

1 **WRITTEN DIRECT TESTIMONY OF STEVEN J. DOLLAR**

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

3 Steven J. Dollar, Ph.D.

4 Marine Research Consultants, Inc.

5 1039 Waakaua Place

6 Honolulu, Hawaii 96822

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

8 President of Marine Research Consultants, Inc. ("MRC"), specializing in coral reef
9 ecology and coastal oceanography.

10 3. **How long have you been specializing in in coral reef ecology and coastal**
11 **oceanography?**

12 For over 35 years.

13 4. **Is Petitioner's Exhibit 46 a true and correct copy of your resume?**

14 Yes, and it lists my educational background, numerous peer-reviewed publications that I
15 authored or contributed to, numerous papers I presented as symposia, and well over 100 marine
16 environmental reports that I prepared between 1980 and 2013.

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

18 As indicated on my resume, I have a B.S. in Biology and Chemistry, a M.S. in Biological
19 Oceanography, and a Ph.D. in Oceanography.

20 6. **Please describe your area(s) of expertise.**

21 I have extensive practical research experience in the fields of biological and chemical
22 oceanography, marine ecology, sea turtle population dynamics, reef ecosystem stress, benthic
23 community metabolism, sediment-water interactions, water quality monitoring, environmental
24 impact assessment, coral transplantation and remote sensing of coral reef and coastal habitats.

25 My particular emphasis has been focused on effects to the nearshore environment from
26 activities such as marine construction and dredging, sewage effluent disposal, resort and urban
27 development, construction and operation of military installations, and any land uses that result in
28 point and nonpoint source input to the ocean, streams and wetlands.

1 7. **Have you even been qualified as an expert witness before the Land Use Commission?**

2 Yes. Numerous times.

3 8. **Are you familiar with the Project?**

4 Yes. The Petition Area is approximately 86.030 acres located at TMK No. (2) 3-8-008:
5 019. The Project is proposed as a heavy industrial subdivision to be known as the Pu'unene
6 Heavy Industrial Subdivision to consist of approximately 28 heavy industrial lots that will range
7 in size from 0.5 acre to 20 acres. Related infrastructure improvements to support the Project
8 include the construction of internal roadways, drainage retention systems, grading work,
9 landscaping and utilities (e.g., water, telephone, cable, electric, private water system, individual
10 wastewater systems, etc.). The developable lots within the Project will encompass approximately
11 66 acre, and the interior roadways and drainage retention area will encompass approximately 20
12 acres.

13 9. **How did you familiarize yourself with the Project?**

14 I was recently retained by Petitioners CMBY 2011 Investment, LLC to review the Petition
15 that was prepared for the Land Use Commission, the "Groundwater Resource and Water System
16 Assessment for the Proposed Puunene Industrial Subdivision in Kahului, Maui" dated September
17 2011 ("**Water Study**"), prepared by Tom Nance Water Resources, a copy of which was included
18 as Appendix O of Petitioner's Exhibit 1 (the Environmental Assessment prepared by Chris Hart &
19 Partners for the Project), and the Preliminary Engineering Report ("**PER**") that was prepared for
20 the Project (copy appended to Petitioner's Exhibit 1).

21 10. **Are you aware of the proposed sewage treatment for the Project?**

22 Yes. I understand that wastewater service for the Project will be provided through
23 individual wastewater systems ("**IWS**") to be constructed by each lot owner. The IWS for each
24 lot will include an aerobic treatment unit and an individual leach field. By law, lot owners will
25 have to comply with Hawaii Administrative Rules Chapter 11-62, which regulates the disposal of
26 wastewater to prevent wastewater (including gray water) from contaminating or polluting water
27 resource. Lot owners will have to obtain approval of the IWS from the State Department of
28 Health.

1 11. **Have you read the Office of Planning's Statement of Position, filed July 18, 2013?**

2 I reviewed those sections of the Statement of Position that raised questions about the
3 potential for impacts to State waters at Maalaea Beach, and at the Kealia National Wildlife
4 Refuge due to the development of the Project.

5 12. **Have you read the State Department of Health July 9, 2012 letter discussed in the**
6 **Statement of Position?**

7 Yes, I read the DOH Clean Water Branch letter, which I understand was a comment letter
8 on the Draft Environmental Assessment. I also read the July 19, 2012, response to the DOH by
9 Glenn Tadaki of Chris Hart & Partners, Inc.

10 13. **In your professional opinion, will the Project have any impacts on State waters,**
11 **including Maalaea Beach?**

12 While I have not conducted any studies of the marine environment for the present
13 project, I have conducted other studies in the vicinity. In addition, I have read the report produced
14 by TNWRE where predictions are made as to the changes in groundwater chemistry that will
15 potentially result from the project. Based on these predictions, changes to groundwater nutrient
16 concentrations will be small, and will not result in substantial changes to the flux of nutrients
17 from land to the ocean. In addition, the TNWRE report indicates that because of the mud caprock
18 fronting the shoreline downslope from the project, groundwater discharge will not occur at the
19 shoreline, but rather far offshore removed from the areas of coral reef occurrence. Past research
20 that I have done indicates that nutrient input from land to Maalaea Bay is lowest in the western
21 region of the Bay downslope from the project site. These data corroborate the TNWRE
22 conclusions regarding minimal groundwater discharge at the shoreline. Hence, there is no reason
23 to suspect that the project will have a noticeable, or even detectable impact on State waters,
24 including Maalaea Beach.

25 14. **In your professional opinion, will the Project have any impacts on Kealia Pond**
26 **National Wildlife Refuge?**

27 Based on the operating experience at Kealia, ponds are filled by surface water flow
28 during the wet season, and require pumping to maintain standing water for bird habitat in the dry

1 season. Thus, it is an established fact that horizontal flow of groundwater is not the source of
2 water in the ponds (Tom Nance, personal communication). Hence, as nutrient and salinity
3 components are not the limiting factors for pond function, the small changes to groundwater flow
4 and composition that will result from the project should have no effect on the Kealia Pond
5 National Wildlife Refuge.

6 15. **In your professional opinion, should any additional measures, i.e., measures not**
7 **already described in the Water Study or PER, be taken to ensure that the Project does not**
8 **have an adverse effect on State waters?**

9 The only other measure that I could suggest to ensure that the project does not have an
10 adverse effect on State waters is the implementation of a time-course monitoring program that
11 would be designed to identify changes and the cause of such changes. However, the caveat to
12 implementing such a monitoring protocol is that there are several other land uses in the area (e.g.,
13 HC&S) which could make singling out particular sources of change difficult.

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18 DATED: Honolulu, Hawaii, August 15, 2013.

19 Respectfully submitted,

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25 STEVEN J. DOLLAR, Ph.D.
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28 4815-6452-1237.1.064670-00001