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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),  
WAIOKAMILO, KUALANI, WAILUANUI,  
WEST WAILUAIKI, EAST WAILUAIKI,  
KOPILIULA, PUAKEA, WAIOHUE,  
PAAKEA, WAIAAKA, KAPLAULA,  
HANAWI, AND MAKAPIPI STREAMS

Case No. CCH-MA13-01

**HAWAIIAN COMMERCIAL & SUGAR  
COMPANY'S AMENDED EXHIBIT  
LIST IN RE-OPENED EVIDENTIARY  
HEARING; CERTIFICATE OF  
SERVICE**

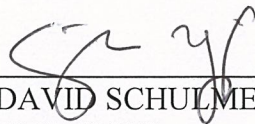
**HAWAIIAN COMMERCIAL & SUGAR COMPANY'S  
AMENDED EXHIBIT LIST IN RE-OPENED EVIDENTIARY HEARING**

<b><u>EXHIBIT NUMBER</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>REFERENCES</u></b>
C-152	12/11/2015 Testimony of William J. Aila, Jr., Deputy to the Chairman Department of Hawaiian Home Lands to the Board of Land and Natural Resources on Item D- 14, Annual Renewal of Revocable Permits on the IEMI map of the ditch system which shows the four license areas as well as the EMI owned portions of the watersheds	Declaration of Elijah Yip at ¶ 2

<u>EXHIBIT NUMBER</u>	<u>DESCRIPTION</u>	<u>REFERENCES</u>
C-153	01/06/2016 Press Release, "Alexander & Baldwin Announces Transition of Hawaiian Commercial & Sugar Company to a Diversified Farm Model"	Declaration of Rick W. Volner, Jr. at ¶ 3
C-154	04/22/2016 Letter from Christopher Benjamin to Commission on Water Resource Management	Declaration of Rick W. Volner, Jr. at ¶ 8
C-155	Map of uses in HC&S' Diversified Agricultural Plan	Declaration of Rick W. Volner, Jr. at ¶ 15
C-156	Table of Irrigation Requirements of Crops in HC&S' Diversified Agricultural Plan	Declaration of Rick W. Volner, Jr. at ¶ 18
C-157	Evapotranspiration and Crop Co-efficient Data	Declaration of Rick W. Volner, Jr. at ¶ 18
C-158	Work Plan For Restoration of Taro Streams	Declaration of Garret Hew at ¶ 13
C-159	11/23/2016 Letter dated November 23, 2016 from Rick W. Volner, Jr. to Suzanne Case	Rick W. Volner, Jr. oral testimony
C-160	Graph of flow data from USGS gaging station 1658700 for April 2016	Rebuttal Declaration of Garret Hew at ¶ 3

DATED: Honolulu, Hawaii, January 20, 2017.

CADES SCHUTTE LLP



DAVID SCHULMEISTER

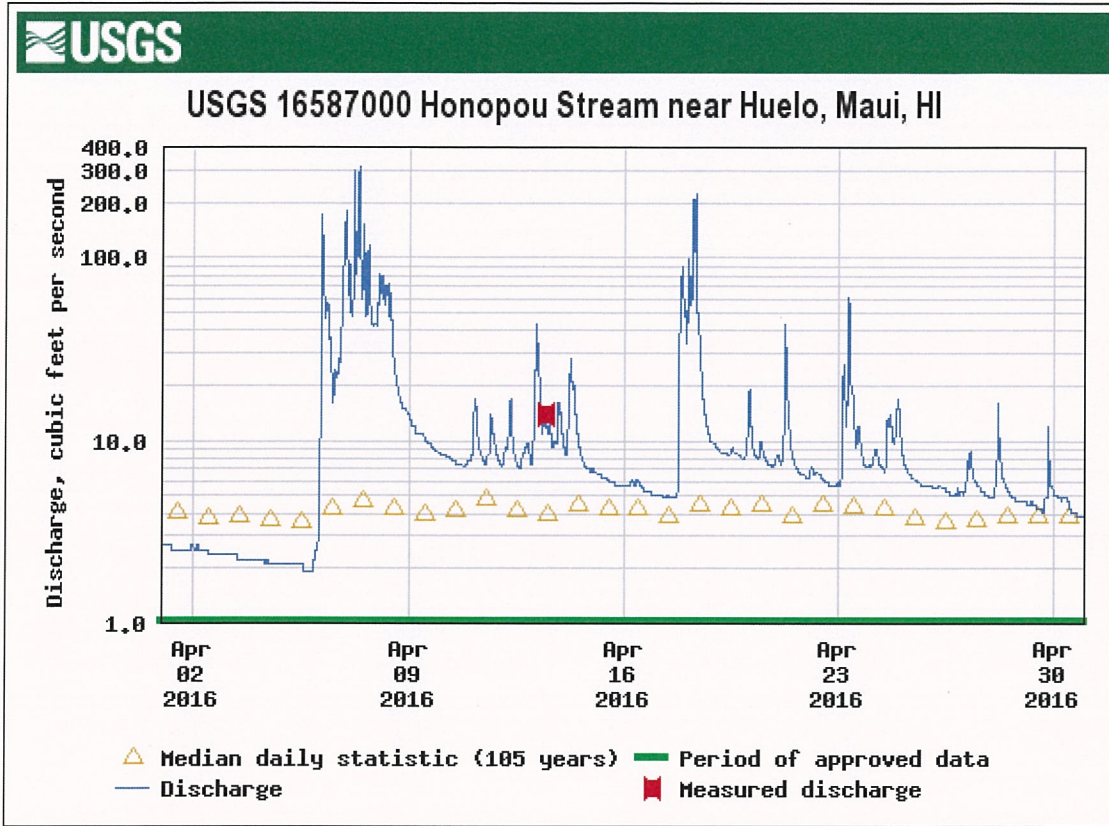
ELIJAH YIP

Attorneys for HAWAIIAN COMMERCIAL &  
SUGAR COMPANY

Average Daily Evap by  
Month 2010-2016td

month	110	201	208	301	401	414	501	602	711	813	823	906	ARP	KAP
January	0.1268274	0.160331	0.158847	0.136029	0.14009806	0.144774	0.1496923	0.1539284	0.14821385	0.152143	0.159996	0.162594	0.151114	0.143841
February	0.1560499	0.185136	0.186356	0.1610646	0.16561623	0.171387	0.1798622	0.184283	0.18364948	0.189355	0.189248	0.202654	0.184576	0.164591
March	0.1745617	0.195044	0.202025	0.1729265	0.18278516	0.193619	0.1989097	0.2053351	0.20039611	0.210738	0.208319	0.219248	0.202715	0.180379
April	0.2299432	0.243801	0.259381	0.22325	0.22134333	0.238399	0.257284	0.2594072	0.25587437	0.25934	0.248263	0.278975	0.257016	0.220392
May	0.2274805	0.244489	0.262208	0.220529	0.21413744	0.227211	0.2564703	0.2750156	0.25173161	0.250267	0.248559	0.263366	0.253726	0.20991
June	0.2612682	0.287669	0.291869	0.2615207	0.23841233	0.25212	0.2965392	0.3022781	0.27726129	0.297948	0.272332	0.314273	0.282825	0.23404
July	0.2730584	0.292961	0.29832	0.2549161	0.23995097	0.253674	0.2939839	0.3066072	0.28020129	0.301738	0.265931	0.305402	0.282599	0.232849
August	0.2716185	0.284341	0.294449	0.2480827	0.23778135	0.249545	0.2867836	0.3009668	0.27607265	0.288148	0.262087	0.296448	0.27973	0.23385
September	0.2511481	0.248199	0.264953	0.2187242	0.20608613	0.22137	0.2542275	0.2627763	0.24749512	0.252019	0.232741	0.273096	0.255657	0.202185
October	0.1839646	0.211612	0.214701	0.1818873	0.17682088	0.188695	0.2032041	0.2078078	0.20864571	0.211105	0.197748	0.219592	0.207578	0.181698
November	0.1598115	0.178611	0.177538	0.1596116	0.15658663	0.155692	0.1727128	0.1749084	0.17429581	0.174943	0.172216	0.188802	0.169958	0.157211
December	0.1399102	0.155707	0.154133	0.1390489	0.13720139	0.140427	0.1523391	0.1563666	0.14942066	0.155486	0.152529	0.162174	0.148308	0.142423
Grand Average	0.2046369	0.223992	0.230398	0.1981325	0.19306833	0.203076	0.2251674	0.2343562	0.22110483	0.230439	0.218643	0.240552	0.222984	0.193606

Use	Crop Coeff	irrig type	irrig eff	evap (in)	daily				Annual (in)
					evap (in)	adj evap	GPAD	rain (in)	
Pasture - Unirrigated	0	none	0%	0.2046369	0	0	0.1475492	0	0
Pasture - Irrigated (surface only)	0.6	drip	90%	0.2175076	0.13050457	3543.721	0.0644788	1992.0712	26.7954625
Pasture - Irrigated	0.6	drip	90%	0.2175076	0.13050457	3543.721	0.0869455	1314.2253	17.6777191
Dairy - Irrigated	0.6	drip	90%	0.2251674	0.13510043	3668.517	0.0597874	2272.277	30.5645275
Agricultural Park	0.65	drip	90%	0.1933369	0.125669	3412.416	0.0406193	2566.0447	34.516013
Diversified Ag	0.65	drip	90%	0.1965833	0.12777918	3469.716	0.0406193	2629.711	35.3723928
Orchard Crops (surface only)	1	drip	90%	0.2030762	0.2030762	5514.331	0.0281073	5279.0061	71.0082116
Orchard Crops	1	drip	90%	0.2030762	0.2030762	5514.331	0.0245157	5387.3681	72.4657954
Beverage Crops	1.03	drip	90%	0.1980723	0.20401443	5539.808	0.0351015	5096.2899	68.5504857
Pongamia	0.8	drip	90%	0.224541	0.17963278	4877.749	0.0312056	4478.2121	60.2366853
Grain/Animal Feed	0.75	drip	90%	0.2282135	0.17116009	4647.681	0.0375799	4030.2617	54.2112801
Bioenergy crops	0.75	drip	90%	0.2298871	0.17241531	4681.765	0.0478196	3759.1912	50.5650942



**Exhibit C-160**

COMMISSION ON WATER RESOURCE MANAGEMENT

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Case No. CCH-MA13-01

**CERTIFICATE OF SERVICE**

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that, on this date, a true and correct copy of the foregoing document was duly served on the following parties as stated below:

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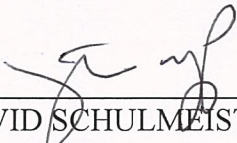
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DATED: Honolulu, Hawaii, January 20, 2017.

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