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DEPARTMENT OF WATER SUPPLY

COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII

PETITION TO AMEND INTERIM INSTREAM FLOW STANDARDS FOR HONOPOU, HUELO (PUOLUA), HANEHOI, WAIKAMOI, ALO, WAHINEPEE, PUOHOKAMOA, HAIPUAENA, PUNALAU/KOLEA, HONOMANU, NUAAILUA, PIINAAU, PALAUHULU, OHIA (WAIANU), WAIKAMILO, KUALANI, WAILUANUI, WEST WAILUAIKI, EAST WAILUAIKI, KOPILIULA, PUAKEA, WAIQHUE, PAAKEA, WAIATAKA, KAPAULA, HANAWI, and MAKAPIPI	CASE NO. CCH-MA13-01  DECLARATION OF CRAIG C. LEKVEN, P.E.
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**DECLARATION OF CRAIG C. LEKVEN, P.E.**

I, CRAIG C. LEKVEN, declare as follows:

1. I am a Registered Professional Civil Engineer, duly licensed in both Hawaii and California.

2. I have personal knowledge of the facts stated in this Declaration, except as to matters stated on information and belief, and as to those matters, I believe them to be true. If called upon, I could testify competently thereto.

3. This written testimony in the form of a declaration is submitted on behalf of the Department of Water Supply of the County of Maui (“DWS”).

4. I am the Supervising Engineer at Brown and Caldwell’s Maui office.

5. Brown and Caldwell is an environmental engineering and consulting firm with offices located nationwide.

6. Brown and Caldwell has had an office on Maui for over twenty (20) years and has assisted the County of Maui with planning and design of water and wastewater infrastructure projects.

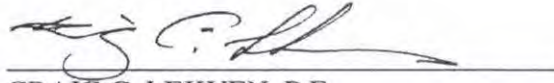
7. I have twenty-five (25) years of experience in planning and designing water and wastewater infrastructure projects.

8. Brown and Caldwell was asked by Deputy Corporation Counsel Caleb P. Rowe to conduct an engineering analysis of the impact to the County of Maui Department of Water Supply (“DWS”) should the Commission on Water Resource Management (“CWRM”) decrease or eliminate the County’s access to East Maui surface water. The results of this analysis indicated that reducing or eliminating DWS’ access to East Maui surface water would have a negative economic impact on the Department.

9. We have also assessed the economic benefits to the County if it were to receive a larger allocation of East Maui surface water. The results of this analysis indicated that increasing DWS’ access to East Maui surface water would have a positive economic impact on the Department.

10. A true and correct copy of my report has been marked as DWS Exhibit B-16, the contents of which I incorporate into this written testimony/declaration.

I declare under penalty of law that the foregoing is true and correct of my own personal knowledge and that this Declaration was executed on December 26, 2014 in Wailuku, Maui, Hawaii.



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CRAIG C. LEKVEN, P.E.  
Supervising Engineer  
Brown and Caldwell

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**DECLARATION OF DAVID TAYLOR**

I, DAVID TAYLOR, declare as follows:

1. I am the duly appointed Director of the Department of Water Supply of the County of Maui (“DWS”). I have served in this capacity since January 2, 2011. Prior to my

appointment, I served as Wastewater Division Chief for the Department of Environmental Management of the County of Maui ("DEM"), First Assistant to the Managing Director of the County of Maui, and Civil Engineer IV for the Department of Public Works of the County of Maui.

2. I am a registered professional civil engineer, duly licensed in the State of Hawaii.

3. I have personal knowledge of the facts stated in this Declaration, except as to matters stated on information and belief, and as to those matters, I believe them to be true. If called upon, I could testify competently thereto.

4. This written testimony in the form of a declaration is submitted on behalf of DWS.

5. DWS is the only municipal water supplier for the County of Maui and has a mission and duty to provide adequate water supply for the present and future population of the County of Maui.

6. DWS has three major water systems serving the island of Maui. The three systems are the Central Maui System, the Upcountry System, and the Lahaina System. DWS's Upcountry system serves the communities of Kula, Haiku, Makawao, Pukalani, Haliimaile, Waiakoa, Keokea, Waiohuli, Ulupalakua, Kanaio, Olinda, Omaopio, Kula Kai and Pulehu and provides water to Kamehameha Schools Maui Campus and Hawaiian Homelands at Waiohuli and Keokea.

7. Approximately 80% of water within the Upcountry Maui System comes from surface water. The remaining 20% comes from ground water sources. The majority of the water used by DWS is delivered by EMI from the streams of East Maui to the three Water Treatment

Facilities of Kamole-Weir, Piiholo and Olinda. Additional water is left untreated and delivered to the Kula Agricultural Park for agricultural use.

8. During dry periods where the ditch system has a low rate of flow, DWS can rely on raw water storage to supplement limited flows. These reserves are replenished during heavy flow periods where excess water is available.

9. The Kamole-Weir Water Treatment Facility is the largest of the three water treatment facilities in the Upcountry Maui System and facility is located approximately 1,120 feet above sea level. It relies on surface water from the Waialua Ditch, which diverts from Honopou, Hanehoi, Huelo (Puolua, Alo, Waikamoi, Puohokamoa – West, Middle and East branches, Haipuaena, Kolea – East and Punalau, Honomanu, Nuaailua, Piinaau, Palauhulu, East and West Wailuanui, West Wailuaiki, East Wailuaiki, Kopiliula, Puakaa, Waiohue, Paakea, Waiaka, Kapaula, Hanawi and Makapipi, East and West streams. The Kamole-Weir facility has 6,687 service connections in Makawao, Pukalani, Haliimaile and Haiku, and during times of drought, the Kamole Facility is the primary source of water for the entire Upcountry Maui System's 9,865 connections. The Kamole Facility's maximum capacity is 6 MGD with an average of 3.6 MGD.

10. The Piiholo Water Treatment Facility is the second largest in the Upcountry System with an average daily production of 2.5 MGD and a maximum capacity of 5 MGD. It is located 2,900 feet above sea level and gets water from the 50 million gallon Piiholo reservoir, which draws water from Waikamoi, Puohokamoa – West, Middle and East branches, Haipuaena and Honomanu streams. The Piiholo Water Treatment Facility serves the communities of Olinda, Kula Kai, Omaopio, and Pulehu.

11. The Olinda/Upper Kula Water Treatment Plant is situated 4,200 feet above sea level and serves the communities of Kula, Waiakoa, Keokea, Ulupalakua, Kanaio and Waiohuli. It has a max capacity of 2 MGD with an average daily production of 1.6 MGD. Water is diverted from Waikamoi, Puohokamoa – West, Middle and East branches and Haipuaena streams and stored in the 30 million gallon Waikamoi Reservoirs and the 100 million gallon Kahakapao Reservoir.

12. Information regarding the County of Maui's Upcountry Water System is set forth in the Department's Instream Flow Standard Assessment Report prepared for the Commission on Water Resources Management and dated May 27, 2009, as well as the supplemental Comments and Updates for Instream Flow Standards Assessment Report (which is inclusive of updated charts attached thereto). True and correct copies of this report are attached hereto and marked as DWS Exhibits "B-3" and "B-2" respectively.

13. DWS provides non-potable water to the Kula Agricultural Park ("KAP") from the Hamakua Ditch. Storage capacity at Kula Agricultural Park is 5.4 million gallons. The Kula Agricultural Park consists of 31 farm lots which range in size from 7 to 29 acres.

14. Information regarding the Kula Agricultural Park is set forth in the report titled Kula Agricultural Park Financial Analysis of the Water System. A true and correct copy of this report is marked as DWS Exhibit "B-4."

15. The County of Maui receives water under agreements from East Maui Irrigation. The initial agreement titled "Master Water Agreement" was entered into on December 22, 1961. A true and correct copy of that agreement is marked as DWS' Exhibit "B-5." Subsequently, DWS and East Maui Irrigation entered into the 1973 "Memorandum of Understanding." A true and correct copy of the "Memorandum of Understanding" dated December 31, 1973 is marked

as DWS Exhibit "B-6." After the expiration of the 20 year term of the agreement, a series of eight amendments and extensions were entered into. A true and correct copy of the first amendment dated May 1, 1992 is marked as DWS' Exhibit "B-7." A true and correct copy of the second amendment dated April 25, 1994 is marked as DWS' Exhibit "B-8." A true and correct copy of the third amendment dated January 3, 1996 is marked as DWS' Exhibit "B-9." A true and correct copy of the fourth amendment dated December 30, 1996 is marked as DWS' Exhibit "B-10." A true and correct copy of the fifth amendment dated January 20, 1998 is marked as DWS' Exhibit "B-11." A true and correct copy of the sixth amendment dated December 28, 1998 is marked as DWS' Exhibit "B-12." A true and correct copy of the seventh amendment dated December 29, 1999 is marked as DWS' Exhibit "B-13." A true and correct copy of the eighth amendment dated March 28, 2000 is marked as DWS' Exhibit "B-14." Following the expiration of the eighth amendment, DWS and East Maui Irrigation entered into a "Memorandum of Understanding Concerning Settlement of Water and Related Issues," which continues in effect today. A true and correct copy of the "Memorandum of Understanding Concerning Settlement of Water and Related Issues" executed on April 13, 2000 is marked as DWS Exhibit "B-15."

16. DWS operates the Pookela, Kaupakalua, Haiuku and Hamakuapoko wells. The Hamakuapoko well can produce up to 1.5 MGD, but due to concerns over legacy pesticides from pineapple plantations, it is only available during emergency periods pursuant to Maui County Code ("MCC") Section 14.01.050.

17. Approximately 60% of water used by customers of DWS is for residential, commercial and institutional uses. The remaining 40% is used for agriculture.



18. The amount DWS charges to the public for the water it provides is directly related to the costs to DWS to supply the water, i.e., payments to East Maui Irrigation, and planning, design, construction, operation, and maintenance costs. DWS does not make any profit in providing the water to the public and water rates are strictly scrutinized by the Maui County Council during budget sessions. Prices charged to customers are uniform throughout the County, despite the fact that some service areas, such as the Upcountry Service Area, have much higher operational and delivery costs

19. An internal review of the Upcountry Water System was conducted in 2012. The ultimate finding of this review was that DWS is currently meeting the demands of the Upcountry Service Area.

20. There are currently 9,865 current water connections to the Upcountry Water System.

21. The County of Maui also has a waiting list for new meter connections. As of June 30, 2014 wait list, there were 1,852 applicants on that list. A true and correct copy of the Upcountry Water System Priority List dated June 30, 2014 is marked and DWS Exhibit "B-17."

22. Reduction of this wait list is a priority for the administration. Internal studies indicate that if all meter service applications on the priority list were granted, demand would increase by approximately 7.5 MGD, constituting a 95% increase in demand for the upcountry service area.

23. Because DWS requires applicants to bear the capital costs of connecting their property to the Upcountry Water System, which can be prohibitively expensive, DWS anticipated that nearly half of all customers on the priority list will turn down connections if offered, leaving demand at approximately 3.75 MGD.

24. It is anticipated that, not including of the priority wait list for new water connections, the demand for water based on population growth will rise by 1.65 MGD.

25. Including present use, expected increased demand due to population growth, and a range of anticipated increased demand for new water meter connections from the priority list, DWS anticipates that it will need to develop between 4.2 and 7.95 MGD to meet demands through 2030.

26. In recent years, DWS has evaluated strategies to meet the long-term future demands on the Upcountry Maui System. These strategies include a combination of basal well development, construction of new 100-300 million gallon raw storage reservoirs at the existing water treatment facilities, and conservation measures such as leak detection and repair in the distribution system, preventative maintenance to reduce system losses, DWS funded watershed partnerships, low-flow fixture distribution, retrofits and credits, water audits, regulations geared toward conservation and public education and outreach.


27. The Hearings Officer instructed all parties in this matter to present any economic analysis on the impacts of a reduction of access to East Maui Surface water in an incremental fashion.

28. DWS has hired two consulting firms to conduct such analyses. Craig Lekven, P.E., of Brown and Caldwell has conducted a microeconomic analysis and Paul Brewbaker, Ph.D., of TZ Economics has conducted a macroeconomic analysis of the effects of restricting offstream use on the County of Maui. Both analyses, as described more fully below, show that restricting use of the surface water results in severe negative economic impacts for the County of Maui.

29. There are legal impediments to the ability of DWS to develop new basal well sources in East Maui due to a 2003 Consent Decree limiting well development as contingent upon certain events. A true and correct copy of the 2003 consent decree is marked as DWS Exhibit "B-19."

30. The in 2013 the Circuit Court for the Second Circuit issued an order stating that the consent decree was still in effect, that DWS had not met the criteria for well development set forth by the Consent Decree, and thereby preventing DWS from exploring the development of two potential well sites. A true and correct copy of the court's 2013 Order is marked as DWS Exhibit "B-20."

I declare under penalty of law that the foregoing is true and correct of my own personal knowledge and that this Declaration was executed on December 30, 2014 in Wailuku, Maui, Hawaii.

  
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DAVID TAYLOR, P.E.  
Director  
Department of Water Supply  
County of Maui

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Attorneys for COUNTY OF MAUI,  
DEPARTMENT OF WATER SUPPLY

COMMISSION ON WATER RESOURCE MANAGEMENT

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**DECLARATION OF MICHELE MCLEAN**

I, MICHELE MCLEAN, declare as follows:

1. I am the duly appointed Deputy Director of the Department of Planning of the County of Maui. I have served in this capacity since January 4, 2011.
2. I have personal knowledge of the facts stated in this Declaration, except as to matters stated on information and belief, and as to those matters, I believe them to be true. If called upon, I could testify competently thereto.

3. This written testimony in the form of a declaration is submitted on behalf of the Department of Water Supply of the County of Maui (“DWS”).

4. According to the Maui Island Plan/General Plan 2030, in 2015 there will be 35,251 people living in Community Plan Areas that are served by the Upcountry Water System (Makawao-Pukalani-Kula and Paia-Haiku).

5. By 2030, the residential population of the Community Plan Areas served by the Upcountry Maui System is estimated to grow by 8,424, for a total of 43,675 residents. This growth is for the combined Community Plan Areas of Makawao-Pukalania-Kula and Paia-Haiku, and not necessarily for the Upcountry Maui System area only.

6. From 2010 to 2030, with the estimated growth noted in paragraph 5 above, the Maui Island Plan/General Plan 2030 and the planning guidelines in its Directed Growth Plan call for an additional 1,751 dwelling units for the Makawao-Pukalani-Kula and Paia-Haiku Community Plan Areas.

7. Additionally, there are residential and commercial projects in the Upcountry Maui System area which are currently in the queue for land use entitlements.

8. The Maui Island Plan/General Plan 2030 was prepared by the County of Maui Planning Department, was adopted by Ordinance No. 4004, and took effect on December 28, 2012. A true and correct copy of Chapters 1 (Population) and 8 (Directed Growth Plan) of the Maui Island Plan/General Plan 2030 is marked as Exhibit “B-1” and “B-18.”

9. DWS’s use of surface water from the 27 streams at issue in this contested case is consistent with state and county general plans and land use designations.

10. DWS’s use of surface water from the 27 streams at issue in this contested case is consistent with county land use plans and policies.

I declare under penalty of law that the foregoing is true and correct of my own personal knowledge and that this Declaration was executed on December 24, 2014 in Wailuku, Maui, Hawaii.



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MICHELE MCLEAN  
Deputy Director for the  
Planning Department  
County of Maui

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CALEB P. ROWE 9520  
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**DECLARATION OF PAUL H. BREWBAKER, Ph.D.**

I, PAUL H. BREWBAKER, Ph.D., declare as follows:

1. I am the Principal of TZ Economics, a Hawaii economics consultancy.

2. I have personal knowledge of the facts stated in this Declaration, except as to matters stated on information and belief, and as to those matters, I believe them to be true. If called upon, I could testify competently thereto.

3. This written testimony in the form of a declaration is submitted on behalf of the Department of Water Supply of the County of Maui ("DWS").

4. I received my A.B. in Economics and graduated with honors from Stanford University and did graduate work at the University of Wisconsin. I received my Ph.D. in Economics from the University of Hawaii at Manoa.

5. For more than 25 years through 2009, I was professionally affiliated with the Bank of Hawaii, retiring as a Senior Vice President and its Chief Economist.

6. I served for much of the last 25 years as a member and chair of the Hawaii Council on Revenues, the State of Hawaii's independent revenue-forecasting body.

7. I have taught economics both at the University of Hawaii and University of Wisconsin systems.

8. I have been a presenter at various conferences and have authored various publications.

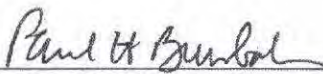
9. I am a member of the American Economic Association, the American Finance Association, and the National Association for Business Economics, and am a director of the Hawaii Economic Association.

10. I was retained by the County of Maui Department of Water Supply ("DWS") to estimate the economic consequences for DWS if its use of surface water from the 27 streams at issue in this contested case were restricted.



11. I have conducted such an analysis and have prepared a report. A true and correct copy of my report has been marked as Exhibit B-21, the contents of which I incorporate into this written testimony/declaration.

I declare under penalty of law that the foregoing is true and correct of my own personal knowledge and that this Declaration was executed on December 29, 2014 in Wailuku, Maui, Hawaii.

  
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PAUL H. BREWBAKER, Ph.D.  
Principal  
TZ Economics