Keith Higgins
Traffic Engineer

March 22, 2019

Brett Packer
2090 Empire Grade
Santa Cruz, Ca 95060

Re: Errett Circle Residential Development, Santa Cruz, CA

Dear Brett:

As you requested, I have provided traffic engineering services for your proposed redevelopment of 111 Errett Circle in Santa Cruz, California. You are proposing to remove the existing uses on this site and construct either 12 single-family residential units and 12 accessory dwelling units (Plan "A" alternative) or 10 single-family residential units, 6 condominium residential units and 14 accessory dwelling units (Plan "B" alternative). **Exhibit 1** depicts the location of the study project.

A. EXISTING SITE USES AND TRIP ACTIVITY

The property at 111 Errett Circle comprises the entire center island of a circular roadway. The site was originally occupied by a church. The current uses (as of October 2018) include a theater school, two small secondary private schools, private offices, and a gymnasium and other space for various group athletic and exercise uses (e.g., fencing, basketball, volleyball, Zumba, kickboxing, etc.).

Exhibit 2 estimates the current traffic activity on the project site. This estimate was derived using the following information:

1. Types of uses and parking occupancy information obtained from the project applicant.
2. Additional on-line research on number of weekday operating days and hours of operation for each of the various site uses.
3. Various trip activity data from *Trip Generation Manual,* 10th Edition, published by the Institute of Transportation Engineers in 2017.

Despite the many uses currently on the project site, not all of the uses generate traffic every weekday or during the typical weekday AM and PM peak hours (i.e., approximately 8:00 – 9:00 AM and 5:00 – 6:00 PM). For example, the group athletic and exercise uses only occur one to two times per week. On the days that they are scheduled, activities occur in the late morning, mid-afternoon, or evening – all outside of the AM and PM peak hours. Classes at the two private schools end in the mid-afternoon and have no onsite extra-curricular activities after school ends for the day, hence their PM peak hour trips are generated primarily by school staff. The theater school is open from 12:00 – 9:00 PM, thus generating no trips during either the AM or PM peak hours.

As shown on **Exhibit 2**, the existing site uses generate an estimated 187 daily trips, with 48 AM peak hour trips (37 in, 11 out) and 21 PM peak hour trips (3 in, 18 out).

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B. PROJECT TRIP GENERATION

The project site is proposed to be redeveloped with either: Plan A - 12 single-family residential units and 12 accessory dwelling units; or Plan B – 10 single-family residential units, 6 condominium residential units and 14 accessory dwelling units. All existing site uses would no longer be located on the project site.

Exhibits 3 and 4 estimate the trip generation of the project, using the low- and high-density alternatives, respectively. Trip generation for the proposed project uses trip generation rates from the publication *Trip Generation Manual,* 10th Edition, published by the Institute of Transportation Engineers in 2017. Credits for traffic generated by the removed existing site uses are also summarized on both exhibits, as referenced from **Exhibit 2**.

For Plan "A", all of the units would be either single-family homes or accessory dwelling units. **Exhibit 3** indicates that this alternative would generate a net 14 additional daily trips, with 33 fewer AM peak hour trips (31 fewer in, 1 additional out) and 2 fewer PM peak hour trips (9 more in, 11 fewer out).

For Plan "B", the project would be a mix of single-family, multi-family and accessory dwelling units. **Exhibit 4** also tabulates the trip generation for this second alterative, which would generate a net 53 additional daily trips, with 32 fewer AM peak hour trips (33 fewer in, 1 additional trip out) and zero additional PM peak hour trips (10 more in, 10 fewer out) than generated by the existing uses at the site.

C. ASSESSMENT OF PROJECT IMPACTS

The project would reduce traffic on the adjacent street network. Project traffic would disburse throughout the streets in the project vicinity. It clearly will not have a significant traffic impact.

The project reduces cumulative traffic impacts throughout the City of Santa Cruz. It should therefore not be subject to the City's Traffic Impact Fee, the payment of which would address potential cumulative (or long-term) impacts in the city.

D. CONCLUSION

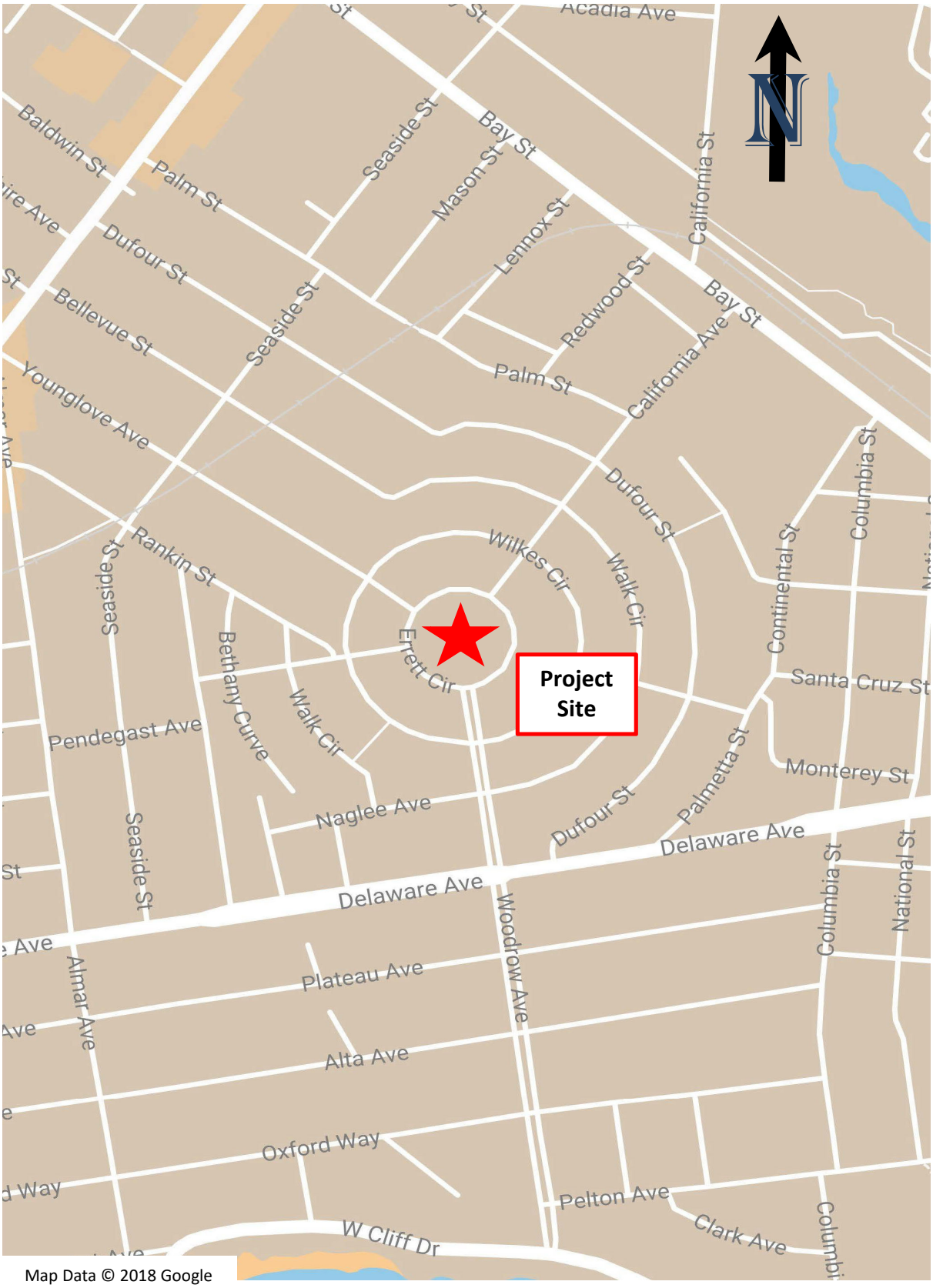
In summary, the study project will reduce project site traffic generation. The project will not result in any traffic impacts and should therefore have no traffic impact fee.

If you have any questions regarding the contents of this letter or need additional information, please do not hesitate to contact me at your convenience. Thank you for the opportunity to assist you with this project.

Respectfully submitted,

Keith Higgins

Keith B. Higgins, PE, TE
Attachments



Map Data © 2018 Google

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Exhibit 1
Project Location Map

USE NAME	USE TYPE	NUMBER OF WEEKDAY OPERATING DAYS		TRIPS PER VEHICLE	DAILY ACTIVITY		AM PEAK HOUR				PM PEAK HOUR			
		NUMBER	PERCENTAGE		VEHICLES	TRIPS	PEAK HOUR TRIPS	% OF DAILY	TRIPS IN	TRIPS OUT	PEAK HOUR TRIPS	% OF DAILY	TRIPS IN	TRIPS OUT
1. West Theater	Theater School	5	100%	3.5	12	42	0	0%	0	0	0	0%	0	0
2. Coryeal Autism School	Private School	5	100%	3.5	6	21	8	40%	5	3	2	10%	0	2
3. Zumba, Kickboxing, etc.	Workout Classes	2	40%	2.0	15	12	0	0%	0	0	0	0%	0	0
4. Interior Offices	Office	5	100%	3.0	10	30	12	40%	10	2	12	40%	2	10
5. Fencing, Basketball, Volleyball	Gym	2	40%	2.0	15	12	0	0%	0	0	0	0%	0	0
6. Expedition School	Private School	5	100%	3.5	20	70	28	40%	22	6	7	10%	1	6
Total:						**187**	**48**		**37**	**11**	**21**		**3**	**18**

Notes:

1. AM Peak Hour is approximately 8:00 - 9:00 AM. PM Peak Hour is approximately 5:00 - 6:00 PM.
2. Current onsite uses and associated daily vehicles provided by project applicant.
3. Number of weekday operating days per use obtained through additional research.
4. Number of daily trips per vehicle for each use is assumed, based on type of use.
5. Weekday hours of operation per use (as obained via additional research):
   a. West Theater: 12:00 PM - 9:00 PM
   b. Coryell Autism School and Expedition School: 9:00 AM - 3:30 PM
   c. Office: 8:00 AM - 5:00 PM
   d. Workout Classes and Gym - varies, but typically late morning, early afternoon, and evening
6. Percentage of Trips In versus Trips Out are quantified based on data from *Trip Generation Manual,* 10th Edition, Institute of Transportation Engineers, 2017.
7. Neither of the two private schools have any onsite extra-curricular activities. Hence, traffic on site during the PM peak hour is primarily school staff.

TRIP GENERATION RATES	ITE LAND USE CODE	DAILY TRIP RATE	AM PEAK HOUR PEAK HOUR RATE	AM PEAK HOUR % OF ADT	AM PEAK HOUR % IN	AM PEAK HOUR % OUT	PM PEAK HOUR PEAK HOUR RATE	PM PEAK HOUR % OF ADT	PM PEAK HOUR % IN	PM PEAK HOUR % OUT
Single-Family Detatched Housing (per unit)	210	9.44	0.74	8%	25%	75%	0.99	10%	63%	37%
Multifamily Housing (Low-Rise) (per unit)	220	7.32	0.46	6%	23%	77%	0.56	8%	63%	37%

PROPOSED USE	PROJECT SIZE	DAILY TRIPS	AM PEAK HOUR PEAK HOUR TRIPS	AM PEAK HOUR % OF ADT	AM PEAK HOUR TRIPS IN	AM PEAK HOUR TRIPS OUT	PM PEAK HOUR PEAK HOUR TRIPS	PM PEAK HOUR % OF ADT	PM PEAK HOUR TRIPS IN	PM PEAK HOUR TRIPS OUT
Single-Family Homes	12 units	113	9	8%	2	7	12	11%	8	4
Accessory Dwelling Units[3]	12 units	88	6	7%	1	5	7	8%	4	3
Credit for Existing Site Uses[4]		-187	-48	26%	-37	-11	-21	11%	-3	-18
Total:		**14**	**-33**		**-34**	**1**	**-2**		**9**	**-11**

Notes:
1. Trip generation rates published by Institute of Transportation Engineers (ITE), *Trip Generation Manual,* 10th Edition, 2017.
2. sq. ft. = square feet
3. Trip generation for Accessory Dwelling Units assumed same as Condominiums.
4. Derivation of trip activity for existing site uses cited from **Exhibit 2**.

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Exhibit 3
Project Trip Generation
(Plan A Alternative)

TRIP GENERATION RATES	ITE LAND USE CODE	DAILY TRIP RATE	AM PEAK HOUR PEAK HOUR RATE	AM PEAK HOUR % OF ADT	AM PEAK HOUR % IN	AM PEAK HOUR % OUT	PM PEAK HOUR PEAK HOUR RATE	PM PEAK HOUR % OF ADT	PM PEAK HOUR % IN	PM PEAK HOUR % OUT
Single-Family Detatched Housing (per unit)	210	9.44	0.74	8%	25%	75%	0.99	10%	63%	37%
Multifamily Housing (Low-Rise) (per unit)	220	7.32	0.46	6%	23%	77%	0.56	8%	63%	37%

PROPOSED USE	PROJECT SIZE	DAILY TRIPS	AM PEAK HOUR PEAK HOUR TRIPS	AM PEAK HOUR % OF ADT	AM PEAK HOUR TRIPS IN	AM PEAK HOUR TRIPS OUT	PM PEAK HOUR PEAK HOUR TRIPS	PM PEAK HOUR % OF ADT	PM PEAK HOUR TRIPS IN	PM PEAK HOUR TRIPS OUT
Single-Family Homes	10 units	94	7	7%	2	5	10	11%	6	4
Condominiums	6 units	44	3	7%	1	2	3	7%	2	1
Accessory Dwelling Units[3]	14 units	102	6	6%	1	5	8	8%	5	3
Credit for Existing Site Uses[4]		-187	-48	26%	-37	-11	-21	11%	-3	-18
Total:		**53**	**-32**		**-33**	**1**	**0**		**10**	**-10**

Notes:
1. Trip generation rates published by Institute of Transportation Engineers (ITE), *Trip Generation Manual,* 10th Edition, 2017.
2. sq. ft. = square feet
3. Trip generation for Accessory Dwelling Units assumed same as Condominiums.
4. Derivation of trip activity for existing site uses cited from **Exhibit 2**.

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Exhibit 4
Project Trip Generation
(Plan B Alternative)