

**WRITTEN DIRECT TESTIMONY OF PHILLIP J. ROWELL**

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2   1.   **Please state your name and business address for the record.**

3       Phillip J. Rowell, P.E.

4       Phillip Rowell and Associates

5       47-273 D Hui Iwa Street

6       Kaneohe, Hawaii 96744

7   2.   **What is your current occupation?**

8       Principal of the consulting firm of Phillip Rowell and Associates specializing in  
9   transportation planning and traffic engineering projects in Hawaii and California.

10  3.   **How long have you been specializing in traffic engineering?**

11       I have specialized in transportation planning and traffic engineering for over 30 years. My  
12   experience as a civil engineer spans over 40 years.

13  4.   **Is Petitioner's Exhibit 30 a true and correct copy of your resume?**

14       Yes.

15  5.   **Please briefly describe your educational background.**

16       B.S., Civil Engineering, Clemson University, 1971

17       M.S., Civil Engineering (Transportation and Traffic Engineering), Clemson University,  
18   1972.

19  6.   **Please briefly describe your work experience as a traffic engineer.**

20       Prior to founding Phillip Rowell and Associates, I was employed as a Principal with at  
21   Barton-Aschman Associates, now Parsons Transportation Group, Inc., from 1984 through 1995,  
22   practicing transportation planning and traffic engineering the LA, Phoenix and Las Vegas areas  
23   and Hawaii.

24       Prior to joining Barton-Aschman Associates, I was City Traffic Engineer for the City of  
25   Beverly Hills, CA, and before that I was a design engineer and traffic engineer at Wilbur Smith  
26   and Associates.

27       I have practiced in Hawaii, California, Arizona, Nevada, Guam, Hong Kong and  
28   Malaysia.

1     7.     **To what professional organizations do you belong?**

2             I am a life member of the Institute of Transportation Engineers. I am also a registered civil  
3 engineering in California and Hawaii.

4     8.     **What does a traffic engineer do?**

5             Since founding Phillip Rowell and Associates in 1995, I have completed over 400  
6 transportation and traffic engineering projects in Hawaii. I specialize in the preparation of traffic  
7 impact analysis reports for a variety of projects including, subdivisions, hospitals, office  
8 buildings, schools, shopping centers, resorts, hotels, planned communities, and many other land  
9 uses.

10    9.     **Have you ever been qualified as an expert witness in air quality before the Land Use**  
11 **Commission?**

12             Yes. I have been qualified to testify as an expert in the field of traffic engineering and  
13 transportation at least four times before the State Land Use Commission.

14    10.    **Are you familiar with the proposed development plans for the Pu'unene Heavy**  
15 **Industrial Subdivision ("Project") and the Petition Area?**

16             Yes. I understand that the Project located within the approximately 86 acre Petition Area  
17 located in Pulehunui, Wailuku, Maui, at tax map key no. (2) 3-8-008: 019, is proposed to be  
18 developed as a heavy industrial subdivision. As proposed, the Project will provide up to 28  
19 developable lots ranging in size from 0.5 acres to 20 acres. Related improvements include  
20 grading, the construction of a drainage system and retention basin, construction of internal  
21 roadways, utilities, a private water system and individual wastewater systems.

22    11.    **Please identify the study you prepared for the Petition Area.**

23             My firm, Phillip Rowell and Associates, was retained by Petitioner CMBY 2011  
24 Investment, LLC to prepare a study titled "Traffic Impact Analysis Report for Puunene Heavy  
25 Industrial Subdivision" dated January 24, 2014 ("**TIAR**"). A copy of the TIAR was included as  
26 Appendix Q of the Environmental Assessment that was prepared by Chris Hart & Partners, which  
27 I understand was filed as Petitioner's Exhibit 1.

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1       12.     **Please describe the scope of the TIAR.**

2             The objectives of the TIAR were to study the current traffic levels, assess the anticipated  
3 traffic impacts to be generated as a result of the Project, and identify improvements or mitigation  
4 measures needed, if any, to address those Project-generated impacts.

5             I assessed traffic impacts based on Project access being via Kama'aina Road, South  
6 Firebreak Road and Lower Kihei Road ("**Alternative 1**"). I also assessed the proposed  
7 "Alternative Access," which would follow a similar route, but rather than entering the Petition  
8 Area from its northern point, the Alternative Access would head east from South Firebreak Road  
9 and travel around the reservoir to access the Petition Area from the north/east. However, I  
10 understand that the Petitioner has obtained the required approval from the Department of Land  
11 and Natural Resources to take access via Alternative 1. Therefore, I will not address the  
12 Alternative Access in this testimony.

13       13.     **Did you rely on any other studies or external data in drawing your conclusions and**  
14 **making your assessment of the Project?**

15             Yes. To determine the future background traffic conditions, I relied upon the following:  
16 (i) Kaku Associates, *Maui Long Range Land Transportation Plan* (October 1996); (ii) Phillip  
17 Rowell and Associates, *TIAR for Kaiwahine Village* (July 2010); (iii) Phillip Rowell and  
18 Associates, *TIAR for Maui Lu Resort* (March 2007); (iv) Austin, Tsutsumi & Associates, *TIAR*  
19 *for Kihei Residential Project* (May 2007); (v) Phillip Rowell and Associates, *TIAR for Kenolio 6*  
20 *Affordable Housing Project* (May 2010); (vi) Phillip Rowell and Associates, *TIAR for Piilani*  
21 *Promenade* (June 2011). Of course I also relied on the Institute of Traffic Engineers'  
22 *Transportation Impact Analyses for Site Development* (2006), *Trip Generation Handbook* (1998)  
23 and *Trip Generation* (2003).

24       14.     **Are there any government regulations applicable to the TIAR?**

25             No, except that the Institute of Transportation Engineers has established that Level of  
26 Service ("**LOS**") of D is the minimum acceptable LOS.

27       15.     **Please describe the methodology used to conduct the TIAR.**

28             The methodology for the TIAR consisted of the following tasks:

- 1           1. A field reconnaissance to identify existing roadway cross-sections, intersection lane
- 2 configurations, traffic control devices, and surrounding land uses;
- 3           2. Existing weekday peak-hour traffic volumes for the intersection of Mokulele Highway
- 4 at Kama'aina Road were obtained;
- 5           3. A list of development projects in the vicinity of the Petition Area that will impact
- 6 traffic conditions was compiled;
- 7           4. Estimates of future background traffic volumes at the study intersection *without* traffic
- 8 generated by the Project were made;
- 9           5. Estimates of the peak hour traffic to be generated by the Project were made using trip
- 10 generation analysis procedures recommended by the Institute for Transportation Engineers;
- 11           6. A LOS analysis for future traffic conditions *with* traffic generated by the Project was
- 12 preformed;
- 13           7. Project-generated traffic impacts were quantified and summarized;
- 14           8. Improvements or modifications to mitigate Project-generated traffic, and to provide
- 15 adequate access to the Petition Area, were identified and analyzed;
- 16           9. A report documenting the conclusions of the analyses performed and the
- 17 recommendations was prepared.

18   16.   **Are the methodologies that you used consistent with generally accepted industry**  
19 **standards?**

20           Yes.

21   17.   **Please detail the proposed access, i.e., Alternative 1.**

22           Access will be via the intersection of Mokulele Highway and Kama'aina Road and  
23 Mehameha Loop. The intersection is four-legged and signalized. Mokulele Highway is a four-  
24 lane divided highway with a north-south orientation connecting Kahului to the north, and Kihei to  
25 the south. The posted speed limit is 45 miles per hour. A bike path runs along the east side of the  
26 Highway. Mokulele Highway is under the jurisdiction of the State Department of Transportation  
27 ("**DOT**").

1 Upon leaving Mokulele Highway, access will be on Kama'aina Road, which is also under  
2 the DOT jurisdiction. Kama'aina Road has 24 foot wide concrete pavement for approximately  
3 1,500 feet from Mokulele Highway and transitions to an asphalt pavement up to South Firebreak  
4 Road.

5 From Kama'aina Road, access will be taken along South Firebreak Road. South Firebreak  
6 Road has 24-foot wide asphalt pavement all the way to the entrance of the Petition Area.

7 Access over a portion of South Firebreak Road that goes directly to the Petition Area is  
8 via a 56 foot wide, non-exclusive access and utility easement that was approved by the DLNR in  
9 April of this year. This is the area noted as Alternative 1 in the TIAR, and is currently paved. It  
10 is anticipated that Petitioner will make improvements to the easement area to improve acceptable  
11 sight distances.

12 18. **What are the current traffic levels at the intersection of Mokulele Highway at**  
13 **Kama'aina Road?**

14 Traffic counts were taken from 6:30 am to 9:00 am on Friday, August 12, 2011, and at  
15 3:00 pm to 6:00 pm on Thursday, August 11, 2011.

16 The total morning peak hour volume along Mokulele Highway is approximately 2,200  
17 vehicles per hour, with an even directional split. Traffic turning in and out of Kama'aina Road is  
18 largely heavy vehicles. Afternoon peak hour volume is approximately 2,380 vehicles per hour,  
19 also evenly split in direction.

20 The peak hour volumes along Mehamaha Loop are approximately 35 vehicles during the  
21 morning peak hour and 40 vehicles during the afternoon peak hour. The subject section of  
22 Mehamaha Loop serves the Maui Humane Society facility.

23 The peak hour volumes along Kama'aina Road are 57 vehicles during the morning peak  
24 hour and 36 during the afternoon peak hour.

25 19. **What is the existing LOS at the Mokulele Highway intersection?**

26 The LOS of all land groups at the intersection of Mokulele Highway at Kama'aina Road  
27 and Mehamaha Loop are LOS D or better during the am and pm peak hours. No deficiencies  
28 were identified.

1     **20. What is the anticipated LOS for 2015 without the Project?**

2             Even after taking into account background traffic growth increasing by 1.6% per year on  
3 average, and taking into account traffic growth anticipated as a result of various projects proposed  
4 in the vicinity of the Petition Area (e.g., Kaiwahine Village, Mau Lu Resort, Kihei Residential  
5 Subdivision, Kihei High School, Kenolio 6 Affordable Housing Project, and Piilani Promenade  
6 which, at the time of the TIAR, was anticipated to contain 290,000 leasable square feet of  
7 retail/commercial space and 410,000 square feet of leasable retain floor area), no changes to the  
8 existing LOS of the intersection or any lane groups are anticipated. All lane groups of the  
9 Mokulele Highway intersection with Kama'aina Road and Mehameha Loop are anticipated to  
10 continue to operate at LOS D or better and no mitigation measures would be needed.

11     **21. What is the anticipated 2015 LOS with the Project?**

12             In order to estimate the LOS, I first had to determine the anticipated trip generation from  
13 the Project. The 86 acre Petition Area is anticipated to contain approximately 66 acres of  
14 developable land, and approximately 20 acres of interior roadways and drainage ways. The  
15 anticipated trip generation was based on the industrial land use equations established by the  
16 Institute of Transportation Engineers and set forth in *Trip Generation*. The trip generation  
17 estimates are 472 trips during the am peak hour, and 471 trips during the pm peak hour.

18     **22. Please describe the anticipated impact of the Project-generated traffic.**

19             In 2015, Project-generated traffic will account for 14.6% of the am peak hour traffic and  
20 13.1% of the pm peak hour traffic.

21             The am peak hour LOS at Mokulele Highway and Kama'aina Road will remain at LOS D  
22 or better with the Project, except for the Northbound left approach, which will be at LOS E.  
23 However, the delay resulting in the LOS E is a result of the signal timing and not traffic, so no  
24 mitigation is required.

25             The pm peak hour traffic will drop below LOS D for two approaches. The Westbound left  
26 and Southbound left approaches will be at LOS E and F respectively. These drops in LOS are  
27 due to increased volume, thus mitigation is required.

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1 23. **Please describe the recommend mitigation measures.**

2 The mitigation measures fall into three categories. First, the following improvements at  
3 the intersection of Mokulele Highway at Kama'aina Road and Mehameha Loop should be  
4 installed: (i) modify westbound approach to provide a separate right-turn lane; (ii) Provide  
5 acceleration lane for westbound to northbound right turns; and (iii) Lengthen southbound left-  
6 turn deceleration lane from 60 feet to 350 feet.

7 Second, the areas adjacent to Kama'aina Road, South Firebreak Road, and Lower Kihei  
8 Road should be monitored to insure that sugar cane growth does not impede sight distances, and  
9 that visibility to traffic control devices is maintained. This should be addressed as part of the  
10 subdivision application process, which require the submission of a driveway sight distance  
11 analysis and worksheet (for the subdivision driveway) to the Maui Department of Public Works  
12 for review and approval to ensure that adequate sight distance and visibility are provided.

13 Third, Kama'aina Road, South Firebreak Road and Lower Kihei Road should be striped  
14 and signed per County of Maui standards.

15 24. **Did you read the letter dated June 7, 2013, from the State Department of**  
16 **Transportation raising questions about the TIAR, a copy of such letter was included as**  
17 **Attachment D to the Office of Planning's Statement of Position, filed on July 18, 2013?**

18 I have read the report and I have revised the trip generation and LOS calculations based  
19 on a total area of 76.9 acres, which includes the roadway right-of-ways. There is no change in  
20 the conclusions of the TIAR.

21 25. **In your professional opinion, will the development of the Project have an adverse**  
22 **effect on traffic operations in the vicinity of the Project?**

23 No. In my professional opinion, and based on the TIAR, the Project is not expected to  
24 have an adverse impact upon traffic operations and LOS's with the recommended mitigation in  
25 place. Petitioner will construct or have constructed all traffic mitigation measures required to  
26 mitigate the traffic impacts from the Project, as determined by the DOT and set forth in the final  
27 TIAR.

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DATED: Wai'ole, Hawaii, August 14, 2013.

Respectfully submitted,



PHILLIP J. ROWELL

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