0							
Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm											
Base Vol:	30 0 178 29 0	16 57 1097 30	102 824 20								
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:	30 0 178 29 0	16 57 1097 30	102 824 20								
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:	0.87 0.87 0.87	0.87 0.87 0.87	0.87 0.87 0.87	0.87 0.87 0.87							
PHF Volume:	35 0 206 33 0	18 66 1267 35	118 952 23								
Reduct Vol:	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0								
Reduced Vol:	35 0 206 33 0	18 66 1267 35	118 952 23								
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:	35 0 206 33 0	18 66 1267 35	118 952 23								
Saturation Flow Module:											
Sat/Lane:	1900 1900	1900 1900 1900	1900 1900 1900								
Adjustment:	0.92 1.00 0.92	0.92 1.00 0.92	0.92 1.00 0.92	0.92 1.00 0.92							
Lanes:	0.14 0.00 0.86	0.64 0.00 0.36	1.00 1.94 0.06	1.00 1.95 0.05							
Final Sat.:	252 0 1498 1128 0	622 1750 3690 101	1750 3702 90								
Capacity Analysis Module:											
Vol/Sat:	0.14 0.00 0.14	0.03 0.00 0.03	0.04 0.34 0.34	0.07 0.26 0.26							
Crit Moves:	****	****	****	****							
Green Time:	20.3 0.0 17.5	12.8 0.0 10.0	13.0 50.8 50.8	10.0 47.7 47.7							
Volume/Cap:	0.68 0.00 0.78	0.23 0.00 0.30	0.29 0.68 0.68	0.68 0.54 0.54							
Delay/Veh:	42.0 0.0 51.8	39.7 0.0 42.7	40.0 19.4 19.4	53.6 18.7 18.7							
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:	42.0 0.0 51.8	39.7 0.0 42.7	40.0 19.4 19.4	53.6 18.7 18.7							
LOS by Move:	D A D	D A D	D B- B-	D- B- B-							
HCM2kAvgQ:	9 0 10 2 0 2	16 16 5 11 11									
Note: Queue reported is the number of cars per lane.											

AM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.407
Loss Time (sec): 9 Average Delay (sec/veh): 12.6
Optimal Cycle: 37 Level of Service: B

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include Include Include Include
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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 23 0 100 0 0 0 0 378 35 76 1027 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: 23 0 100 0 0 0 0 378 35 76 1027 0
Added Vol: 0 0 17 0 0 0 0 17 0 -4 2 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 23 0 117 0 0 0 0 395 35 72 1029 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: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
PHF Volume: 25 0 128 0 0 0 0 434 38 79 1130 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 25 0 128 0 0 0 0 434 38 79 1130 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: 25 0 128 0 0 0 0 434 38 79 1130 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.82 0.18 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3467 307 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.00 0.07 0.00 0.00 0.00 0.00 0.00 0.13 0.13 0.05 0.30
Crit Moves: ****
Green Time: 13.5 0.0 68.0 0.0 0.0 0.0 0.0 23.0 23.0 54.6 77.5 0.0
Volume/Cap: 0.11 0.00 0.11 0.00 0.00 0.00 0.00 0.54 0.54 0.08 0.38 0.00
Delay/Veh: 38.2 0.0 5.6 0.0 0.0 0.0 0.0 34.6 34.6 10.8 3.7 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
AdjDel/Veh: 38.2 0.0 5.6 0.0 0.0 0.0 0.0 34.6 34.6 10.8 3.7 0.0
LOS by Move: D+ A A A A A C- B+ A A
HCM2kAVGQ: 1 0 1 0 0 0 0 7 7 1 6 0

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

PM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.572
Loss Time (sec): 9 Average Delay (sec/veh): 12.7
Optimal Cycle: 39 Level of Service: B

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include Include Include Include
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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 30 0 175 0 0 0 0 1167 30 87 827 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: 30 0 175 0 0 0 0 1167 30 87 827 0
Added Vol: 0 0 3 0 0 0 0 9 0 16 18 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 30 0 178 0 0 0 0 1176 30 103 845 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: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 33 0 194 0 0 0 0 1280 33 112 919 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 33 0 194 0 0 0 0 1280 33 112 919 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: 33 0 194 0 0 0 0 1280 33 112 919 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.95 0.05 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3698 94 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.02 0.00 0.11 0.00 0.00 0.00 0.00 0.35 0.35 0.06 0.24 0.00
Crit Moves: ****
Green Time: 19.3 0.0 30.5 0.0 0.0 0.0 0.0 60.5 60.5 11.2 71.7 0.0
Volume/Cap: 0.10 0.00 0.36 0.00 0.00 0.00 0.00 0.57 0.57 0.57 0.34 0.00
Delay/Veh: 33.3 0.0 27.6 0.0 0.0 0.0 0.0 12.3 12.3 46.2 5.4 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
AdjDel/Veh: 33.3 0.0 27.6 0.0 0.0 0.0 0.0 12.3 12.3 46.2 5.4 0.0
LOS by Move: C- A A A A A B D A A
HCM2kAVGQ: 1 0 5 0 0 0 0 12 12 4 5 0

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

AM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.602
Loss Time (sec): 12 Average Delay (sec/veh): 27.3
Optimal Cycle: 49 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Protected Protected Protected Protected
Rights: Include Include Ovl Ovl Ovl Ovl
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
Lanes: 1 0 1 0 0 0 1 0 0 1 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 643 106 168 6 17 26 47 289 143 63 433 17
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: 643 106 168 6 17 26 47 289 143 63 433 17
Added Vol: 1 0 0 0 0 0 0 31 3 0 -2 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 644 106 168 6 17 26 47 320 146 63 431 17
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: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 692 114 180 6 18 28 50 344 157 68 463 18
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 692 114 180 6 18 28 50 344 157 68 463 18
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: 692 114 180 6 18 28 50 344 157 68 463 18

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.55 0.17 0.28 0.28 0.72 1.00 1.00 2.00 1.00 1.00 1.92 0.08
Final Sat.: 2709 316 500 485 1374 1750 1750 3800 1750 1750 3644 144

Capacity Analysis Module:
Vol/Sat: 0.26 0.36 0.36 0.01 0.01 0.02 0.03 0.09 0.09 0.04 0.13 0.13
Crit Moves: *****
Green Time: 52.5 52.5 52.5 10.0 10.0 17.0 7.0 15.0 67.5 10.5 18.5 18.5
Volume/Cap: 0.49 0.69 0.69 0.13 0.13 0.09 0.41 0.60 0.13 0.37 0.69 0.69
Delay/Veh: 15.3 19.1 19.1 41.4 41.4 35.1 46.8 41.6 5.9 42.9 40.9 40.9
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: 15.3 19.1 19.1 41.4 41.4 35.1 46.8 41.6 5.9 42.9 40.9 40.9
LOS by Move: B B- D D+ D D A D D D
HCM2kAVGQ: 9 15 15 1 1 1 2 6 2 2 2 8

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

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PM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.646
Loss Time (sec): 12 Average Delay (sec/veh): 30.0
Optimal Cycle: 53 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Protected Protected Protected Protected
Rights: Include Include Ovl Ovl Ovl Ovl
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
Lanes: 1 0 1 0 0 0 1 0 0 1 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 304 51 128 39 141 128 72 654 598 118 411 14
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: 304 51 128 39 141 128 72 654 598 118 411 14
Added Vol: 3 0 0 0 0 0 0 10 2 0 31 0
PasserByVol: -3 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 304 51 128 39 141 128 72 664 600 118 442 14
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: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 341 57 144 44 158 144 81 745 673 132 496 16
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 341 57 144 44 158 144 81 745 673 132 496 16
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: 341 57 144 44 158 144 81 745 673 132 496 16

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.47 0.14 0.39 0.23 0.77 1.00 1.00 2.00 1.00 1.00 1.93 0.07
Final Sat.: 2564 273 685 404 1461 1750 1750 3800 1750 1750 3674 116

Capacity Analysis Module:
Vol/Sat: 0.13 0.21 0.21 0.11 0.11 0.08 0.05 0.20 0.38 0.08 0.14 0.14
Crit Moves: *****
Green Time: 32.4 32.4 32.4 16.8 16.8 30.0 13.2 27.1 59.5 11.7 25.6 25.6
Volume/Cap: 0.41 0.65 0.65 0.65 0.65 0.27 0.35 0.72 0.65 0.65 0.53 0.53
Delay/Veh: 26.5 30.6 30.6 43.5 43.5 27.0 40.4 35.6 14.7 49.2 32.6 32.6
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: 26.5 30.6 30.6 43.5 43.5 27.0 40.4 35.6 14.7 49.2 32.6 32.6
LOS by Move: C C C D D C D D B D C- C-
HCM2kAVGQ: 6 10 10 7 7 4 3 12 15 5 7 7

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

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AM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.234
Loss Time (sec): 9 Average Delay (sec/veh): 16.0
Optimal Cycle: 29 Level of Service: B

Street Name: Railway Ave Orchard City Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Split Phase Split Phase
Rights: Include Include Include Include Include
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
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 0 121 0 0 40 0 246 0 57 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: 0 121 0 0 40 0 246 0 57 0 0 0
Added Vol: 0 41 0 0 2 0 3 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 162 0 0 42 0 249 0 57 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: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 0 183 0 0 47 0 281 0 64 0 0 0
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 183 0 0 47 0 281 0 64 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: 0 183 0 0 47 0 281 0 64 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.00 0.00 0.00 1.00 0.00 0.00 1.00 0.31 0.00 0.00 0.00
Final Sat.: 0 1900 0 0 1900 0 2950 0 550 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.10 0.00 0.00 0.02 0.00 0.10 0.00 0.12 0.00 0.00 0.00
Crit Moves: ****
Green Time: 0.0 41.1 0.0 0.0 41.1 0.0 49.9 0.0 49.9 0.0 0.0 0.0
Volume/Cap: 0.00 0.23 0.00 0.00 0.06 0.00 0.19 0.00 0.23 0.00 0.00 0.00
Delay/Veh: 0.0 19.4 0.0 0.0 17.8 0.0 13.9 0.0 14.3 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: 0.0 19.4 0.0 0.0 17.8 0.0 13.9 0.0 14.3 0.0 0.0 0.0
LOS by Move: A B- A A B A B A A A A A
HCM2kAVGQ: 0 4 0 0 1 0 3 0 4 0 0 0

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

PM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.430
Loss Time (sec): 9 Average Delay (sec/veh): 12.0
Optimal Cycle: 31 Level of Service: B+

Street Name: Railway Ave Orchard City Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Split Phase Split Phase
Rights: Include Include Include Include Include
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
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 0 149 0 0 52 0 806 0 59 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: 0 149 0 0 52 0 806 0 59 0 0 0
Added Vol: 0 15 0 0 9 0 4 0 30 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 164 0 0 61 0 810 0 89 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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 174 0 0 65 0 860 0 94 0 0 0
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 174 0 0 65 0 860 0 94 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: 0 174 0 0 65 0 860 0 94 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.00 0.00 0.00 1.00 0.00 0.00 1.00 0.18 0.00 0.00 0.00
Final Sat.: 0 1900 0 0 1900 0 3185 0 315 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.09 0.00 0.00 0.03 0.00 0.27 0.00 0.30 0.00 0.00 0.00
Crit Moves: ****
Green Time: 0.0 21.3 0.0 0.0 21.3 0.0 69.7 0.0 69.7 0.0 0.0 0.0
Volume/Cap: 0.00 0.43 0.00 0.00 0.16 0.00 0.39 0.00 0.43 0.00 0.00 0.00
Delay/Veh: 0.0 34.8 0.0 0.0 32.2 0.0 6.4 0.0 6.7 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: 0.0 34.8 0.0 0.0 32.2 0.0 6.4 0.0 6.7 0.0 0.0 0.0
LOS by Move: A A A A C- A A A A A A
HCM2kAVGQ: 0 5 0 0 2 0 7 0 8 0 0 0

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

AM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6 Dillon Ave/Sam Cava Ln

Cycle (sec):	100	Critical Vol./Cap.(X):	0.223
Loss Time (sec):	0	Average delay (sec/veh):	8.0
Optimal Cycle:	0	Level Of Service:	A

Street Name:									
Approach:		Dillon Ave		Sam Cava Ln					
		North Bound		East Bound		West Bound			
Movement:	L	T	R	L	T	R	L	T	R
Control:	Stop Sign		Stop Sign		Stop Sign		Stop Sign		
Rights:	Include		Include		Include		Include		
Min. Green:	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1!	0	0	1!	0	0	1!
Lanes:	0	0	1	0	0	1	0	0	1

Volume Module: >> Count Date: 30 Apr 2014 << 7:15 - 8:15 am												
Base Vol:	21	11	3	7	20	137	27	63	22	2	13	2
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:	21	11	3	7	20	137	27	63	22	2	13	2
Added Vol:	6	5	0	0	-2	0	0	3	-2	0	9	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	27	16	3	7	18	137	27	66	20	2	22	2
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:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	34	20	4	9	22	170	34	82	25	2	27	2
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	20	4	9	22	170	34	82	25	2	27	2
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:	34	20	4	9	22	170	34	82	25	2	27	2

[illegible]

Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.22	0.22	0.22	0.22	0.18	0.18	0.18	0.04	0.04
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Delay/Veh:	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.3	8.3	8.3	7.7	7.7
Delay 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
AdjDel/Veh:	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.3	8.3	8.3	7.7	7.7
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.3	8.3	8.3	7.7	7.7
Delay 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
ApprAdjDel:	7.9	7.9	7.9	7.9	7.9	7.9	7.9	8.3	8.3	8.3	7.7	7.7
LOS by Appr:	A	A	A	A	A	A	A	A	A	A	A	A
AllWayAvgd:	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.0	0.0

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

PM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6 Dillon Ave/Sam Cava Ln

Cycle (sec):	100	Critical Vol./Cap. (X):	0.207
Loss Time (sec):	0	Average Delay (sec/veh):	7.9
Optimal Cycle:	0	Level Of Service:	A

Street Name:		Dillon Ave				Sam Cava Ln			
Approach:		North Bound		South Bound		East Bound		West Bound	
Movement:		L	T - R	L	T - R	L	T - R	L	T - R
Control:		Stop Sign		Stop Sign		Stop Sign		Stop Sign	
Rights:		Include		Include		Include		Include	
Min. Green:		0	0	0	0	0	0	0	0
Lanes:		0	0	1!	0	0	1!	0	0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm												
Base Vol:	13	8	9	8	7	76	33	114	5	1	31	1
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:	13	8	9	8	7	76	33	114	5	1	31	1
Added Vol:	0	0	0	0	4	0	0	10	5	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	8	9	8	11	76	33	124	10	1	37	1
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:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	13	8	9	8	11	79	34	128	10	1	38	1
Reduce Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	8	9	8	11	79	34	128	10	1	38	1
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:	13	8	9	8	11	79	34	128	10	1	38	1

Saturation Flow Module:									
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.27	0.30	0.08	0.12	0.80	0.20	0.74	0.06
Final Sat.:	341	210	236	74	101	701	165	619	50

Capacity Analysis												
Module:												
Vol/Sat:	0.04	0.04	0.04	0.11	0.11	0.11	0.11	0.21	0.21	0.21	0.21	0.05
Crit Moves:	0.04	0.04	0.04	0.11	0.11	0.11	0.11	0.21	0.21	0.21	0.21	0.05
Delay/Veh:	7.5	7.5	7.5	7.4	7.4	7.4	7.4	8.3	8.3	8.3	8.3	7.5
Delay 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
AdjDel/Veh:	7.5	7.5	7.5	7.4	7.4	7.4	7.4	8.3	8.3	8.3	8.3	7.5
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	7.5	7.5	7.5	7.4	7.4	7.4	7.4	8.3	8.3	8.3	8.3	7.5
Delay 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
ApprAdjDel:	7.5	7.5	7.5	7.4	7.4	7.4	7.4	8.3	8.3	8.3	8.3	7.5
LOS by Appr:	A	A	A	A	A	A	A	A	A	A	A	A
AllwayAvgQ:	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.0

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

AM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #7 Union Ave/Duncanville Ct

Cycle (sec): 100 Critical Vol./Cap.(X): 0.556
Loss Time (sec): 6 Average Delay (sec/veh): 6.2
Optimal Cycle: 33 Level of Service: A

Street Name: Union Ave Duncanville Ct
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include
Min. Green: 7 10 0 0 10 10 10 10 0 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
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0

Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 10 894 0 0 221 4 20 0 13 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: 10 894 0 0 221 4 20 0 13 0 0 0
Added Vol: 0 1 0 0 0 3 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 10 895 0 0 224 4 20 0 13 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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 11 955 0 0 239 4 21 0 14 0 0 0
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 11 955 0 0 239 4 21 0 14 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: 11 955 0 0 239 4 21 0 14 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 1.00 0.00 0.00 0.98 0.02 0.61 0.00 0.39 0.00 0.00 0.00
Final Sat.: 1750 1900 0 0 1864 33 1061 0 689 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.50 0.00 0.00 0.13 0.13 0.02 0.00 0.02 0.00 0.00 0.00
Crit Moves: ****
Green Time: 29.7 84.0 0.0 0.0 54.3 54.3 10.0 0.0 10.0 0.0 0.0 0.0
Volume/Cap: 0.02 0.60 0.00 0.00 0.24 0.24 0.20 0.00 0.20 0.00 0.00 0.00
Delay/Veh: 24.9 3.2 0.0 0.0 12.1 12.1 41.9 0.0 41.9 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: 24.9 3.2 0.0 0.0 12.1 12.1 41.9 0.0 41.9 0.0 0.0 0.0
LOS by Move: C A A A B B B D A D A A A
HCM2kAvgQ: 0 10 0 0 4 4 1 0 1 0 0 0

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

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PM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #7 Union Ave/Duncanville Ct

Cycle (sec): 100 Critical Vol./Cap.(X): 0.541
Loss Time (sec): 6 Average Delay (sec/veh): 5.4
Optimal Cycle: 33 Level of Service: A

Street Name: Union Ave Duncanville Ct
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include
Min. Green: 7 10 0 0 10 10 10 10 0 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
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0

Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 9 471 0 0 857 17 8 0 8 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: 9 471 0 0 857 17 8 0 8 0 0 0
Added Vol: 0 3 0 0 0 2 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 9 474 0 0 859 17 8 0 8 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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 10 506 0 0 918 18 9 0 9 0 0 0
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 10 506 0 0 918 18 9 0 9 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: 10 506 0 0 918 18 9 0 9 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 1.00 0.00 0.00 0.98 0.02 0.50 0.00 0.50 0.00 0.00 0.00
Final Sat.: 1750 1900 0 0 1860 37 875 0 875 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.27 0.00 0.00 0.00 0.49 0.49 0.01 0.00 0.01 0.00 0.00
Crit Moves: ****
Green Time: 7.0 84.0 0.0 0.0 77.0 77.0 10.0 0.0 10.0 0.0 0.0 0.0
Volume/Cap: 0.08 0.32 0.00 0.00 0.64 0.64 0.10 0.00 0.10 0.00 0.00 0.00
Delay/Veh: 43.8 1.9 0.0 0.0 6.2 6.2 41.1 0.0 41.1 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: 43.8 1.9 0.0 0.0 6.2 6.2 41.1 0.0 41.1 0.0 0.0 0.0
LOS by Move: D A A A A A D A D A A A
HCM2kAvgQ: 0 4 0 0 13 13 1 0 1 0 0 0

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

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

AM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.443
Loss Time (sec): 9 Average Delay (sec/veh): 13.5
Optimal Cycle: 36 Level of Service: B
*****Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 0 0 10 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 4.0 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 1 0 0 0 1Volume Module: >> Count Date: 14 May 2014 << 7:45 - 8:45 am
Base Vol: 0 763 170 18 489 0 0 0 0 163 0 52
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 763 170 18 489 0 0 0 0 163 0 52
Added Vol: 0 14 4 2 13 0 0 0 0 22 0 9
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 777 174 20 502 0 0 0 0 185 0 61
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 0 843 189 22 544 0 0 0 0 201 0 66
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 843 189 22 544 0 0 0 0 201 0 66
PCE Adj: 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
FinalVolume: 0 843 189 22 544 0 0 0 0 201 0 66Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.61 0.39 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
Final Sat.: 0 3057 685 1750 3800 0 0 0 0 1750 0 1750Capacity Analysis Module:
Vol/Sat: 0.00 0.28 0.28 0.01 0.14 0.00 0.00 0.00 0.00 0.11 0.00 0.04
Crit Moves: *****
Green Time: 0.0 59.3 59.3 7.0 66.3 0.0 0.0 0.0 0.0 24.7 0.0 24.7
Volume/Cap: 0.00 0.46 0.46 0.18 0.22 0.00 0.00 0.00 0.00 0.46 0.00 0.15
Delay/Veh: 0.0 11.6 11.6 44.5 6.7 0.0 0.0 0.0 0.0 32.8 0.0 29.7
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: 0.0 11.6 11.6 44.5 6.7 0.0 0.0 0.0 0.0 32.8 0.0 29.7
LOS by Move: A B+ D A A A A C- A C
HCM2kAVGQ: 0 9 9 1 3 0 0 0 0 6 0 2

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

PM Peak Hour - Background plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.438
Loss Time (sec): 9 Average Delay (sec/veh): 12.2
Optimal Cycle: 36 Level of Service: B
*****Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 10 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
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 1 0 0 0 1Volume Module: >> Count Date: 14 May 2014 << 5:00 - 6:00 pm
Base Vol: 0 780 169 38 710 0 0 0 0 159 0 52
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: 0 780 169 38 710 0 0 0 0 159 0 52
Added Vol: 0 27 21 8 24 0 0 0 0 10 0 4
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 807 190 46 734 0 0 0 0 169 0 56
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume: 0 825 194 47 751 0 0 0 0 173 0 57
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 825 194 47 751 0 0 0 0 173 0 57
PCE Adj: 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
FinalVolume: 0 825 194 47 751 0 0 0 0 173 0 57Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.59 0.41 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
Final Sat.: 0 3026 713 1750 3800 0 0 0 0 1750 0 1750Capacity Analysis Module:
Vol/Sat: 0.00 0.27 0.27 0.03 0.20 0.00 0.00 0.00 0.00 0.10 0.00 0.03
Crit Moves: *****
Green Time: 0.0 61.7 61.7 7.0 68.7 0.0 0.0 0.0 0.0 22.3 0.0 22.3
Volume/Cap: 0.00 0.44 0.44 0.38 0.29 0.00 0.00 0.00 0.00 0.44 0.00 0.15
Delay/Veh: 0.0 10.2 10.2 46.4 6.2 0.0 0.0 0.0 0.0 34.3 0.0 31.4
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: 0.0 10.2 10.2 46.4 6.2 0.0 0.0 0.0 0.0 34.3 0.0 31.4
LOS by Move: A B+ B+ D A A A C- A C
HCM2kAVGQ: 0 8 8 2 4 0 0 0 0 5 0 2

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

AM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Trip Generation Report

Forecast for AM Approved and Pending Projects

Zone #	Subzone	Amount	Units	Rate		Trips In	Trips Out	Total % Of Trips	Total % Of Trips Total
				In	Out				
2	Dillon Ave T	1.00	DillonAveTwnhm	-13.00	30.00	-13	30	17	3.8
	Zone 2 Subtotal					-13	30	17	3.8
3	2295-2305 Wi	1.00	2295-2305 Winc	2.00	6.00	2	6	8	1.8
	Zone 3 Subtotal					2	6	8	1.8
4	Merrill Gard	1.00	MerrillGardens	30.00	31.00	30	31	61	13.7
	Zone 4 Subtotal					30	31	61	13.7
5	Cofftage Pl	1.00	Cottage Place	1.00	5.00	1	5	6	1.4
	Zone 5 Subtotal					1	5	6	1.4
6	2135/2145 Wi	1.00	2135/2145 Winc	0.00	0.00	0	0	0	0.0
	Zone 6 Subtotal					0	0	0	0.0
7	Steak & Shak	1.00	Restaurant	21.00	18.00	21	18	39	12.0
	Zone 7 Subtotal					21	18	39	12.0
8	Greylands Mi	1.00	Apartment	4.00	15.00	4	15	19	4.3
	Zone 8 Subtotal					4	15	19	4.3
9	Del Grande M	1.00	Apartment	4.00	15.00	4	15	19	4.3
	Zone 9 Subtotal					4	15	19	4.3
10	Pruneyard Sh	1.00	Office	137.00	19.00	137	19	156	35.1
	Zone 10 Subtotal					137	19	156	35.1
TOTAL									325 100.0

PM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Trip Generation Report

Forecast for PM Approved and Pending Projects

Zone #	Subzone	Amount	Units	Rate		Trips In	Trips Out	Total % Of Trips	Total % Of Trips Total
				In	Out				
2	Dillon Ave T	1.00	DillonAveTwnhm	25.00	-1.00	25	-1	24	4.4
	Zone 2 Subtotal					25	-1	24	4.4
3	2295-2305 Wi	1.00	2295-2305 Winc	8.00	6.00	8	6	14	2.6
	Zone 3 Subtotal					8	6	14	2.6
4	Merrill Gard	1.00	MerrillGardens	49.00	38.00	49	38	87	15.9
	Zone 4 Subtotal					49	38	87	15.9
5	Cofftage Pl	1.00	Cottage Place	4.00	2.00	4	2	6	1.1
	Zone 5 Subtotal					4	2	6	1.1
6	2135/2145 Wi	1.00	2135/2145 Winc	13.00	17.00	13	17	30	5.5
	Zone 6 Subtotal					13	17	30	5.5
7	Steak & Shak	1.00	Restaurant	16.00	8.00	16	8	24	5.0
	Zone 7 Subtotal					16	8	24	5.0
8	Greylands Mi	1.00	Retail	13.00	17.00	13	17	30	5.5
8	Greylands Mi	1.00	Apartment	16.00	8.00	16	8	24	4.4
8	Greylands Mi	1.00	Internal Captu	-5.00	-5.00	-5	-5	-10	-1.8
	Zone 8 Subtotal					24	20	44	8.1
9	Del Grande M	1.00	Retail	11.00	15.00	11	15	26	4.8
9	Del Grande M	1.00	Apartment	15.00	8.00	15	8	23	4.2
9	Del Grande M	1.00	Internal Captu	-5.00	-5.00	-5	-5	-10	-1.8
	Zone 9 Subtotal					21	18	39	7.1
10	Pruneyard Sh	1.00	Office	25.00	124.00	25	124	149	27.3
10	Pruneyard Sh	1.00	Retail	29.00	36.00	29	36	65	11.9
10	Pruneyard Sh	1.00	Internal Captu	-3.00	-3.00	-3	-3	-6	-1.1
	Zone 10 Subtotal					51	157	208	38.1
TOTAL									476 100.0

AM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.576
Loss Time (sec): 12 Average Delay (sec/veh): 15.6
Optimal Cycle: 46 Level of Service: B

Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 0 0 0 1 0 0 0 0 1 0 1

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 6 76 275 0 0 9 120 0 43 158 722
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 6 76 275 0 0 9 120 0 43 158 722
Added Vol: 5 7 19 0 0 0 0 11 0 9 18
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 11 83 294 0 0 9 131 0 43 167 740
User Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 12 94 333 0 0 10 148 0 49 189 838
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 12 94 333 0 0 10 148 0 49 189 838
PCE Adj: 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
FinalVolume: 12 94 333 0 0 10 148 0 49 189 838

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.13 0.87 2.00 0.00 0.00 0.00 0.07 0.93 0.00 0.08 0.27 1.65
Final Sat.: 220 1661 3150 0 0 121 1768 0 133 516 2892

Capacity Analysis Module:
Vol/Sat: 0.06 0.06 0.11 0.00 0.00 0.00 0.08 0.08 0.00 0.37 0.37 0.29
Crit Moves: ****
Green Time: 10.0 10.0 73.5 0.0 0.0 0.0 14.5 14.5 0.0 63.5 63.5 63.5
Volume/Cap: 0.57 0.57 0.14 0.00 0.00 0.00 0.58 0.58 0.00 0.58 0.58 0.46
Delay/Veh: 54.7 54.7 4.1 0.0 0.0 0.0 48.5 48.5 0.0 11.8 11.8 10.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 54.7 54.7 4.1 0.0 0.0 0.0 48.5 48.5 0.0 11.8 11.8 10.0
LOS by Move: D- D- A A A D A B+ B+ B+
HCM2kAVGQ: 3 3 2 0 0 0 5 5 0 12 12 9

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

PM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.652
Loss Time (sec): 12 Average Delay (sec/veh): 20.9
Optimal Cycle: 53 Level of Service: C+

Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 2 0 0 0 0 0 0 1 0 0 1

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 12 92 846 0 0 19 283 5 47 182 557
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 12 94 863 0 0 19 289 5 48 186 568
Added Vol: 0 0 25 0 0 0 0 8 0 4 38
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 12 94 888 0 0 19 297 5 48 190 606
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 13 102 966 0 0 21 323 6 52 206 660
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 102 966 0 0 21 323 6 52 206 660
PCE Adj: 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
FinalVolume: 13 102 966 0 0 21 323 6 52 206 660

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.12 0.88 2.00 0.00 0.00 0.00 0.06 0.92 0.02 0.09 0.33 1.58
Final Sat.: 217 1664 3150 0 0 114 1744 30 160 631 2759

Capacity Analysis Module:
Vol/Sat: 0.06 0.06 0.31 0.00 0.00 0.00 0.19 0.19 0.19 0.33 0.33 0.24
Crit Moves: ****
Green Time: 10.0 10.0 59.8 0.0 0.0 0.0 28.2 28.2 28.2 49.8 49.8 49.8
Volume/Cap: 0.61 0.61 0.51 0.00 0.00 0.00 0.66 0.66 0.66 0.66 0.66 0.48
Delay/Veh: 57.2 57.2 12.7 0.0 0.0 0.0 37.8 37.8 37.8 21.1 21.1 17.4
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 57.2 57.2 12.7 0.0 0.0 0.0 37.8 37.8 37.8 21.1 21.1 17.4
LOS by Move: E+ E+ B A A A D+ D+ B+ B+
HCM2kAVGQ: 4 4 11 0 0 0 10 10 10 15 15 9

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

AM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)
Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: D[25.6]
Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0

Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 0 0 12 0 28 19 443 0 0 1145 8
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 0 0 12 0 29 19 452 0 0 1168 8
Added Vol: 0 0 0 0 0 0 37 0 0 23 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 12 0 29 19 489 0 0 1191 8
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 0 13 0 30 21 517 0 0 1260 9
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 13 0 30 21 517 0 0 1260 9

Critical Gap Module:
Critical Gap:xxxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx

Capacity Module:
Conflict Vol: xxxx xxxx 1564 1823 634 1269 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx 104 78 426 554 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx 101 75 426 554 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx 0.13 0.00 0.07 0.04 xxxx xxxxx xxxxx xxxxx

Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx 0.1 xxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxx xxxxx 11.7 xxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx 217 xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx xxxxx 0.7 xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 25.6 xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * D * * * * *
ApproachDel: xxxxxx 25.6 xxxxxx xxxxxx
ApproachLOS: * * * * *
Note: Queue reported is the number of cars per lane.

PM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)
Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: F[77.1]
Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0

Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 0 0 29 0 16 57 1119 0 0 773 20
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 0 0 30 0 16 58 1141 0 0 788 20
Added Vol: 0 0 0 0 0 0 28 0 0 51 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 30 0 16 58 1169 0 0 839 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87
PHF Volume: 0 0 34 0 19 67 1350 0 0 969 24
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 34 0 19 67 1350 0 0 969 24

Critical Gap Module:
Critical Gap:xxxxx xxxxx xxxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx xxxxx xxxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx

Capacity Module:
Conflict Vol: xxxx xxxx xxxxx 1791 2466 496 993 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx 74 31 524 705 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx xxxxx 68 28 524 705 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx xxxxx 0.50 0.00 0.04 0.10 xxxx xxxxx xxxxx xxxxx

Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx 0.3 xxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxx xxxxx 10.6 xxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx 99 xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx xxxxx 2.4 xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 77.1 xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * F * * * * *
ApproachDel: xxxxxx 77.1 xxxxxx xxxxxx
ApproachLOS: * * * * *
Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #2 Campbell Ave/Page-Gilman
Cycle (sec): 100 Critical Vol./Cap.(X): 0.464
Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 17.8
Optimal Cycle: 36 Level Of Service: B

Street Name:		Page-Gilman		Campbell Ave	
Approach:		North Bound		South Bound	
Movement:	L - T - R	L	T	R	L - T - R

Control:	Protected	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include	Include
Min. Green:	0	0	10	10	7
Lanes:	0	0	1	0	1
Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am					
Base Vol:	23	0	118	12	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02
Initial Bse:	23	0	120	12	0
User Adj:	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95
PHF Volume:	25	0	127	13	0
Reduct Vol:	0	0	0	0	0
Reduced Vol:	25	0	127	13	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	0	127	13	0

Saturation Flow Module:					
Sat/Lane:	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00
Lanes:	0.16	0.00	0.84	0.29	0.00
Final Sat.:	285	0	1465	512	0

Capacity Analysis Module:					
Vol/Sat:	0.09	0.00	0.09	0.03	0.00
Crit Moves:	20.7	0.0	16.7	10.0	0.0
Green Time:	0.42	0.00	0.52	0.25	0.00
Volume/Cap:	35.2	0.0	39.7	42.3	0.0
Delay/Veh:	1.00	1.00	1.00	1.00	1.00
User DelAdj:	35.2	0.0	39.7	42.3	0.0
AdjDel/Veh:	D+	A	D	D	B
LOS by Move:	5	0	5	2	0
HCM2kAvgQ:	5	0	5	2	0

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

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
Intersection #2 Campbell Ave/Page-Gilman
Cycle (sec): 100 Critical Vol./Cap.(X): 0.662
Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 24.4
Optimal Cycle: 47 Level Of Service: C

Street Name:		Page-Gilman		Campbell Ave	
Approach:		North Bound		South Bound	
Movement:	L - T - R	L	T	R	L - T - R

Control:	Protected	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include	Include
Min. Green:	0	0	10	10	7
Lanes:	0	0	1	0	1
Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm					
Base Vol:	31	0	179	30	0
Growth Adj:	1.02	1.02	1.02	1.02	1.02
Initial Bse:	32	0	183	31	0
User Adj:	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87
PHF Volume:	37	0	211	35	0
Reduct Vol:	0	0	0	0	0
Reduced Vol:	37	0	211	35	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	0	211	35	0

Saturation Flow Module:					
Sat/Lane:	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00
Lanes:	0.15	0.00	0.85	0.65	0.00
Final Sat.:	258	0	1492	1141	0

Capacity Analysis Module:					
Vol/Sat:	0.14	0.00	0.14	0.03	0.00
Crit Moves:	20.0	0.0	17.6	12.4	0.0
Green Time:	0.71	0.00	0.80	0.25	0.00
Volume/Cap:	43.6	0.0	53.6	40.2	0.0
Delay/Veh:	1.00	1.00	1.00	1.00	1.00
User DelAdj:	43.6	0.0	53.6	40.2	0.0
AdjDel/Veh:	D	A	D	D	B
LOS by Move:	9	0	10	2	0
HCM2kAvgQ:	9	0	10	2	0

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

AM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.419
Loss Time (sec): 9 Average Delay (sec/veh): 12.6
Optimal Cycle: 38 Level of Service: B
*****Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include
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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0
*****Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 23 0 100 0 0 0 0 378 35 76 1027 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: 23 0 100 0 0 0 0 378 35 76 1027 0
Added Vol: 0 0 12 0 0 0 0 37 0 -5 23 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 23 0 112 0 0 0 0 415 35 71 1050 0
User Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
PHF Adj: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
PHF Volume: 26 0 125 0 0 0 0 465 39 79 1176 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 26 0 125 0 0 0 0 465 39 79 1176 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: 26 0 125 0 0 0 0 465 39 79 1176 0
*****Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.83 0.17 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3481 294 1750 3800 0
*****Capacity Analysis Module:
Vol/Sat: 0.01 0.00 0.07 0.00 0.00 0.00 0.00 0.00 0.13 0.13 0.05 0.31
Crit Moves: ****
Green Time: 12.7 0.0 67.4 0.0 0.0 0.0 0.0 23.6 54.7 78.3 0.0
Volume/Cap: 0.12 0.00 0.11 0.00 0.00 0.00 0.00 0.57 0.08 0.39 0.00
Delay/Veh: 38.9 0.0 5.8 0.0 0.0 0.0 0.0 34.5 10.8 3.5 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
AdjDel/Veh: 38.9 0.0 5.8 0.0 0.0 0.0 0.0 34.5 10.8 3.5 0.0
LOS by Move: D+ A A A A A C- B+ A A
HCM2kAVGQ: 1 0 1 0 0 0 0 7 7 1 6 0
*****Note: Queue reported is the number of cars per lane.
*****PM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.583
Loss Time (sec): 9 Average Delay (sec/veh): 12.4
Optimal Cycle: 40 Level of Service: B
*****Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include
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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0
*****Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 30 0 175 0 0 0 0 1167 30 87 827 0
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 31 0 179 0 0 0 0 1190 31 89 844 0
Added Vol: 0 0 0 0 0 0 0 28 0 10 51 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 31 0 179 0 0 0 0 1218 31 99 895 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: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 33 0 194 0 0 0 0 1326 33 107 973 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 33 0 194 0 0 0 0 1326 33 107 973 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: 33 0 194 0 0 0 0 1326 33 107 973 0
*****Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.95 0.05 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3699 93 1750 3800 0
*****Capacity Analysis Module:
Vol/Sat: 0.02 0.00 0.11 0.00 0.00 0.00 0.00 0.36 0.36 0.06 0.26 0.00
Crit Moves: ****
Green Time: 19.0 0.0 29.6 0.0 0.0 0.0 0.0 61.4 61.4 10.5 72.0 0.0
Volume/Cap: 0.10 0.00 0.38 0.00 0.00 0.00 0.00 0.58 0.58 0.36 0.00
Delay/Veh: 33.5 0.0 28.4 0.0 0.0 0.0 0.0 12.0 12.0 47.4 5.4 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
AdjDel/Veh: 33.5 0.0 28.4 0.0 0.0 0.0 0.0 12.0 12.0 47.4 5.4 0.0
LOS by Move: C- A C A A A B+ D A A
HCM2kAVGQ: 1 0 5 0 0 0 0 13 13 4 6 0
*****Note: Queue reported is the number of cars per lane.

AM Cumulative	Wed May 20, 2015 14:40:29	Page 6-1													
AM Peak Hour - Cumulative Conditions															
Traffic Impact Study for 226-328 Railway Avenue															
City of Campbell															
Level of Service Computation Report															
2000 HCM Operations Method (Future Volume Alternative)															
Intersection #4 Campbell Ave/Union Ave															
Cycle (sec):	100	Critical Vol./Cap.(X):										0.623			
Loss Time (sec):	12	Average Delay (sec/veh):										28.0			
Optimal Cycle:	50	Level of Service:										C			

Street Name: Union Ave Campbell Ave															
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Split Phase			Split Phase			Protected			Protected					
Rights:	Include			Ovl			Ovl			Include					
Min. Green:	7	10	10	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	4.0	4.0	4.0
Lanes:	1	0	1	0	0	0	1	0	0	1	1	0	2	0	1

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am															
Base Vol:	643	106	168	6	17	26	47	289	143	63	433	17	63	433	17
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	1.00	1.00	1.00
Initial Bse:	643	106	168	6	17	26	47	289	143	63	433	17	63	433	17
Added Vol:	2	7	0	0	1	2	0	50	3	0	7	0	0	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	645	113	168	6	18	28	47	339	146	63	440	17	63	440	17
User Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	707	124	184	7	20	31	51	371	160	69	482	19	69	482	19
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	707	124	184	7	20	31	51	371	160	69	482	19	69	482	19
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	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	1.00	1.00	1.00
FinalVolume:	707	124	184	7	20	31	51	371	160	69	482	19	69	482	19

Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	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	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.54	0.18	0.28	0.27	0.73	1.00	1.00	2.00	1.00	1.00	1.92	0.08	1.00	1.92	0.08
Final Sat.:	2699	333	494	465	1395	1750	1750	3800	1750	1750	3647	141	1750	3647	141

Capacity Analysis Module:															
Vol/Sat:	0.26	0.37	0.37	0.01	0.01	0.02	0.03	0.10	0.09	0.04	0.13	0.13	0.04	0.13	0.13
Crit Moves:	52.4	52.4	52.4	10.0	10.0	17.0	7.0	15.1	67.5	10.5	18.6	18.6	10.5	18.6	18.6
Green Time:	0.50	0.71	0.71	0.14	0.14	0.10	0.42	0.65	0.14	0.37	0.71	0.71	0.37	0.71	0.71
Volume/Cap:	15.5	19.7	19.7	41.4	41.4	35.2	46.9	42.6	5.9	42.9	41.6	41.6	42.9	41.6	41.6
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1.00	1.00	1.00
AdjDel/Veh:	15.5	19.7	19.7	41.4	41.4	35.2	46.9	42.6	5.9	42.9	41.6	41.6	42.9	41.6	41.6
LOS by Move:	B	B-	B-	D	D	D	D	D	D	A	D	D	D	D	D
HCM2kAvgQ:	9	16	16	1	1	1	2	6	2	3	9	9	3	9	9

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

PM Cumulative	Wed May 20, 2015 14:40:47	Page 6-1												
PM Peak Hour - Cumulative Conditions														
Traffic Impact Study for 226-328 Railway Avenue														
City of Campbell														
Level of Service Computation Report														
2000 HCM Operations Method (Future Volume Alternative)														
Intersection #4 Campbell Ave/Union Ave														
Cycle (sec):	100	Critical Vol./Cap.(X):										0.665		
Loss Time (sec):	12	Average Delay (sec/veh):										24.4		
Optimal Cycle:	55	Level of Service:										C		

Street Name: Union Ave Campbell Ave														
Approach:	North Bound	South Bound	East Bound	West Bound										
Movement:	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Split Phase	Split Phase	Protected	Protected	Protected	Protected	Protected	Protected	Protected	Protected	Protected	Protected	Protected	Protected
Rights:	Include	Ovl	Ovl	Ovl	Ovl	Ovl	Ovl	Ovl	Ovl	Ovl	Ovl	Ovl	Ovl	Ovl
Min. Green:	7 10 10	7 10 10	7 10 10	7 10 10	7 10 10	7 10 10	7 10 10	7 10 10	7 10 10	7 10 10	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	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0
Lanes:	1 0 1 0 0	0 1 0 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1	1 0 2 0 1
Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm														
Base Vol:	304 51 128	39 141 128	72 654 598	118 411 14										
Growth Adj:	1.02 1.02 1.02	1.02 1.02 1.02	1.02 1.02 1.02	1.02 1.02 1.02										
Initial Bse:	310 52 131	40 144 131	73 667 610	120 419 14										
Added Vol:	3 3 0	0 8 16	0 25 2	0 45 0										
PasserByVol:	0 0 0	0 0 0	0 0 0	0 0 0										
Initial Fut:	313 55 131	40 152 147	73 692 612	120 464 14										
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:	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89										
PHF Volume:	351 62 147	45 170 164	82 777 687	135 521 16										
Reduc Vol:	0 0 0	0 0 0	0 0 0	0 0 0										
Reduced Vol:	351 62 147	45 170 164	82 777 687	135 521 16										
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:	351 62 147	45 170 164	82 777 687	135 521 16										
Saturation Flow Module:														
Sat/Lane:	1900 1900	1900 1900	1900 1900	1900 1900										
Adjustment:	0.92 1.00 0.92	0.92 1.00 0.92	0.92 1.00 0.92	0.92 1.00 0.92										
Lanes:	1.46 0.15 0.39	0.22 0.78 1.00	1.00 1.00 2.00	1.00 1.00 1.94										
Final Sat.:	2561 285 676	388 1479 1750	1750 3800 1750	1750 3677 113										
Capacity Analysis Module:														
Vol/Sat:	0.14 0.22 0.22	0.12 0.12 0.09	0.05 0.20 0.39	0.08 0.14 0.14										
Crit Moves:	32.6 32.6 32.6	17.3 17.3 33.9	16.5 38.4 71.0	11.6 33.5 33.5										
Green Time:	0.42 0.66 0.66	0.66 0.66 0.28	0.28 0.53 0.55	0.66 0.42 0.42										
Volume/Cap:	26.5 31.0 31.0	43.8 43.8 24.4	37.1 24.2 7.5	50.4 26.0 26.0										
Delay/Veh:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00										
User DelAdj:	26.5 31.0 31.0	43.8 43.8 24.4	37.1 24.2 7.5	50.4 26.0 26.0										
AdjDel/Veh:	6 C C C	D D C D+	C C A D	C C C										
LOS by Move:	6 11 11	7 7 4	3 9 11	6 7 7										
HCM2kAVGQ:														
Note: Queue reported is the number of cars per lane.														

AM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.221
Loss Time (sec): 9 Average Delay (sec/veh): 15.1
Optimal Cycle: 29 Level of Service: B

Street Name: Railway Ave		Orchard City Dr	
Approach:	North Bound	South Bound	West Bound
Movement:	L - - T - - R	L - - T - - R	L - - T - - R
Control:	Protected	Protected	Split Phase
Rights:	Include	Include	Include
Min. Green:	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
Lanes:	0 0 1 0 0	0 0 1 0 0	0 0 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am

Base Vol:	0 121 0	0 40 0	246 0 57	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:	0 121 0	0 40 0	246 0 57	0 0 0
Added Vol:	0 11 0	0 0 0	19 0 -5	0 0 0
PasserByVol:	0 0 0	0 0 0	0 0 0	0 0 0
Initial Fut:	0 132 0	0 40 0	265 0 52	0 0 0
User Adj:	1.02 1.02 1.02	1.02 1.02 1.02	1.02 1.02 1.02	1.02 1.02 1.02
PHF Adj:	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89	0.89 0.89 0.89
PHF Volume:	0 152 0	0 46 0	305 0 60	0 0 0
Reduced Vol:	0 0 0	0 0 0	0 0 0	0 0 0
Reduced Vol:	0 152 0	0 46 0	305 0 60	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:	0 152 0	0 46 0	305 0 60	0 0 0

Saturation Flow Module:

Sat/Lane:	1900 1900 1900	1900 1900 1900	1900 1900 1900
Adjustment:	0.92 1.00 0.92	0.92 1.00 0.92	0.92 1.00 0.92
Lanes:	0.00 1.00 0.00	0.00 1.00 0.00	0.00 1.00 0.00
Final Sat.:	0 1900 0	0 1900 0	0 493 0 0

Capacity Analysis Module:

Vol/Sat:	0.00 0.08 0.00	0.00 0.02 0.00	0.10 0.00 0.12	0.00 0.00 0.00
Crit Moves:	0.0 36.1	0.0 0.0 36.1	0.0 54.9 0.0	54.9 0.0 0.0
Green Time:	0.00 0.22 0.00	0.00 0.07 0.00	0.18 0.00 0.22	0.00 0.00 0.00
Volume/Cap:	0.00 22.3 0.0	0.00 20.9 0.0	11.4 0.0 11.7	0.0 0.0 0.0
Delay/Veh:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
User DelAdj:	0.0 22.3 0.0	0.0 20.9 0.0	11.4 0.0 11.7	0.0 0.0 0.0
AdjDel/Veh:	0.0 22.3 0.0	0.0 20.9 0.0	11.4 0.0 11.7	0.0 0.0 0.0
LOS by Move:	A C+ A	A C+ A	B+ A B+	A A A
HCM2kAVGQ:	0 3 0	0 1 0	3 0 4	0 0 0

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

PM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.422
Loss Time (sec): 9 Average Delay (sec/veh): 11.3
Optimal Cycle: 30 Level of Service: B+

Street Name: Railway Ave		Orchard City Dr	
Approach:	North Bound	South Bound	West Bound
Movement:	L - - T - - R	L - - T - - R	L - - T - - R
Control:	Protected	Protected	Split Phase
Rights:	Include	Include	Include
Min. Green:	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
Lanes:	0 0 1 0 0	0 0 1 0 0	0 0 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm

Base Vol:	0 149 0	0 52 0	806 0 59	0 0 0
Growth Adj:	1.02 1.02 1.02	1.02 1.02 1.02	1.02 1.02 1.02	1.02 1.02 1.02
Initial Bse:	0 152 0	0 53 0	822 0 60	0 0 0
Added Vol:	0 0 0	0 0 0	25 0 10	0 0 0
PasserByVol:	0 0 0	0 0 0	0 0 0	0 0 0
Initial Fut:	0 152 0	0 53 0	847 0 70	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:	0.94 0.94 0.94	0.94 0.94 0.94	0.94 0.94 0.94	0.94 0.94 0.94
PHF Volume:	0 161 0	0 56 0	899 0 75	0 0 0
Reduced Vol:	0 0 0	0 0 0	0 0 0	0 0 0
Reduced Vol:	0 161 0	0 56 0	899 0 75	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:	0 161 0	0 56 0	899 0 75	0 0 0

Saturation Flow Module:

Sat/Lane:	1900 1900 1900	1900 1900 1900	1900 1900 1900
Adjustment:	0.92 1.00 0.92	0.92 1.00 0.92	0.92 1.00 0.92
Lanes:	0.00 1.00 0.00	0.00 1.00 0.00	0.00 1.00 0.00
Final Sat.:	0 1900 0	0 1900 0	0 3251 0 249 0 0

Capacity Analysis Module:

Vol/Sat:	0.00 0.08 0.00	0.00 0.03 0.00	0.28 0.00 0.30	0.00 0.00 0.00
Crit Moves:	0.0 20.1	0.0 0.0 20.1	0.0 70.9 0.0	70.9 0.0 0.0
Green Time:	0.00 0.42 0.00	0.00 0.15 0.00	0.39 0.00 0.42	0.00 0.00 0.00
Volume/Cap:	0.00 35.6 0.0	0.00 33.1 0.0	6.0 0.0 6.2	0.0 0.0 0.0
Delay/Veh:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
User DelAdj:	0.0 35.6 0.0	0.0 33.1 0.0	6.0 0.0 6.2	0.0 0.0 0.0
AdjDel/Veh:	0.0 35.6 0.0	0.0 33.1 0.0	6.0 0.0 6.2	0.0 0.0 0.0
LOS by Move:	A D+ A	A C- A	A A A	A A A
HCM2kAVGQ:	0 5 0	0 1 0	7 0 7	0 0 0

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

AM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM 4-way Stop Method (Future Volume Alternative)

Intersection #6 Dillon Ave/Sam Cava Ln

Cycle (sec): 100 Critical Vol./Cap.(X): 0.227
Loss Time (sec): 0 Average Delay (sec/veh): 8.0
Optimal Cycle: 0 Level of Service: A
*****Street Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0Volume Module: >> Count Date: 30 Apr 2014 << 7:15 - 8:15 am
Base Vol: 21 11 3 7 20 137 27 63 22 2 13 2
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 21 11 3 7 20 140 28 64 22 2 13 2
Added Vol: 6 5 0 0 -2 0 0 0 -3 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 27 16 3 7 18 140 28 61 20 2 21 2
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: 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80
PHF Volume: 34 20 4 9 23 174 34 76 25 3 26 3
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 34 20 4 9 23 174 34 76 25 3 26 3
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: 34 20 4 9 23 174 34 76 25 3 26 3Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.59 0.35 0.06 0.04 0.11 0.85 0.25 0.56 0.19 0.08 0.84 0.08
Final Sat.: 446 264 50 39 101 766 196 437 146 60 626 60Capacity Analysis Module:
Vol/Sat: 0.08 0.08 0.08 0.23 0.23 0.23 0.17 0.17 0.17 0.04 0.04 0.04
Crit Moves: ****
Delay/Veh: 7.9 7.9 7.9 7.9 7.9 7.9 8.3 8.3 8.3 7.7 7.7 7.7
Delay 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
AdjDel/Veh: 7.9 7.9 7.9 7.9 7.9 7.9 8.3 8.3 8.3 7.7 7.7 7.7
LOS by Move: A A A A A A A A A A A A
ApproachDel: 7.9 A 7.9 8.3
Delay Adj: 1.00 1.00 1.00 1.00
ApprAdjDel: 7.9 7.9 8.3
LOS by Appr: A A A A
AllWayAVGQ: 0.1 0.1 0.1 0.3 0.3 0.3 0.2 0.2 0.2 0.0 0.0 0.0

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

PM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM 4-way Stop Method (Future Volume Alternative)

Intersection #6 Dillon Ave/Sam Cava Ln

Cycle (sec): 100 Critical Vol./Cap.(X): 0.203
Loss Time (sec): 0 Average Delay (sec/veh): 7.8
Optimal Cycle: 0 Level of Service: A
*****Street Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 13 8 9 8 7 76 33 114 5 1 31 1
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: 13 8 9 8 7 76 33 114 5 1 31 1
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: 13 8 9 8 11 76 33 121 10 1 31 1
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: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
PHF Volume: 13 8 9 8 11 79 34 125 10 1 32 1
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 8 9 8 11 79 34 125 10 1 32 1
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: 13 8 9 8 11 79 34 125 10 1 32 1Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.43 0.27 0.30 0.08 0.12 0.80 0.20 0.74 0.06 0.03 0.94 0.03
Final Sat.: 343 211 237 74 102 706 168 616 51 24 756 24Capacity Analysis Module:
Vol/Sat: 0.04 0.04 0.04 0.11 0.11 0.11 0.20 0.20 0.20 0.04 0.04 0.04
Crit Moves: ****
Delay/Veh: 7.5 7.5 7.5 7.4 7.4 7.4 8.2 8.2 8.2 7.5 7.5 7.5
Delay 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
AdjDel/Veh: 7.5 7.5 7.5 7.4 7.4 7.4 8.2 8.2 8.2 7.5 7.5 7.5
LOS by Move: A A A A A A A A A A A A
ApproachDel: 7.5 A 7.4 8.2
Delay Adj: 1.00 1.00 1.00 1.00
ApprAdjDel: 7.5 7.4 8.2
LOS by Appr: A A A A
AllWayAVGQ: 0.0 0.0 0.0 0.1 0.1 0.1 0.2 0.2 0.2 0.0 0.0 0.0

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

AM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Union Ave/Duncanville Ct
*****Cycle (sec): 100 Critical Vol./Cap.(X): 0.572
Loss Time (sec): 6 Average Delay (sec/veh): 6.3
Optimal Cycle: 33 Level of Service: A
*****Street Name: Union Ave Duncanville Ct
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Include Permitted
Rights: Include Include Include Include Include Include
Min. Green: 7 10 0 0 10 10 10 10 0 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
Lanes: 1 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 10 894 0 0 221 4 20 0 13 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: 10 894 0 0 221 4 20 0 13 0 0 0
Added Vol: 0 0 0 0 4 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 10 903 0 0 225 4 20 0 13 0 0 0
User Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 11 983 0 0 245 4 22 0 14 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 11 983 0 0 245 4 22 0 14 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: 11 983 0 0 245 4 22 0 14 0 0 0Saturation 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 1.00 0.00 0.00 0.98 0.02 0.61 0.00 0.39 0.00 0.00 0.00
Final Sat.: 1750 1900 0 0 1864 33 1061 0 689 0 0 0Capacity Analysis Module:
Vol/Sat: 0.01 0.52 0.00 0.00 0.13 0.13 0.02 0.00 0.02 0.00 0.00 0.00
Crit Moves: ****
Green Time: 29.2 84.0 0.0 0.0 54.8 54.8 10.0 0.0 10.0 0.0 0.0 0.0
Volume/Cap: 0.02 0.62 0.00 0.00 0.24 0.24 0.21 0.00 0.21 0.00 0.00 0.00
Delay/Veh: 25.2 3.4 0.0 0.0 11.9 11.9 41.9 0.0 41.9 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: 25.2 3.4 0.0 0.0 11.9 11.9 41.9 0.0 41.9 0.0 0.0 0.0
LOS by Move: C A A B+ B+ D A D A A A
HCM2kAVGQ: 0 11 0 0 4 4 1 0 1 0 0 0

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

PM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Union Ave/Duncanville Ct
*****Cycle (sec): 100 Critical Vol./Cap.(X): 0.557
Loss Time (sec): 6 Average Delay (sec/veh): 5.6
Optimal Cycle: 33 Level of Service: A
*****Street Name: Union Ave Duncanville Ct
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Include Permitted
Rights: Include Include Include Include Include Include
Min. Green: 7 10 0 0 10 10 10 10 0 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
Lanes: 1 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 9 471 0 0 857 17 8 0 8 0 0 0
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 9 480 0 0 874 17 8 0 8 0 0 0
Added Vol: 0 5 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: 9 485 0 0 884 17 8 0 8 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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 10 519 0 0 945 19 9 0 9 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 10 519 0 0 945 19 9 0 9 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: 10 519 0 0 945 19 9 0 9 0 0 0Saturation 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 1.00 0.00 0.00 0.98 0.02 0.50 0.00 0.50 0.00 0.00 0.00
Final Sat.: 1750 1900 0 0 1860 36 875 0 875 0 0 0Capacity Analysis Module:
Vol/Sat: 0.01 0.27 0.00 0.00 0.00 0.51 0.51 0.01 0.00 0.01 0.00 0.00
Crit Moves: ****
Green Time: 7.0 84.0 0.0 0.0 77.0 77.0 10.0 0.0 10.0 0.0 0.0 0.0
Volume/Cap: 0.08 0.32 0.00 0.00 0.66 0.66 0.10 0.00 0.10 0.00 0.00 0.00
Delay/Veh: 43.8 1.9 0.0 0.0 6.5 6.5 41.2 0.0 41.2 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: 43.8 1.9 0.0 0.0 6.5 6.5 41.2 0.0 41.2 0.0 0.0 0.0
LOS by Move: D A A A A D A D A A A A
HCM2kAVGQ: 0 4 0 0 14 14 1 0 1 0 0 0

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

AM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.438
Loss Time (sec): 9 Average Delay (sec/veh): 12.6
Optimal Cycle: 36 Level of Service: B
*****Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 0 10 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 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 1 0 0 0 1Volume Module: >> Count Date: 14 May 2014 << 7:45 - 8:45 am
Base Vol: 0 763 170 18 489 0 0 0 0 0 163 0 52
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: 0 763 170 18 489 0 0 0 0 0 163 0 52
Added Vol: 0 18 -1 1 17 0 0 0 0 0 4 0 3
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 781 169 19 506 0 0 0 0 0 167 0 55
User Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 0 864 187 21 560 0 0 0 0 0 185 0 61
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 864 187 21 560 0 0 0 0 0 185 0 61
POE 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: 0 864 187 21 560 0 0 0 0 0 185 0 61Saturation 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.62 0.38 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
Final Sat.: 0 3077 666 1750 3800 0 0 0 0 0 1750 0 1750Capacity Analysis Module:
Vol/Sat: 0.00 0.28 0.28 0.01 0.15 0.00 0.00 0.00 0.00 0.00 0.11 0.00 0.03
Crit Moves: ****
Green Time: 0 0 61.0 61.0 7.0 68.0 0 0 0 0 23.0 0 23.0
Volume/Cap: 0.00 0.46 0.46 0.17 0.22 0.00 0.00 0.00 0.00 0.00 0.46 0.00 0.15
Delay/Veh: 0.0 10.7 10.7 44.4 6.0 0.0 0.0 0.0 0.0 0.0 34.0 0.0 30.9
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: 0.0 10.7 10.7 44.4 6.0 0.0 0.0 0.0 0.0 0.0 34.0 0.0 30.9
LOS by Move: A B+ B+ D A A A A C- A C
HCM2kAVGQ: 0 9 9 1 3 0 0 0 0 0 6 0 2

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

PM Peak Hour - Cumulative Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of CampbellLevel of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.431
Loss Time (sec): 9 Average Delay (sec/veh): 11.8
Optimal Cycle: 36 Level of Service: B+
*****Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 0 10 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 4.0
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 0 1 0 0 0 1Volume Module: >> Count Date: 14 May 2014 << 5:00 - 6:00 pm
Base Vol: 0 780 169 38 710 0 0 0 0 0 159 0 52
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 0 796 172 39 724 0 0 0 0 0 162 0 53
Added Vol: 0 30 3 2 26 0 0 0 0 0 1 0 1
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 826 175 41 750 0 0 0 0 0 163 0 54
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 1.00
PHF Adj: 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume: 0 844 179 42 767 0 0 0 0 0 167 0 55
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 844 179 42 767 0 0 0 0 0 167 0 55
POE 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 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 1.00
FinalVolume: 0 844 179 42 767 0 0 0 0 0 167 0 55Saturation 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.63 0.37 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00
Final Sat.: 0 3088 656 1750 3800 0 0 0 0 0 1750 0 1750Capacity Analysis Module:
Vol/Sat: 0.00 0.27 0.27 0.02 0.20 0.00 0.00 0.00 0.00 0.00 0.10 0.00 0.03
Crit Moves: ****
Green Time: 0 0 62.3 62.3 7.0 69.3 0 0 0 0 21.7 0 21.7
Volume/Cap: 0.00 0.44 0.44 0.34 0.29 0.00 0.00 0.00 0.00 0.00 0.44 0.00 0.15
Delay/Veh: 0.0 9.9 9.9 46.0 6.0 0.0 0.0 0.0 0.0 0.0 34.7 0.0 31.8
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 1.00
AdjDel/Veh: 0.0 9.9 9.9 46.0 6.0 0.0 0.0 0.0 0.0 0.0 34.7 0.0 31.8
LOS by Move: A A A D A A A A C- A C
HCM2kAVGQ: 0 8 8 2 5 0 0 0 0 0 5 0 2

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

AM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.591
Loss Time (sec): 12 Average Delay (sec/veh): 16.4
Optimal Cycle: 48 Level of Service: B

Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 0 0 0 1 0 0 0 0 1 0 1

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 6 76 275 0 0 9 120 0 43 158 722
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 6 76 275 0 0 9 120 0 43 158 722
Added Vol: 5 27 28 0 0 0 0 11 0 2 9 18
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 11 103 303 0 0 9 131 0 45 167 740
User Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 12 117 343 0 0 10 148 0 51 189 838
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 12 117 343 0 0 10 148 0 51 189 838
PCE Adj: 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
FinalVolume: 12 117 343 0 0 10 148 0 51 189 838

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.10 0.90 2.00 0.00 0.00 0.00 0.07 0.93 0.00 0.08 0.27 1.65
Final Sat.: 182 1703 3150 0 0 121 1768 0 138 514 2888

Capacity Analysis Module:
Vol/Sat: 0.07 0.07 0.11 0.00 0.00 0.00 0.08 0.08 0.00 0.37 0.37 0.29
Crit Moves: *****
Green Time: 11.6 11.6 73.8 0.0 0.0 0.0 14.2 14.2 0.0 62.2 62.2 62.2
Volume/Cap: 0.59 0.59 0.15 0.00 0.00 0.00 0.59 0.59 0.00 0.59 0.59 0.47
Delay/Veh: 53.2 53.2 4.0 0.0 0.0 0.0 49.4 49.4 0.0 12.7 12.7 10.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 53.2 53.2 4.0 0.0 0.0 0.0 49.4 49.4 0.0 12.7 12.7 10.7
LOS by Move: D- D- A A A D D A B B B+
HCM2kAvgQ: 4 4 2 0 0 0 5 0 0 13 13 9

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

PM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Campbell Ave/Railway Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.664
Loss Time (sec): 12 Average Delay (sec/veh): 21.2
Optimal Cycle: 55 Level of Service: C+

Street Name: Railway Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Ovl Include Include Include
Min. Green: 7 10 10 10 10 10 10 10
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 0 1 0 0 2 0 0 0 0 0 0 1 0 0 1 0 1

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 12 92 846 0 0 19 283 5 47 182 557
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 12 94 863 0 0 19 289 5 48 186 568
Added Vol: 0 10 30 0 0 0 0 8 0 9 4 38
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 12 104 893 0 0 19 297 5 57 190 606
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 13 113 972 0 0 21 323 6 62 206 660
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 113 972 0 0 21 323 6 62 206 660
PCE Adj: 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
FinalVolume: 13 113 972 0 0 21 323 6 62 206 660

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.83 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.11 0.89 2.00 0.00 0.00 0.00 0.06 0.92 0.02 0.10 0.33 1.57
Final Sat.: 199 1684 3150 0 0 114 1744 30 186 621 2742

Capacity Analysis Module:
Vol/Sat: 0.07 0.07 0.31 0.00 0.00 0.00 0.19 0.19 0.19 0.33 0.33 0.24
Crit Moves: *****
Green Time: 10.1 10.1 60.1 0.0 0.0 0.0 27.9 27.9 0.0 50.0 50.0 50.0
Volume/Cap: 0.66 0.66 0.51 0.00 0.00 0.00 0.66 0.66 0.66 0.66 0.66 0.48
Delay/Veh: 60.2 60.2 12.5 0.0 0.0 0.0 38.4 38.4 38.4 21.2 21.2 17.3
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 60.2 60.2 12.5 0.0 0.0 0.0 38.4 38.4 38.4 21.2 21.2 17.3
LOS by Move: E E B A A A D+ D+ C+ C+ B
HCM2kAvgQ: 4 4 11 0 0 0 10 10 10 15 15 9

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

AM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: D[25.8]

Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0
Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am
Base Vol: 0 0 12 0 28 19 443 0 0 1145 8
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 0 0 12 0 29 19 452 0 0 1168 8
Added Vol: 0 0 0 0 0 0 0 45 0 0 25 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 12 0 29 19 497 0 0 1193 8
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 0 13 0 30 21 526 0 0 1262 9
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 13 0 30 21 526 0 0 1262 9
Critical Gap Module:
Critical Gap:xxxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx
Capacity Module:
Conflict Vol: xxxx xxxx 1571 1833 635 1271 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx 103 77 426 553 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx 100 74 426 553 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx 0.13 0.00 0.07 0.04 xxxx xxxxx xxxxx xxxxx
Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx 0.1 xxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx xxxxx 11.8 xxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx 216 xxxxx xxxx xxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx 0.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 25.8 xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * D * * * * *
ApproachDel: xxxxxx 25.8 xxxxxx xxxxxx
ApproachLOS: * * * * *
Note: Queue reported is the number of cars per lane.

PM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Campbell Ave/Page St

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: F[79.8]

Street Name: Page St
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0
Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm
Base Vol: 0 0 29 0 16 57 1119 0 0 773 20
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 0 0 30 0 16 58 1141 0 0 788 20
Added Vol: 0 0 0 0 0 0 0 33 0 0 60 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 0 30 0 16 58 1174 0 0 848 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87 0.87
PHF Volume: 0 0 34 0 19 67 1356 0 0 980 24
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 34 0 19 67 1356 0 0 980 24
Critical Gap Module:
Critical Gap:xxxxx xxxxx xxxxx 6.8 6.5 6.9 4.1 xxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx xxxxx xxxxx 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx
Capacity Module:
Conflict Vol: xxxx xxxx 1804 2482 502 1003 xxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxx xxxx 72 30 520 698 xxxx xxxxx xxxxx xxxxx
Move Cap.: xxxx xxxx 67 27 520 698 xxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxx xxxx 0.51 0.00 0.04 0.10 xxxx xxxxx xxxxx xxxxx
Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx 0.3 xxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx xxxxx 10.7 xxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx 2.5 xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 79.8 xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * F * * * * *
ApproachDel: xxxxxx 79.8 xxxxxx xxxxxx
ApproachLOS: * * * * *
Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report												
2000 HCM Operations Method (Base Volume Alternative)												
Intersection #2 Campbell Ave/Page-Gilman												
Cycle (sec):	100	Critical Vol./Cap.(X):										0.465
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):										17.8
Optimal Cycle:	36	Level Of Service:										B

Street Name:		Page-Gilman				Campbell Ave						
Approach:	North Bound	South Bound			East Bound			West Bound				
Movement:	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R	L - T - R		
Control:	Protected	Protected			Protected			Protected				
Rights:	Include	Include			Include			Include				
Min. Green:	0 0 0	10 10 10	10 10 10	7 10 0	0 0 0	1 0 1	0 1 0	1 0 1	0 1 0	1 0 1		
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	1 0 1 1 0	1 0 1 1 0	1 0 1 1 0	1 0 1 1 0	1 0 1 1 0	1 0 1 1 0	1 0 1 1 0		

Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am												
Base Vol:	23 0	118 0	29 19	463 35	73 1044	8						
Growth Adj:	1.02 1.02	1.02 1.02	1.02 1.02	1.02 1.02	1.02 1.02	1.02 1.02	1.02 1.02	1.02 1.02	1.02 1.02	1.02 1.02		
Initial Bse:	23 0	120 0	30 19	472 36	74 1065	8						
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	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00		
PHF Adj:	0.95 0.95	0.95 0.95	0.95 0.95	0.95 0.95	0.95 0.95	0.95 0.95	0.95 0.95	0.95 0.95	0.95 0.95	0.95 0.95		
PHF Volume:	25 0	127 13	0 31	21 500	38 79	1127 9						
Reduct Vol:	0 0	0 0	0 0	0 0	0 0	0 0						
Reduced Vol:	25 0	127 13	0 31	21 500	38 79	1127 9						
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:	25 0	127 13	0 31	21 500	38 79	1127 9						

Saturation Flow Module:												
Sat/Lane:	1900 1900	1900 1900	1900 1900	1900 1900	1900 1900	1900 1900						
Adjustment:	0.92 1.00	0.92 1.00	0.92 1.00	0.92 1.00	0.92 1.00	0.92 1.00						
Lanes:	0.16 0.00	0.84 0.29	0.00 0.71	1.00 1.85	0.15 1.00	1.00 1.98						
Final Sat.:	285 0	1465 512	0 1238	1750 3512	265 1750	3769 29						

Capacity Analysis Module:												
Vol/Sat:	0.09 0.00	0.09 0.03	0.00 0.03	0.01 0.14	0.14 0.05	0.30 0.30						
Crit Moves:	20.7 0.0	16.7 10.0	0.0 6.0	7.0 48.9	48.9 15.5	57.3 57.3						
Green Time:	0.42 0.00	0.52 0.25	0.00 0.42	0.17 0.29	0.29 0.29	0.52 0.52						
Volume/Cap:	35.3 0.0	39.7 42.3	0.0 48.0	44.4 15.3	15.3 38.0	13.2 13.2						
Delay/Veh:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00						
User DelAdj:	35.3 0.0	39.7 42.3	0.0 48.0	44.4 15.3	15.3 38.0	13.2 13.2						
AdjDel/Veh:	5 0	5 2	0 2	1 5	5 3	11 11						
LOS by Move:	D+	A	D	D	B	B						
HCM2kAvgQ:	5 0	5 2	0 2	1 5	5 3	11 11						

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

Level Of Service Computation Report												
2000 HCM Operations Method (Base Volume Alternative)												
Intersection #2 Campbell Ave/Page-Gilman												
Cycle (sec):	100	Critical Vol./Cap.(X):					0.669					
Loss Time (sec):	9 (Y+R=4.0 sec)	Average Delay (sec/veh):					24.8					
Optimal Cycle:	48	Level Of Service:					C					
Street Name: Page-Gilman Campbell Ave												
Approach:	North Bound	South Bound	East Bound	West Bound								
Movement:	L - T - R	L - T - R	L - T - R	L - T - R	L	T	R	L	T	R		
Control:	Protected	Protected	Protected	Protected	Protected				Protected			
Rights:	Include	Include	Include	Include	Include				Include			
Min. Green:	0 0 0	10 10 10	7 10 0	0 0 10								
Lanes:	0 0 1! 0 0	0 0 1! 0 0	1 0 1 1 0	1 0 1 1 0								
Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm												
Base Vol:	31 0	182 30	0 16	58 1143	31	104	883	20				
Growth Adj:	1.02 1.02	1.02 1.02	1.02 1.02	1.02 1.02	1.02	1.02	1.02	1.02				
Initial Bse:	32 0	186 31	0 16	59 1166	32	106	901	20				
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:	0.87 0.87	0.87 0.87	0.87 0.87	0.87 0.87	0.87	0.87	0.87	0.87				
PHF Volume:	37 0	214 35	0 19	68 1346	37	122	1040	24				
Reduct Vol:	0 0	0 0	0 0	0 0	0	0	0	0				
Reduced Vol:	37 0	214 35	0 19	68 1346	37	122	1040	24				
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:	37 0	214 35	0 19	68 1346	37	122	1040	24				
Saturation Flow Module:												
Sat/Lane:	1900 1900	1900 1900	1900 1900	1900 1900	1900	1900	1900	1900				
Adjustment:	0.92 1.00	0.92 1.00	0.92 1.00	0.92 1.00	0.92	0.92	1.00	0.92				
Lanes:	0.15 0.00	0.85 0.65	0.00 0.35	1.00 1.94	0.06	1.00	1.95	0.05				
Final Sat.:	255 0	1495 1141	0 609	1750 3691	100	1750	3709	84				
Capacity Analysis Module:												
Vol/Sat:	0.14 0.00	0.14 0.03	0.00 0.03	0.04 0.36	0.36	0.07	0.28	0.28				
Crit Moves:	20.1 0.0	17.7 12.4	0.0 10.0	12.2 51.1	51.1	9.8	48.7	48.7				
Green Time:	0.71 0.00	0.81 0.25	0.00 0.31	0.32 0.71	0.71	0.71	0.58	0.58				
Volume/Cap:	44.1 0.0	54.1 40.2	0.0 42.8	41.0 20.1	20.1	57.0	18.7	18.7				
Delay/Veh:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00	1.00	1.00	1.00				
User DelAdj:	44.1 0.0	54.1 40.2	0.0 42.8	41.0 20.1	20.1	57.0	18.7	18.7				
AdjDel/Veh:	9 0	10 2	0 2	2 17	17	6	12	12				
LOS by Move:	D A	D D	A D	D C+	C+	B-	B-	B-				
HCM2kAvgQ:	9 0	10 2	0 2	2 17	17	6	12	12				
Note: Queue reported is the number of cars per lane.												

AM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.423
Loss Time (sec): 9 Average Delay (sec/veh): 12.8
Optimal Cycle: 39 Level of Service: B

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include Include Include
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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 23 0 100 0 0 0 0 378 35 76 1027 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: 23 0 100 0 0 0 0 378 35 76 1027 0
Added Vol: 0 0 17 0 0 0 0 45 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 23 0 117 0 0 0 0 423 35 72 1052 0
User Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
PHF Adj: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
PHF Volume: 26 0 131 0 0 0 0 474 39 81 1178 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 26 0 131 0 0 0 0 474 39 81 1178 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: 26 0 131 0 0 0 0 474 39 81 1178 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.84 0.16 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3487 289 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.01 0.00 0.07 0.00 0.00 0.00 0.00 0.00 0.14 0.14 0.05 0.31
Crit Moves: ****
Green Time: 13.1 0.0 67.3 0.0 0.0 0.0 0.0 23.7 54.2 77.9 0.0
Volume/Cap: 0.11 0.00 0.11 0.00 0.00 0.00 0.00 0.57 0.09 0.40 0.00
Delay/Veh: 38.6 0.0 5.8 0.0 0.0 0.0 0.0 34.5 11.0 3.6 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
AdjDel/Veh: 38.6 0.0 5.8 0.0 0.0 0.0 0.0 34.5 11.0 3.6 0.0
LOS by Move: D+ A A A A A C- B+ A A
HCM2kAvgQ: 1 0 2 0 0 0 0 8 1 6 0

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

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PM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Campbell Ave/Gilman Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.591
Loss Time (sec): 9 Average Delay (sec/veh): 12.7
Optimal Cycle: 40 Level of Service: B

Street Name: Gilman Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Split Phase Split Phase Permitted Include Protected
Rights: Ovl Include Include Include Include
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
Lanes: 1 0 0 0 1 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 30 0 175 0 0 0 0 1167 30 87 827 0
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 31 0 179 0 0 0 0 1190 31 89 844 0
Added Vol: 0 0 3 0 0 0 0 33 0 16 60 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 31 0 182 0 0 0 0 1223 31 105 904 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: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 33 0 197 0 0 0 0 1331 33 114 983 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 33 0 197 0 0 0 0 1331 33 114 983 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: 33 0 197 0 0 0 0 1331 33 114 983 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.95 0.05 1.00 2.00 0.00
Final Sat.: 1750 0 1750 0 0 0 0 3700 93 1750 3800 0

Capacity Analysis Module:
Vol/Sat: 0.02 0.00 0.11 0.00 0.00 0.00 0.00 0.36 0.36 0.07 0.26 0.00
Crit Moves: ****
Green Time: 19.1 0.0 30.1 0.0 0.0 0.0 0.0 60.9 60.9 11.0 71.9 0.0
Volume/Cap: 0.10 0.00 0.37 0.00 0.00 0.00 0.00 0.59 0.59 0.36 0.00
Delay/Veh: 33.5 0.0 28.0 0.0 0.0 0.0 0.0 12.4 12.4 5.4 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
AdjDel/Veh: 33.5 0.0 28.0 0.0 0.0 0.0 0.0 12.4 12.4 5.4 0.0
LOS by Move: C- A A A A A B D A A
HCM2kAvgQ: 1 0 5 0 0 0 0 13 13 5 6

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

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AM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.624
Loss Time (sec): 12 Average Delay (sec/veh): 28.1
Optimal Cycle: 51 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Protected Protected
Rights: Include Ovl Include
Min. Green: 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
Lanes: 1 0 1 0 0 0 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 643 106 168 6 17 26 47 289 143 63 433 17
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: 643 106 168 6 17 26 47 289 143 63 433 17
Added Vol: 3 7 0 0 1 2 0 62 6 0 10 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 646 113 168 6 18 28 47 351 149 63 443 17
User Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 708 124 184 7 20 31 51 385 163 69 485 19
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 708 124 184 7 20 31 51 385 163 69 485 19
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: 708 124 184 7 20 31 51 385 163 69 485 19

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.55 0.17 0.28 0.27 0.73 1.00 1.00 2.00 1.00 1.00 1.92 0.08
Final Sat.: 2700 332 494 465 1395 1750 1750 3800 1750 1750 3648 140

Capacity Analysis Module:
Vol/Sat: 0.26 0.37 0.37 0.01 0.01 0.02 0.03 0.10 0.09 0.04 0.13 0.13
Crit Moves: ****
Green Time: 52.3 52.3 52.3 10.0 10.0 17.0 7.0 15.2 67.5 10.5 18.7 18.7
Volume/Cap: 0.50 0.71 0.71 0.14 0.14 0.10 0.42 0.67 0.14 0.38 0.71 0.71
Delay/Veh: 15.6 19.8 19.8 41.4 41.4 35.2 46.9 43.0 5.9 43.0 41.5 41.5
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: 15.6 19.8 19.8 41.4 41.4 35.2 46.9 43.0 5.9 43.0 41.5 41.5
LOS by Move: B B- D D+ D D A D D
HCM2kAVGQ: 9 16 16 1 1 2 7 2 3 9 9 9

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

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PM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Campbell Ave/Union Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.665
Loss Time (sec): 12 Average Delay (sec/veh): 24.4
Optimal Cycle: 55 Level of Service: C

Street Name: Union Ave Campbell Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Protected Protected
Rights: Include Ovl Include
Min. Green: 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
Lanes: 1 0 1 0 0 0 1 0 2 0 1 1 0 1 1 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 304 51 128 39 141 128 72 654 598 118 411 14
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 310 52 131 40 144 131 73 667 610 120 419 14
Added Vol: 6 3 0 0 8 16 0 31 3 0 57 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 316 55 131 40 152 147 73 698 613 120 476 14
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: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 355 62 147 45 170 164 82 783 688 135 534 16
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 355 62 147 45 170 164 82 783 688 135 534 16
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: 355 62 147 45 170 164 82 783 688 135 534 16

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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 1.47 0.15 0.38 0.22 0.78 1.00 1.00 2.00 1.00 1.00 1.94 0.06
Final Sat.: 2565 284 673 388 1479 1750 1750 3800 1750 1750 3680 110

Capacity Analysis Module:
Vol/Sat: 0.14 0.22 0.22 0.12 0.12 0.09 0.05 0.21 0.39 0.08 0.15 0.15
Crit Moves: ****
Green Time: 32.7 32.7 32.7 17.3 17.3 33.5 16.2 38.3 71.0 11.6 33.7 33.7
Volume/Cap: 0.42 0.67 0.67 0.67 0.67 0.28 0.29 0.54 0.55 0.67 0.43 0.43
Delay/Veh: 26.5 31.0 31.0 43.8 43.8 24.6 37.4 24.4 7.5 50.4 26.0 26.0
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: 26.5 31.0 31.0 43.8 43.8 24.6 37.4 24.4 7.5 50.4 26.0 26.0
LOS by Move: C C C D D C D+ C A D C
HCM2kAVGQ: 6 11 11 7 7 4 3 10 11 6 7 7

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

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AM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.245
Loss Time (sec): 9 Average Delay (sec/veh): 15.9
Optimal Cycle: 29 Level of Service: B

Street Name: Railway Ave Orchard City Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Split Phase Split Phase
Rights: Include Include Include Include Include
Min. Green: 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
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:45 - 8:45 am
Base Vol: 0 121 0 0 40 0 246 0 57 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: 0 121 0 0 40 0 246 0 57 0 0 0
Added Vol: 0 41 0 0 2 0 19 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 162 0 0 42 0 265 0 57 0 0 0
User Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
PHF Adj: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 0 186 0 0 48 0 305 0 66 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 186 0 0 48 0 305 0 66 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: 0 186 0 0 48 0 305 0 66 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.00 0.00 0.00 1.00 0.00 1.70 0.00 0.30 0.00 0.00 0.00
Final Sat.: 0 1900 0 0 1900 0 2974 0 526 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.10 0.00 0.00 0.03 0.00 0.10 0.00 0.12 0.00 0.00 0.00
Crit Moves: ****
Green Time: 0.0 40.1 0.0 0.0 40.1 0.0 50.9 0.0 50.9 0.0 0.0 0.0
Volume/Cap: 0.00 0.24 0.00 0.00 0.06 0.00 0.20 0.00 0.24 0.00 0.00 0.00
Delay/Veh: 0.0 20.1 0.0 0.0 18.5 0.0 13.5 0.0 13.8 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: 0.0 20.1 0.0 0.0 18.5 0.0 13.5 0.0 13.8 0.0 0.0 0.0
LOS by Move: A C+ A B- A B A B A A A
HCM2kAVGQ: 0 4 0 0 1 0 3 0 4 0 0 0

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

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

PM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)
Intersection #5 Railway Ave/Orchard City Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.445
Loss Time (sec): 9 Average Delay (sec/veh): 11.9
Optimal Cycle: 31 Level of Service: B+

Street Name: Railway Ave Orchard City Dr
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Split Phase Split Phase
Rights: Include Include Include Include Include
Min. Green: 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
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 0 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 0 149 0 0 52 0 806 0 59 0 0 0
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 0 152 0 0 53 0 822 0 60 0 0 0
Added Vol: 0 15 0 0 9 0 25 0 30 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 167 0 0 62 0 847 0 90 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: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 177 0 0 66 0 899 0 96 0 0 0
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 177 0 0 66 0 899 0 96 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: 0 177 0 0 66 0 899 0 96 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 0.92 1.00 0.92 0.92 1.00 0.92
Lanes: 0.00 1.00 0.00 0.00 1.00 0.00 1.82 0.00 0.18 0.00 0.00 0.00
Final Sat.: 0 1900 0 0 1900 0 3193 0 307 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.00 0.09 0.00 0.00 0.03 0.00 0.28 0.00 0.31 0.00 0.00 0.00
Crit Moves: ****
Green Time: 0.0 21.0 0.0 0.0 21.0 0.0 70.0 0.0 70.0 0.0 0.0 0.0
Volume/Cap: 0.00 0.44 0.00 0.00 0.17 0.00 0.40 0.00 0.44 0.00 0.00 0.00
Delay/Veh: 0.0 35.2 0.0 0.0 32.6 0.0 6.4 0.0 6.7 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: 0.0 35.2 0.0 0.0 32.6 0.0 6.4 0.0 6.7 0.0 0.0 0.0
LOS by Move: A D+ A A C- A A A A A A
HCM2kAVGQ: 0 5 0 0 2 0 7 0 8 0 0 0

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

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

AM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6 Dillon Ave/Sam Cava Ln

Cycle (sec): 100 Critical Vol./Cap.(X): 0.228
Loss Time (sec): 0 Average Delay (sec/veh): 8.1
Optimal Cycle: 0 Level of Service: A

Street Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 7:15 - 8:15 am
Base Vol: 21 11 3 7 20 137 27 63 22 2 13 2
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 21 11 3 7 20 140 28 64 22 2 13 2
Added Vol: 6 5 0 0 -2 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 27 16 3 7 18 140 28 67 20 2 22 2
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 1.00 1.00 1.00 1.00
PHF Adj: 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80
PHF Volume: 34 20 4 9 23 174 34 84 25 3 28 3
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 34 20 4 9 23 174 34 84 25 3 28 3
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 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 1.00 1.00 1.00 1.00
FinalVolume: 34 20 4 9 23 174 34 84 25 3 28 3

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.59 0.35 0.06 0.04 0.11 0.85 0.24 0.58 0.18 0.08 0.84 0.08
Final Sat.: 443 262 49 39 100 761 186 454 138 58 629 58

Capacity Analysis Module:

Vol/Sat: 0.08 0.08 0.08 0.23 0.23 0.23 0.18 0.18 0.18 0.18 0.04 0.04 0.04 0.04 0.04 0.04
Crit Moves: 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.8 7.8 7.8 7.8 7.8 7.8
Delay/Veh: 1.00 1.00 1.00 1.00 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: 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.8 7.8 7.8 7.8 7.8 7.8
LOS by Move: A A A A A A A A A A A A A A A A
ApproachDel: 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.8 7.8 7.8 7.8 7.8 7.8
Delay 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 1.00 1.00 1.00 1.00
ApprAdjDel: 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.8 7.8 7.8 7.8 7.8 7.8
LOS by Appr: A A A A A A A A A A A A A A A A
AllWayAVGQ: 0.1 0.1 0.1 0.3 0.3 0.3 0.2 0.2 0.2 0.2 0.0 0.0 0.0 0.0 0.0 0.0

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

PM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #6 Dillon Ave/Sam Cava Ln

Cycle (sec): 100 Critical Vol./Cap.(X): 0.207
Loss Time (sec): 0 Average Delay (sec/veh): 7.9
Optimal Cycle: 0 Level of Service: A

Street Name: Dillon Ave Sam Cava Ln
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0

Volume Module: >> Count Date: 30 Apr 2014 << 5:00 - 6:00 pm
Base Vol: 13 8 9 8 7 76 33 114 5 1 31 1
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 1.00 1.00 1.00 1.00
Initial Bse: 13 8 9 8 7 76 33 114 5 1 31 1
Added Vol: 0 0 0 0 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 0 0 0 0
Initial Fut: 13 8 9 8 11 76 33 124 10 1 37 1
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 1.00 1.00 1.00 1.00
PHF Adj: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
PHF Volume: 13 8 9 8 11 79 34 128 10 1 38 1
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 13 8 9 8 11 79 34 128 10 1 38 1
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 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 1.00 1.00 1.00 1.00
FinalVolume: 13 8 9 8 11 79 34 128 10 1 38 1

Saturation Flow Module:

Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.43 0.27 0.30 0.08 0.12 0.80 0.20 0.74 0.06 0.02 0.95 0.03
Final Sat.: 341 210 236 74 101 701 165 619 50 21 762 21

Capacity Analysis Module:

Vol/Sat: 0.04 0.04 0.04 0.11 0.11 0.11 0.21 0.21 0.21 0.05 0.05 0.05 0.05 0.05 0.05 0.05
Crit Moves: 7.5 7.5 7.5 7.4 7.4 7.4 8.3 8.3 8.3 7.5 7.5 7.5 7.5 7.5 7.5 7.5
Delay/Veh: 1.00 1.00 1.00 1.00 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: 7.5 7.5 7.5 7.4 7.4 7.4 8.3 8.3 8.3 7.5 7.5 7.5 7.5 7.5 7.5 7.5
LOS by Move: A A A A A A A A A A A A A A A A
ApproachDel: 7.5 7.5 7.5 7.4 7.4 7.4 8.3 8.3 8.3 7.5 7.5 7.5 7.5 7.5 7.5 7.5
Delay 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 1.00 1.00 1.00 1.00
ApprAdjDel: 7.5 7.5 7.5 7.4 7.4 7.4 8.3 8.3 8.3 7.5 7.5 7.5 7.5 7.5 7.5 7.5
LOS by Appr: A A A A A A A A A A A A A A A A
AllWayAVGQ: 0.0 0.0 0.0 0.1 0.1 0.1 0.2 0.2 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0

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

AM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report 2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 Union Ave/Duncanville Ct

Cycle (sec):	100	Critical Vol./Cap.(X):	0.573
Loss Time (sec):	6	Average delay (sec/veh):	6.3
Optimal Cycle:	33	Level Of Service:	A

Street Name: Approach: Movement:	Union Ave					Duncanville Ct						
	North Bound		South Bound		East Bound		West Bound					
	L	T	R	L	T	R	L	T	R	L	T	R
Controls:	Protected Include		Protected Include		Protected Include		Protected Include		Protected Include			
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
Lanes:	1	0	1	0	0	0	1	0	0	1	0	0
Volume Module: >> Count Date: 11 Mar 2015 << 7:45 - 8:45 am												
Base Vol:	10	894	0	0	221	4	20	0	13	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:	10	894	0	0	221	4	20	0	13	0	0	0
Added Vol:	0	10	0	0	6	0	0	0	0	0	0	0
PasserByVol:	0	10	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	904	0	0	227	4	20	0	13	0	0	0
User Adj:	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	11	984	0	0	247	4	22	0	14	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	984	0	0	247	4	22	0	14	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:	11	984	0	0	247	4	22	0	14	0	0	0

Saturation Flow Module:									
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj/Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	0.00	0.00	0.98	0.02	0.61	0.00	0.39
Final Sat.:	1750	1900	0	0	1864	33	1061	0	689

Capacity Analysis Module:												
Vol/Sat:	0.01	0.52	0.00	0.00	0.13	0.13	0.02	0.00	0.02	0.00	0.00	0.00
Crit Moves:												
Green Time:	29.0	84.0	0.0	0.0	0.0	55.0	0.0	0.0	10.0	0.0	0.0	0.0
Volume/Cap:	0.02	0.62	0.00	0.00	0.24	0.24	0.21	0.00	0.21	0.00	0.00	0.00
Delay/Veh:	25.4	3.4	0.0	0.0	11.8	11.8	41.9	0.0	41.9	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
DelDel/Veh:	25.4	3.4	0.0	0.0	11.8	11.8	41.9	0.0	41.9	0.0	0.0	0.0
LDS by Move:	C	A	A	A	B+	D	A	D	A	A	A	A
HCM2KAVGQ:	0	11	0	0	4	4	1	0	1	0	0	0

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

PM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report

Intersection #7 Union Ave/Duncanville Ct

Cycle (sec):	100	Critical Vol./Cap.(X):	0.557
Loss Time (sec):	6	Average Delay (sec/veh):	5.6
Optimal Cycle:	33	Level Of Service:	A

Street Name: Approach: Movement:	Union Ave						Duncanville Ct					
	North Bound			South Bound			East Bound			West Bound		
	L	-	T - R	L	-	T - R	L	-	T - R	L	-	T - R
Controls:	Protected Include			Protected Include			Permitted Include			Permitted Include		
Rights:	7 10 0			0 10 10			10 0 10			0 0 0		
Min. Green:	4.0 4.0 4.0			4.0 4.0 4.0			4.0 4.0 4.0			4.0 4.0 4.0		
Y+R:	1 0 1 0 0 0			0 0 0 1 0 0			0 0 1 0 0 0			0 0 0 0 0 0		
Lanes:												
Volume Module: >> Count Date: 11 Mar 2015 << 5:00 - 6:00 pm												
Base Vol:	9 471 0			0 857 17			8 0 8			0 0 0		
Growth Adj:	1.02 1.02 1.02			1.02 1.02 1.02			1.02 1.02 1.02			1.02 1.02 1.02		
Initial Bse:	9 480 0			0 874 17			8 0 8			0 0 0		
Added Vol:	0 8 0			0 11 0			0 0 0			0 0 0		
PasserByVol:	0 0 0			0 0 0			0 0 0			0 0 0		
Initial Fut:	9 488 0			0 885 17			8 0 8			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:	0.94 0.94 0.94			0.94 0.94 0.94			0.94 0.94 0.94			0.94 0.94 0.94		
PHF Volume:	10 522 0			0 946 19			9 0 9			0 0 0		
Reduct Vol:	0 0 0			0 0 0			0 0 0			0 0 0		
Reduced Vol:	10 522 0			0 946 19			9 0 9			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:	10 522 0			0 946 19			9 0 9			0 0 0		

Saturation Flow Module:									
Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjstment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	0.00	0.00	0.98	0.02	0.50	0.00	0.50
Final Sat.:	1750	1900	0	0	1860	36	875	0	875

Capacity Analysis Module:												
Vol/Sat:	0.01	0.27	0.00	0.00	0.51	0.51	0.01	0.00	0.01	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	7	84	0	0	0	77	0	10	0	10	0	0
Volume/Cap:	0.08	0.33	0.00	0.00	0.66	0.66	0.10	0.00	0.10	0.00	0.00	0.00
Delay/Veh:	43.8	1.9	0	0	6.5	6.5	41.2	0	41.2	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
Adel/Veh:	43.8	1.9	0	0	6.5	6.5	41.2	0	41.2	0	0	0
LOS by Move:	D	A	A	A	A	A	D	A	D	A	A	A
HC2KavgQ:	0	4	0	0	14	14	1	0	1	0	0	0

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

AM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.453
Loss Time (sec): 9 Average Delay (sec/veh): 13.5
Optimal Cycle: 36 Level of Service: B

Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 0 10 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
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 0 1

Volume Module: >> Count Date: 14 May 2014 << 7:45 - 8:45 am
Base Vol: 0 763 170 18 489 0 0 0 0 163 0 52
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 763 170 18 489 0 0 0 0 163 0 52
Added Vol: 0 18 4 2 17 0 0 0 0 22 0 9
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 781 174 20 506 0 0 0 0 185 0 61
User Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
PHF Adj: 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92
PHF Volume: 0 864 192 22 560 0 0 0 0 205 0 67
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 864 192 22 560 0 0 0 0 205 0 67
PCE Adj: 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
FinalVolume: 0 864 192 22 560 0 0 0 0 205 0 67

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.00 1.61 0.39 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00
Final Sat.: 0 3060 682 1750 3800 0 0 0 0 1750 0 1750

Capacity Analysis Module:

Vol/Sat: 0.00 0.28 0.28 0.01 0.15 0.00 0.00 0.00 0.00 0.12 0.00 0.04
Crit Moves: ****
Green Time: 0 59.4 59.4 7.0 66.4 0 0 0 0 24.6 0 24.6
Volume/Cap: 0.00 0.48 0.48 0.18 0.22 0.00 0.00 0.00 0.00 0.48 0.00 0.16
Delay/Veh: 0.0 11.6 11.6 44.5 6.7 0 0 0 0 33.0 0.0 29.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 11.6 11.6 44.5 6.7 0 0 0 0 33.0 0.0 29.7
LOS by Move: A B+ D A A A A C-
HCM2kAVGQ: 0 9 9 1 3 0 0 0 0 6 0 2

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

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

PM Peak Hour - Cumulative plus Project Conditions
Traffic Impact Study for 226-328 Railway Avenue
City of Campbell

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 Winchester Blvd/Kennedy Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.447
Loss Time (sec): 9 Average Delay (sec/veh): 12.2
Optimal Cycle: 36 Level of Service: B

Street Name: Winchester Blvd Kennedy Ave
Approach: North Bound South Bound East Bound West Bound
Movement: L - - T - - R L - - T - - R L - - T - - R L - - T - - R
Control: Protected Protected Protected Protected Protected Protected
Rights: Include Include Include Include Include Include
Min. Green: 0 10 10 7 10 0 0 0 0 10 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
Lanes: 0 0 1 1 0 1 0 2 0 0 0 0 1

Volume Module: >> Count Date: 14 May 2014 << 5:00 - 6:00 pm
Base Vol: 0 780 169 38 710 0 0 0 0 159 0 52
Growth Adj: 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02 1.02
Initial Bse: 0 796 172 39 724 0 0 0 0 162 0 53
Added Vol: 0 30 21 8 26 0 0 0 0 10 0 4
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 826 193 47 750 0 0 0 0 172 0 57
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98 0.98
PHF Volume: 0 844 198 48 767 0 0 0 0 176 0 58
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 844 198 48 767 0 0 0 0 176 0 58
PCE Adj: 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
FinalVolume: 0 844 198 48 767 0 0 0 0 176 0 58

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00 0.92 0.92 1.00
Lanes: 0.00 1.59 0.41 1.00 2.00 0.00 0.00 0.00 0.00 1.00 0.00
Final Sat.: 0 3030 710 1750 3800 0 0 0 0 1750 0 1750

Capacity Analysis Module:

Vol/Sat: 0.00 0.28 0.28 0.03 0.20 0.00 0.00 0.00 0.00 0.10 0.00 0.03
Crit Moves: ****
Green Time: 0 61.7 61.7 7.0 68.7 0 0 0 0 22.3 0 22.3
Volume/Cap: 0.00 0.45 0.45 0.39 0.29 0.00 0.00 0.00 0.00 0.45 0.00 0.15
Delay/Veh: 0.0 10.3 10.3 46.5 6.2 0 0 0 0 34.4 0.0 31.4
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 10.3 10.3 46.5 6.2 0 0 0 0 34.4 0.0 31.4
LOS by Move: A B+ B+ D A A A C-
HCM2kAVGQ: 0 9 9 2 5 0 0 0 0 5 0 2

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

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Appendix C

Campbell Avenue/Page Street Trip-Origins Assessment Table

Appendix C: Campbell Avenue/Page Street Trip Origin Summary

Development	PM Peak Hour Trips to Campbell Ave/Page
Proposed Project	
226-328 Railway Ave	16
Nearby Pending Projects	
Steak and Shake Restaurant	14
Greylands Mixed-Use	24
Del-Grande Mixed-Use	14
Pruneyard Shopping Center	23

ATTACHMENT 13

HISTORIC EVALUATION OF THE QUONSET HUT STRUCTURE AT 241 RAILWAY AVENUE

Archaeological Resource Management

*Robert R. Cartier, Ph.D.
496 North 5th Street
San Jose, CA 95112
Telephone (408) 295-1373
Fax (408) 286-2040
email: armcartier@netscape.net*

Mr. Ardie Zahedani
St. Anton Capital
1801 I Street, Suite 200
Sacramento, CA 95811

April 10, 2015

RE: HISTORIC EVALUATION OF THE QUONSET HUT STRUCTURE AT 241
RAILWAY AVENUE IN THE CITY OF CAMPBELL

Dear Mr. Zahedani:

As per your request our firm is submitting the enclosed historical evaluation of the Quonset Hut structure at 241 Railway Avenue in the City of Campbell. Based upon the requirements of the City of Campbell, a methodology was designed which included the following services:

- an evaluation of the property based on the criteria of the NRHP and CRHR
- a State Historic Resources Evaluation form (DPR 523) for the property

Based upon the results of this investigation, it was determined that the property at 241 Railway Avenue is not currently listed in the City of Campbell Historic Resource Inventory, the California Register of Historic Resources (CRHR), or the National Register of Historic Places (NRHP). In addition the structure does not appear to be eligible for listing in any of these registers. The structure is built in the Quonset Hut style, a prefabricated structure closely associated with WWII. However, the subject structure was built in 1957 based upon County of Santa Clara Appraiser's documentation, and thus is not associated with the WWII era. Thus it is determined that the subject property is not historically significant, and no further recommendations are being made.

Sincerely,



Principal Investigator

RC/dj

PRIMARY RECORD

Primary # _____

HRI # _____

Trinomial _____

NRHP Status Code _____

Other Listings _____

Review Code _____ Reviewer _____ Date _____

Page 1 of 13

Resource Name or # 241 Railway Avenue

P1. Other Identifier: _____

P2. Location: _____ Not for Publication ☒ Unrestricted *a. County Santa Clara
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: San Jose West Date: 2012 T ; R ; 1/4 of 1/4 of Sec ; BM

c. Address: 241 Railway Avenue

City: Campbell

Zip: 95008

d. UTM: 10N 5 93 598mE/41 26 970mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

APN 412-07-006

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)
The structure at 231 Railway Avenue is a single story Quonset hut in fair to poor condition. The structure consists of an incomplete wooden framed barrel vault surfaced with corrugated metal sheeting. A small plywood entry, featuring a gabled roof and surfaced with wooden shingles, provides access to the structure along Railway Avenue. The vault has been truncated along the rear facade of the structure, creating a low vertical wall. Two small windows have been cut into the structure, along the rear and north facades.

*P3b. Resource Attributes: (List attributes and codes.) **HP03** single story commercial

*P4. Resources Present: ☒ Building ☐ Structure ☐ Object District ☐ Element of District ☐ Site ☐ Other

P5a. Photo or drawing (Photo required for buildings, structures, objects.)



P5b. Description of Photo: (View, date, accession #)
View of the structure from Railway Avenue.

*P6. Date Constructed/Age and Sources

Historic ☒ Prehistoric ☐ Both ☐

Constructed 1957 based upon County Appraiser's records

*P7. Owner and Address:

George L. & Mary E. Daniels

C/O: William Henry

6272 Paso Los Carritos

San Jose, CA 95120

*P8. Recorded by:

Robert Cartier

Archaeological Resource Management

496 North 5th Street

San Jose, CA 95112

*P9. Date Recorded: 4/3/2015

*P10. Survey Type: Intensive

*P11. Report Citation: (Cite Survey Report and other sources, or enter "none.")

None

* Attachments: ☐ None ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact
Record ☐ Photographic Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 13

*NRHP Status Code _____

*Resource Name or # (Assigned by recorder) 241 Railway Avenue

B1. Historic Name: 241 Railway Avenue

B2. Common Name: 241 Railway Avenue

B3. Original Use: Commercial/light industrial B4. Present Use: storage

*B5. Architectural Style: Quonset Hut

*B6. Construction History: (Construction date, alterations, and date of alterations)

Based upon visual evaluation and available documentation, the structure at 241 Railway Avenue was constructed in 1957. Since its original construction, several modifications have been made to the structure including truncating the barrel vault along the entirety of the rear facade to create a vertical wall, and the addition of the gable-roofed entry along Railway Avenue. The current windows also appear to have been modified. The interior of the structure has been divided into several individual rooms.

*B7. Moved? No Yes Unknown Date: Original Location:

*B8. Related Features:
None

B9a. Architect: unknown b. Builder: unknown

*B10. Significance: Theme architecture & shelter Area Campbell, CA

Period of Significance Post-War Property Type Private, light-industrial Applicable Criteria N/A

The structure at 241 Railway Avenue is an example of the Quonset Hut. These prefabricated structures were originally designed in 1941, they were first manufactured at Quonset Point in Rhode Island by the George A. Fuller Construction Company for the United States Navy. The original design was closely modeled on the Nissem Hut, designed by the British military during World War I. During World War II, several variants on the original Quonset Hut were developed, the last in 1943. The new design was large than the original, and was manufactured by the Stran-Steel Division of the Great Lakes Steel Company. The subject structure appears to conform to this design. After the war, these structures were made available to the public through military surplus sales (Chiei & Decker 2005). Based upon visual evaluation and County Appraiser's documentation, the structure at 241 Railway Avenue was constructed in 1957. At that time, the property was owned by the EPE Company. On August 11, 1958 the property was granted to Kenneth H. and Mary J. Fishburn (Book 4147 of Official Records, Page 449). The Fishburn's operated City Sheet Metal Company from the property. On August 16, 1963 the property was passed by trustee's Deed to George R. Pratt and Charles P. Cooley (Book 6156 of Official Records, Page 569). Less than one year later, on February 24, 1964 the property was granted to Eugene A. and Sally A. Pellegrini, and Paul H. and Anne G. Keat (Book 6404 of Official Records, Page 148). The Pellegrini's granted their interest in the property to the Keats on April 27, 1946 (Book 6480 of Official Records, Page 700). In 1976 Paul and Anne Keat placed the property in trust, with themselves as trustees (Book C322 of Official Records, Page 278). By March 31, 1977 they granted the property to Mary Henry. Mary Henry later married George L. Daniels. The property has been owned by George L. and Mary E. Daniels since that time to the present day.

B11. Additional Resource Attributes: (List attributes and codes) None

B12. References:

See Continuation Sheet, Page 6

B13. Remarks:

*B14. Evaluator: Robert R. Cartier

*Date of Evaluation: 4/3/2015

(This space reserved for official comments.)

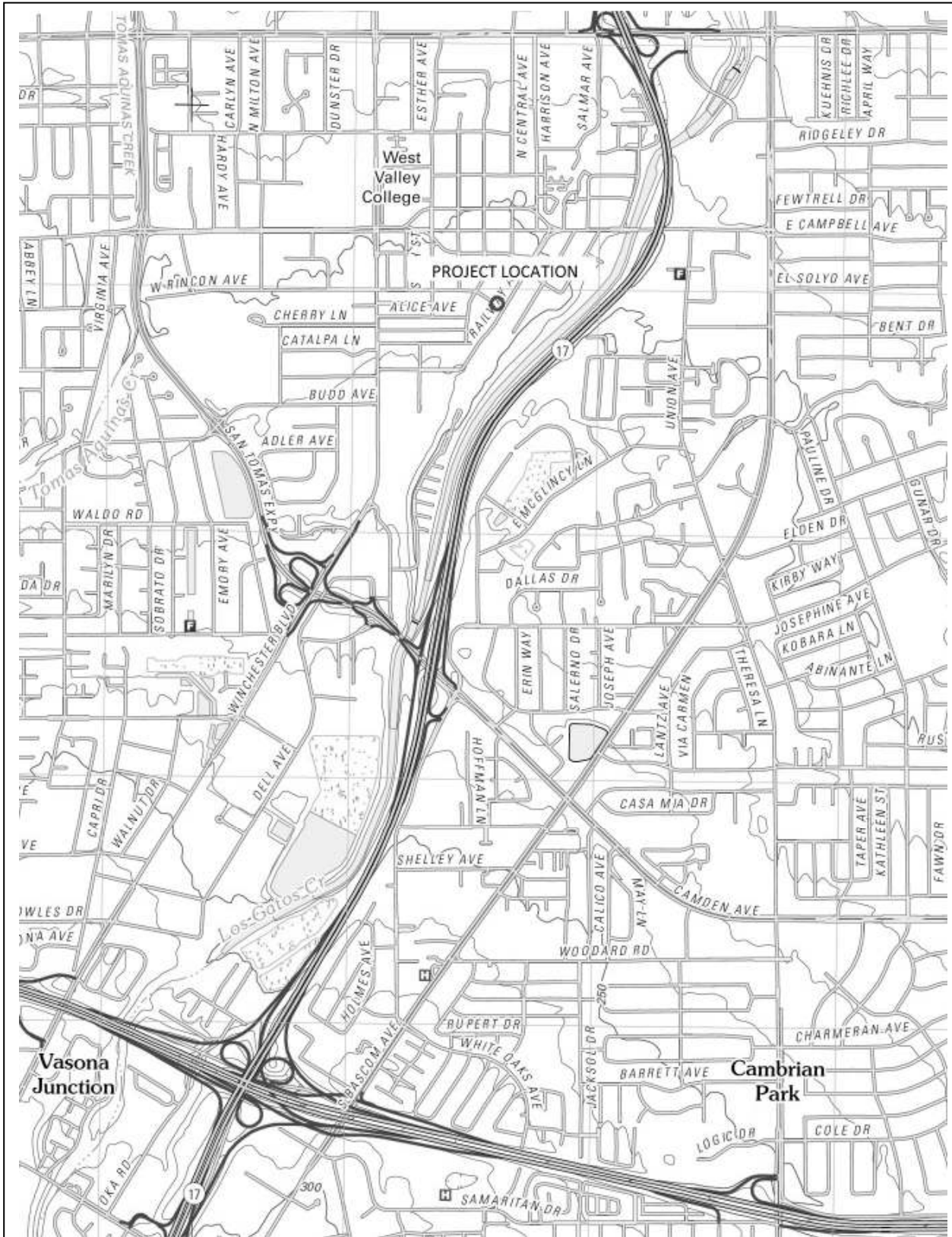
LOCATION MAP

Primary # _____

HRI # _____

Trinomial _____

Page 3 of 13 Resource Name or # (Assigned by recorder) 241 Railway Avenue
*Map Name: San Jose West *Scale: 7.5 Minute *Date of Map: 2012



CONTINUATION SHEET

Page 4 of 13

*Resource Name or # (Assigned by recorder)

241 Railway Avenue

*Recorded by Archaeological Resource Management

Date 04/03/15

☒ Continuation

☐ Update

Continued from B10:

California Register of Historic Resources Criteria

A cultural resource is considered "significant" if it qualifies as eligible for listing in the California Register of Historic Resources (CRHR). Properties that are eligible for listing in the CRHR must meet one or more of the following criteria:

1. Association with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Association with the lives of persons important to local, California, or national history;
3. Embodying the distinctive characteristics of a type, period, region, or method of construction, or representing the work of a master, or possessing high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

A property may be automatically listed in the CRHR if it is formally determined eligible for the National Register of Historic Places. Properties that are formally determined eligible for the NRHP are those that are designated as such through one of the federal preservation programs administered by the California Office of Historic Preservation (i.e., the National Register, Tax Certification, and Section 106 review of federal undertakings).

The CRHR interprets the integrity of a cultural resource based upon its physical authenticity. An historic cultural resource must retain its historic character or appearance and thus be recognizable as an historic resource. Integrity is evaluated by examining the subject's location, design, setting, materials, workmanship, feeling, and association. If the subject has retained these qualities, it may be said to have integrity. It is possible that a cultural resource may not retain sufficient integrity to be listed in the National Register of Historic Places yet still be eligible for listing in the CRHR. If a cultural resource retains the potential to convey significant historical/scientific data, it may be said to retain sufficient integrity for potential listing in the CRHR.

The structure at 241 Railway Avenue is not currently listed on the California Register of Historical Resources. In addition, the structure does not appear to be eligible for inclusion in this register under any of the criteria listed above. The structure is not associated with persons or events of historic importance. Although constructed as a Quonset Hut, the structure is not a significant example of this style. Finally, the structure does not appear to be likely to yield information important to the history of the local area, California, or the nation.

National Register Criteria

The National Register of Historic Places was first established in 1966, with major revisions in 1976. The register is set forth in 36 CFR 60 which establishes the responsibilities of the State Historic Preservation Officers (SHPO), standards for their staffs and review boards, and describes the statewide survey and planning process for historic preservation. Within this regulation guidelines are set forth concerning the National Register of Historic Places (36 CFR 60.6). In addition, further regulations are found in 36 CFR 63-66, 800, and Bulletin 15 which define procedures for determination of eligibility, identification of historic properties, recovery, reporting, and protection procedures.

The National Register of Historic Places was established to recognize resources associated with the accomplishments of all peoples who have contributed to the country's history and heritage. Guidelines were designed for Federal and State agencies in nominating cultural resources to the National Register. These guidelines are based upon integrity and significance of the resource. Integrity applies to specific items such as location, design, setting, materials, workmanship, feeling, and association. Quality of significance in American history, architecture, archaeology, engineering and culture is present in resources that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of the following criteria:

- A. that are associated with events that have made a significant contribution to broad patterns of our history;
- B. that are associated with the lives of persons significant in our past;
- C. that embody distinctive characteristics of type, period, or method of construction, or that represent the work of master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;
- D. that have yielded, or are likely to yield, information important in prehistory or history.

Integrity is defined in Bulletin 15: How to Apply the National Register Criteria for Evaluation, (U.S. Department of the Interior, National Park Service 1982) as:

the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period. If a property retains the physical characteristics it possessed in the past then it has the capacity to convey association with historical patterns or persons, architectural or engineering design and technology, or information about a culture or peoples.

There are also seven aspects of integrity which are used. These aspects are:

- 1. location
- 2. design
- 3. setting
- 4. materials
- 5. workmanship
- 6. feeling
- 7. association

The property at 241 Railway Avenue is not currently listed on the National Register of Historic Places. In addition, it does not appear to be potentially eligible for listing in this register. The structure is not associated with persons or events of historic significance, although it is an example of a Quonset hut, it is not a significant example of this style. It does not appear likely to yield information important to history. In addition, the structure has been somewhat altered from its original form, and has lost a portion of its historical integrity.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 6 of 13 *Resource Name or # (Assigned by recorder) 241 Railway Avenue
*Recorded by Archaeological Resource Management Date 04/03/15 ☒ Continuation ☐ Update

Continued from B12:

Assessor's Office, County of Santa Clara
2015 Record search of assessed value and associated taxes for the property at 241 Railway Avenue.

Chiei, C. and J. Decker
2005 Quonset Hut; Metal Living for a Modern Age. Princeton Architectural Press.

Foote, H. S. Editor
1888 *Pen Pictures from the Garden of the World or Santa Clara County, California, Illustrated.* Chicago.

Hoover, M. et al
1966 *Historic Spots in California.* Stanford University Press, Stanford California.

McAlester, V. and L. McAlester
1997 *A Field Guide to American Houses.* Alfred A. Knopf, New York.

Payne, S.
1987 *Santa Clara County: Harvest of Change.* Northridge, California: Windsor Publications.

Recorder's Office, County of Santa Clara
2015 Record search of recorded information for the property at 241 Railway Avenue

Sawyer, E. T.
1922 *History of Santa Clara County, California.* Historic Record Company, Los Angeles.

Thompson & West
1876 *Historical Atlas of Santa-Clara County, California.* Thompson & West, San Francisco.

US Department of the Interior
1990 The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings

US Department of the Interior
1982 Bulletin 15 - "How to Apply the National Register Criteria for Evaluation."

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI # _____
Trinomial _____

Page 7 of 13 *Resource Name or # (Assigned by recorder) 241 Railway Avenue
*Recorded by Archaeological Resource Management Date 04/03/15 ☒ Continuation ☐ Update



Photo 1: View of 241 Railway Avenue from the northeast.



Photo 2: View of the structure from the southeast.

CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 8 of 13

*Resource Name or # (Assigned by recorder)

241 Railway Avenue

*Recorded by Archaeological Resource Management

Date 04/03/15

☒ Continuation

Update



Photo 3: View of the gabled entry.



Photo 4: Side view of the gabled entry.

CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 9 of 13

*Resource Name or # (Assigned by recorder) _____

241 Railway Avenue

*Recorded by Archaeological Resource Management

Date 04/03/15

☒ Continuation

Update



Photo 5: Oblique view along the north façade.



Photo 6: View of the south façade, note truncated arch.

CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 10 of 13

*Resource Name or # (Assigned by recorder) _____

241 Railway Avenue

*Recorded by Archaeological Resource Management

Date 04/03/15

☒ Continuation

Update



Photo 7: View of vertical wall along the rear façade.



Photo 8: View of sliding door entry on rear façade.

CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 11 of 13

*Resource Name or # (Assigned by recorder)

241 Railway Avenue

*Recorded by Archaeological Resource Management

Date 04/03/15

☒ Continuation

Update



Photo 9: Interior view of the unfinished garage area.



Photo 10: View of the barrel vault ceiling.

CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 12 of 13

*Resource Name or # (Assigned by recorder) _____

241 Railway Avenue

*Recorded by Archaeological Resource Management

Date 04/03/15

☒ Continuation

Update



Photo 11. Another view of an unfinished interior area.



Photo 12: View along the hallway.

CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 13 of 13

*Resource Name or # (Assigned by recorder) _____

241 Railway Avenue

*Recorded by Archaeological Resource Management

Date 04/03/15

x Continuation

Update



Photo 1: view of small side room, note curved wall.



Photo 2: View of large office area in the north section of the interior.

ATTACHMENT 14

VALLEY TRANSPORTATION AUTHORITY (VTA) RESPONSE



July 10, 2015

City of Campbell
Community Development Department
70 N. First Street
Campbell, CA 95008-1423

Attention: Stephen Rose

Subject: City File No.: PLN2014-323 / Residences at Railway

Dear Mr. Rose:

Santa Clara Valley Transportation Authority (VTA) staff have reviewed the application for 157 housing units on 3.9 net acres on both sides of Railway Avenue. We have the following comments.

Land Use

VTA supports the proposed land use intensification at this important site, strategically located on the regional transportation network within walking distance of the Campbell Light Rail Transit (LRT) Station as well as Downtown Campbell. This strategic location will offer opportunities for residents to walk, bike and use transit for daily trips, thereby incrementally reducing automobile trips and greenhouse gas emissions associated with the project. Downtown Campbell is identified as a County Core in VTA's Community Design & Transportation (CDT) Program Cores, Corridors and Station Areas framework, which shows VTA and local jurisdiction priorities for supporting concentrated development in the County. The CDT Program was developed through an extensive community outreach strategy in partnership with VTA Member Agencies, and was endorsed by all 15 Santa Clara County cities and the county.

Pedestrian and Bicycle Accommodations

VTA commends the project applicant for proposing to include enhanced sidewalks with consistent street trees on the east side of Railway Avenue, as shown in the Aerial Perspective View. Resources on pedestrian quality of service, such as the Highway Capacity Manual 2010 Pedestrian Level of Service methodology, indicate that such accommodations improve pedestrian perceptions of comfort and safety on a roadway. However, the rendering and site plan are unclear as to whether sidewalks will be provided on the west side of Railway Avenue. VTA recommends that the City include sidewalks and consistent street trees on both sides of Railway Avenue as a specific, enforceable condition of approval for the project.

VTA also recommends that the project install a mid-block crossing of Railway Avenue to facilitate access to the Campbell light rail station for residents on the east side of Railway

City of Campbell
July 10, 2015
Page 2

Avenue, as well as residents of the recently approved multifamily residential development at 280 Dillon Avenue.

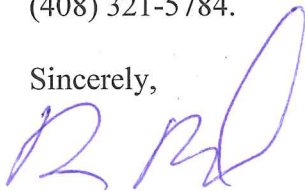
VTA supports bicycling as an important transportation mode and thus recommends inclusion of conveniently located bicycle parking for the project. Bicycle parking facilities can include bicycle lockers or secure indoor parking for all-day storage and bicycle racks for short-term parking. VTA's Bicycle Technical Guidelines provide guidance for estimating supply, siting and design for bicycle parking facilities. This document may be downloaded from <http://www.vta.org/projects-and-programs/planning/bikes-bicycle-technical-guidelines-btg>.

Transportation Demand Management – Transit Incentives

VTA encourages the City to work with the applicant to explore Transportation Demand Management (TDM) measures that would reduce the number of single-occupant vehicle trips generated by the project and increase transit ridership. VTA encourages the City to require the project applicant to provide transit fare incentives to residents of the development, such as free or discounted transit passes on a continuing basis, as a Condition of Approval of the project.

Thank you for the opportunity to review this project. If you have any questions, please call me at (408) 321-5784.

Sincerely,



Roy Molseed
Senior Environmental Planner

CM1502



CITY OF CAMPBELL
Community Development Department

DRAFT MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
					Initials	Date	Remarks
Air Quality - AIR							
Mitigation Measure AIR-1: The project applicant shall ensure that construction plans include the BAAQMD Best Management Practices for fugitive dust control. The following will be required for all construction activities within the project area. These measures will reduce fugitive dust emissions primarily during soil movement, grading and demolition activities, but also during vehicle and equipment movement on unpaved project sites (reference MND for specific measures).	Site Preparation and Construction	City of Campbell	Public Works Department and Building Division	Periodic Compliance Report			
Mitigation Measure AIR-2: The project applicant shall ensure that construction contract specifications include a requirement that all off-road diesel-powered construction equipment used for project improvements be equipped with a Level3 Verified Diesel Emissions Control (VDEC).	Prior to Construction	City of Campbell	Planning Division and Building Division	Vehicle specifications provided as part of building permit plans.			
Mitigation Measure AIR-3: The project applicant shall ensure that architectural coatings (e.g. paints and solvents) with a VOC content of 100 grams per liter or less shall be used for interior and 150 grams per liter or less for exterior surfaces shall be required.	Prior to Construction	City of Campbell	Planning Division and Building Division	Architectural coating specifications provided as part of building permit plans.			

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
					Initials	Date	Remarks
<i>Mitigation Measure AIR-4:</i> Hearths. Fireplaces, if proposed for installation in project residential units, shall use natural gas only.	Prior to Construction	City of Campbell	Planning Division and Building Division	Fire place specifications provided as part of building permit plans.			
<i>Mitigation Measure AIR-5:</i> The construction contractor shall implement enhanced exhaust emissions reduction measures to further reduce construction-related exhaust emissions (reference MND for specific measures).	Prior to Construction	City of Campbell	Planning Division and Construction Contractor	Equipment and vehicle specifications provided as part of building permit plans.			
Biological Resources - BIO							
<i>Mitigation Measure BIO-1:</i> Project-related activities that occur during the breeding season could be constrained in the vicinity of any active nests. If tree removal or ground disturbance activities are scheduled to commence during the breeding season (February 1st through August 31st), pre-construction nesting bird surveys should be conducted by a qualified biologist to identify possible nesting activity within 15 days prior to such activities. A construction-free buffer of suitable dimensions must be established around any active raptor and migratory bird nest (up to 250 feet, depending on the location and species) for the duration of the project, or until it has been determined that the chicks have fledged and are foraging independently from their parents.	Prior to Demolition or Tree removal	City of Campbell	Planning Division	Prior to Demolition Permit Issuance			
Land Use and Planning - LUP							
<i>Mitigation Measure LUP-1:</i> Apartments (For Rent Units): The applicant and/or property management shall provide annual VTA eco-passes to all apartment tenants at time of move-in and every year after for the length of tenancy. The cost of the VTA eco-passes shall be equally borne by the applicant and tenant. Residents who qualify as very-low income shall be provided an eco-pass at no cost at time of move-in and every year after for the length of tenancy.	Prior to Final Map Approval	City of Campbell	Planning Division	Inclusion of requirement in project CC&R's and HOA Agreements			

Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
					Initials	Date	Remarks
The applicant and/or property management shall not include the cost of a VTA eco-pass in the overall rent for very-low income apartment units. The requirement to provide no-cost eco-passes shall continue for the life of the project. The requirement to provide eco-passes shall continue for the life of the project. Townhouses/Duplexes (For Sale Units): The applicant and/or established Home Owners Association shall include the cost of an annual VTA eco-pass in the unit dues for the life of the project.							
Noise - NOI							
<i>Mitigation Measure NOI-1:</i> Air conditioning shall be included in all residences constructed in the Residences at Railway Development to allow occupants to close doors and windows as desired to achieve additional acoustic isolation.	Prior to Construction	City of Campbell	Planning Division and Construction Contractor	HVAC specifications provided as part of building permit plans.			
<i>Mitigation Measure NOI-2:</i> A noise barrier shall be constructed along the light rail to provide adequate shielding for the backyards of the duplexes.	Prior to Construction	City of Campbell	Planning Division and Construction Contractor	Noise barrier specifications provided as part of building permit plans.			