



ALEXANDER & BALDWIN
PARTNERS FOR HAWAII

P.O. Box 3440, Honolulu, Hawaii 96801

FILE COPY
SEP 23 2019

EAST MAUI IRRIGATION COMPANY, LIMITED
P.O. BOX 791628, PAIA, MAUI, HAWAII 96779-1628

September 9, 2019

Scott J. Glenn
Director
Office of Environmental Quality Control
Department of Health, State of Hawai'i
235 South Beretania Street, Room 702
Honolulu, Hawai'i 96813

Suzanne Case
Chairperson
Department of Land and Natural Resources
State of Hawai'i
1151 Punchbowl Street
Honolulu, Hawai'i 96813

Dear Mr. Glenn and Ms. Case:

With this letter Alexander & Baldwin Inc. (A&B) and East Maui Irrigation Company, Limited (EMI) hereby transmits this Draft Environmental Impact Statement (DEIS) for the *Proposed Lease (Water Lease) for the Nāhiku, Ke'anae, Honomanū, and Huelo License Areas*, situated at TMK Nos. (2) 1-2-004:005, 007 (por.), 1-1-002:002, 1-1-001:044, 1-1-001:050, 2-9-014:001, 005, 011, 012, 017 in the Makawao and Hāna Districts, on the island of Maui. The DEIS has been prepared pursuant to the Board of Land and Natural Resources' 2016 order to A&B and EMI to proceed with the preparation of an environmental impact statement.

Enclosed are a completed Applicant Publication Form, a searchable PDF of the DEIS (Volumes I, II, and III), and a searchable PDF of the distribution list (with a copy of the same sent via electronic mail to oeqc@doh.hawaii.gov).

Pursuant to the requirements of Sections 11-200-3 and 11-200-15, Hawai'i Administrative Rules, we request that you publish notice of the DEIS in the next available periodic bulletin (The Environmental Notice), which we believe to be the September 23, 2019 issue. This will enable the public to submit comments to A&B's consultant, with copies to the DNLR, during the forty-five day public comment period.

If there are any questions, please contact our consultant, Mr. Earl Matsukawa at (808) 946-2277.

Sincerely,

Alexander & Baldwin, Inc.

East Maui Irrigation Co., Ltd.

cc: WOC

Encls.: (1) Completed OEQC Applicant Publication Form
(2) Searchable PDF of the DEIS and distribution list

APPLICANT PUBLICATION FORM

Project Name:	Proposed Lease (Water Lease) for the Nāhiku, Keʻanae, Honomanū, and Huelo License Areas
Project Short Name:	DEIS East Maui Water Lease
HRS §343-5 Trigger(s):	Use of State land
Island(s):	Maui
Judicial District(s):	Makawao and Hāna
TMK(s):	1-2-004:005, 007; 1-1-002:002; 1-1-001:44, 050; and, 2-9-014:001, 005, 011, 012, 017
Permit(s)/Approval(s):	Application for a long-term lease of State land in the Nāhiku, Keʻanae, Honomanū, and Huelo License Areas
Approving Agency:	Board of Land and Natural Resources
<i>Contact Name, Email, Telephone, Address</i>	Mr. Ian Hirokawa, ian.c.hirokawa@hawaii.gov , (808) 587-0400, 1151 Punchbowl St. Honolulu, HI 96813
Applicant:	Alexander & Baldwin Inc. (A&B)/East Maui Irrigation Company, Limited (EMI), collectively referred to as "A&B"
<i>Contact Name, Email, Telephone, Address</i>	A&B / EMI, waterleaseeis@wilsonokamoto.com
Consultant:	Wilson Okamoto Corporation
<i>Contact Name, Email, Telephone, Address</i>	Mr. Earl Matsukawa AICP, waterleaseeis@wilsonokamoto.com , (808) 946-2277, 1907, S. Beretania Street, Suite 400 Honolulu, HI 96826

Status (select one) DEA-AFNSI**Submittal Requirements**

Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.

 FEA-FONSI

Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.

 FEA-EISPN

Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.

 Act 172-12 EISPN
("Direct to EIS")

Submit 1) the approving agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.

 DEIS

Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.

 FEIS

Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.

 FEIS Acceptance
Determination

The approving agency simultaneously transmits to both the OEQC and the applicant a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.

 FEIS Statutory
Acceptance

The approving agency simultaneously transmits to both the OEQC and the applicant a notice that it did not make a timely determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and therefore the applicant's FEIS is deemed accepted as a matter of law.

 Supplemental EIS
Determination

The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that

a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.

- Withdrawal Identify the specific document(s) to withdraw and explain in the project summary section.
- Other Contact the OEQC if your action is not one of the above items.

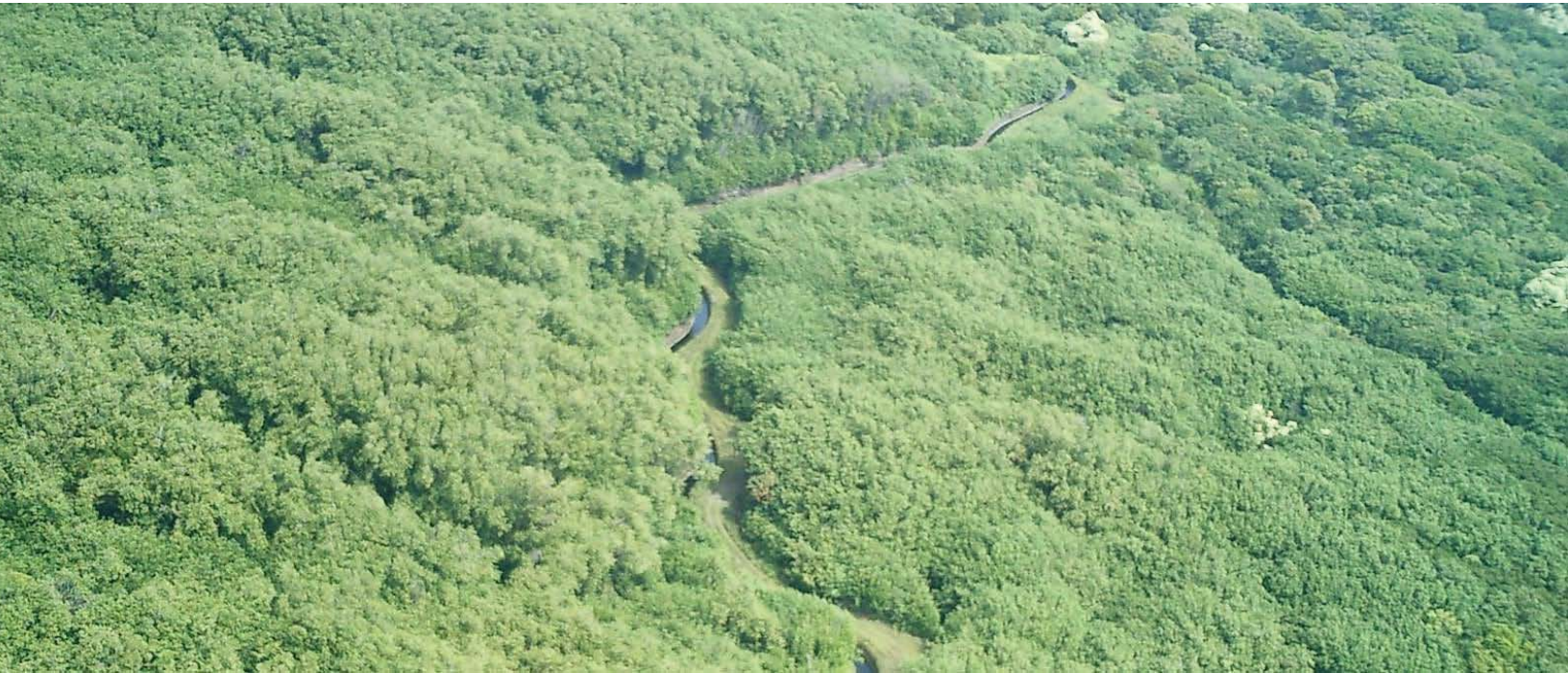
Project Summary

Provide a description of the proposed action and purpose and need in 200 words or less.

The Proposed Action constitutes the issuance of a long-term (30-year) Water Lease from the BLNR that grants the lessee the *"right, privilege, and authority to enter and go upon"* the License Area for the *"purpose of developing, diverting, transporting, and using government owned waters"* through the existing EMI Aqueduct System which supplies water to domestic and agricultural water users. The Water Lease, which will be awarded by public auction, will enable the lessee to enter upon lands owned by the State of Hawai'i in order to maintain and repair existing access roads and trails used as part of the EMI Aqueduct System, and will allow for the continued operation of the EMI Aqueduct System to deliver water to the MDWS for domestic and agricultural water needs in Upcountry Maui, including the agricultural users at the KAP and the planned 262-acre KAP expansion, as well as for the Nāhiku community, which, through the MDWS, draws up 20,000 to 45,000 gallons per day (gpd), dependent on weather, directly from the EMI Aqueduct System. It will also allow the continued provision of water to approximately 30,000 acres of agricultural lands (formerly in sugarcane) in Central Maui.

Proposed Lease (Water Lease) for the Nāhiku, Ke'anae,
Honomanū, and Huelo License Areas

Draft Environmental Impact Statement



September 2019

Prepared For



Alexander & Baldwin, Inc.
East Maui Irrigation Company, Ltd.

Prepared By



Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

**Proposed Lease (Water Lease) for the Nāhiku,
Ke‘anae, Honomanū, and Huelo License Areas**

Draft Environmental Impact Statement

September 2019

**Prepared For
Alexander & Baldwin, Inc.
East Maui Irrigation Company, Ltd.**

**Prepared By
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826**

This Draft Environmental Impact Statement and all ancillary documents were prepared under my direction or supervision, and the information submitted, to the best of my knowledge, fully addresses document content requirements set forth in Hawai'i Revised Statutes, Chapter 343 and Hawai'i Administrative Rules, § 11-200-17, as applicable.



Earl Matsukawa, AICP
Vice President, Director-Planning
Wilson Okamoto Corporation

September 11, 2019
Date

(This page intentionally left blank)

Content Checklist

Draft EIS Compliance		HAR 11-200-17 Draft EIS Content Requirements	
	A	The Draft EIS shall contain at a minimum the information contained in this section (11-200-17)	
Executive Summary	B	Summary Sheet with the following	
Executive Summary	1	Brief description of the Proposed Action	
Executive Summary	2	Significant beneficial/adverse/cumulative/secondary impacts	
Executive Summary	3	Proposed mitigation measures	
Executive Summary	4	Alternatives considered	
Executive Summary	5	Unresolved issues	
Executive Summary	6	Compatibility with land use plans/policies; listing of permits/approvals	
Table of Contents	C	Table of Contents	
Section 1.1	D	Statement of Purpose/Need for the Proposed Action	
Chapter 2	E	Project Description with enough detail to evaluate environmental impacts	
Chapter 2, Figs.4-2 to 4, 4-21 to 26	1	Detailed map (USGS topo, Firm, or floodway boundary)	
Section 1.2	2	Statement of objectives	
Chapter 2	3	General description of action's characteristics:	
Chapter 2	a	Technical	
Section 4.7	b	Social	
Chapter 4	c	Environmental	
Section 2.1	4	Use of public funds or lands for the action	
Section 2.1.5	5	Phasing and timing of the action	
Chapter 4, Figs. 4-1 to 31	6	Summary technical data, diagrams etc. for evaluation of potential impacts	
Section 1.3	7	Historic perspective	
Chapter 3	F	Rigorous exploration and objective evaluation of alternatives	
Section 3.3	1	No action	
Section 3.2	2	Different nature with similar benefits and different environmental impacts	
Section 3.2	3	Alternate designs or details	
	4	Postponing the action	
Section 3.1	5	Alternative locations	
Section 3.4	6	Comparative evaluation of benefits, costs, risks of reasonable alternatives	
Chapter 4	G	Existing environmental setting	
Chapter 4	1	Local	
Section 4.2.1 Streams & 4.4 Flora/Fauna	3	Rare or unique environmental resources	
Section 4.18.4	4	Related projects in area contributing to possible cumulative effect	

Section 2.1.3.1 Section 4.7.2		5	Area's population/growth characteristics & assumptions used to justify the action
Section 4.17 (none)		6	Secondary population/growth characteristics
Chapter 5	H		Relationship of Proposed Action to land use plans, policies and controls
Chapter 5		1	For conflicts, extent to which conflict has been reconciled and reasons for proceeding
Section 5.8		2	List of necessary approvals and status of each
Chapter 4	I		Statement of probable impacts
Chapter 4		1	Consideration of all phases
Section 4.17		2	Direct/indirect
Section 4.18		3	Interrelationships and cumulative impacts of Action and other related projects
Section 4.17		4	Secondary impacts
Section 4.7.2		5	Estimated population impacts
Section 4.7.2		6	Effects of population change
Section 6.3		7	Direct or indirect sources of pollution
Chapter 7	J		Relationship between local short-term uses of environment and maintenance/enhancement of long-term productivity
Chapter 7.1		1	Trade-offs/short-term & long-term gains/losses
Chapter 7.2		2	Extent to which Proposed Action forecloses future options
Chapter 7.3		3	Narrows range of beneficial uses
Chapter 7.5		4	Poses long-term risks to health and safety
Chapter 7.4		5	Environmentally significant consequences
Chapter 6	K		Irreversible/irretrievable commitments of resources
Section 6.4		1	Unavoidable impacts
Section 6.1		2	Use of non-renewable resources
Section 6.2		3	Curtails range of beneficial uses
Section 6.3		4	Possibility of environmental accidents resulting from any phase of Proposed Action
Sec.4.2.1,4.4,4.5,4.6		5	Loss/destruction of natural/cultural resources
Section 6.4	L		All probable adverse environmental effects that cannot be avoided
Chapter 1		1	Rationale for proceeding with Action, notwithstanding, adverse effects
Sections 1.3.4, 2.1.3		2	Other governmental policies that offset adverse environmental effects
Chapter 3		3	Ability of reasonable alternatives to achieve countervailing benefits to avoid adverse effects
Chapter 4	M		Mitigation measures
Chapter 4		1	Basis for determining mitigations reduce impacts to insignificant levels
Chapter 4		2	Timing of mitigations/commitments to assuring mitigation

Chapter 8	N	1	Summarize unresolved issues
Chapter 8		2	How they will be resolved prior to implementing action or overriding reasons for proceeding without resolution
Chapter 9	0	1	Consulted parties
Chapter 10		2	Disclosure of preparers
Appendix M	P	1	Reproduction of all substantive comments and responses
Chapter 9		2	List of parties consulted who had no comments

(This page intentionally left blank)

TABLE OF CONTENTS

Page

SUMMARY	i
EXECUTIVE SUMMARY	iii
1. STATEMENT OF PURPOSE AND NEED OF THE PROPOSED ACTION	1-1
1.1 Purpose of the Proposed Action.....	1-1
1.2 Objectives of the Proposed Action	1-1
1.3 Background – Historical Perspective	1-2
1.3.1 The EMI Aqueduct System.....	1-2
1.3.2 History of Stream Diversion on East Maui.....	1-4
1.3.3 Chronology of Water Lease and the Interim Instream Flow Standards	1-6
1.3.4 Interim Instream Flow Standard Decision and Order	1-11
1.3.4.1 CWRM IIFS D&O Stream Identification.....	1-13
1.3.4.2 CWRM IIFS D&O Table.....	1-16
1.4 Chapter 343, Hawai'i Revised Statutes (Hawai'i EIS Law).....	1-20
2. PROPOSED ACTION.....	2-1
2.1 Proposed Action	2-1
2.1.1 Department of Hawaiian Homelands Water Reservation	2-2
2.1.2 East Maui/License Area.....	2-4
2.1.3 MDWS Water Service Sourced from the EMI Aqueduct System	2-8
2.1.3.1 Upcountry Maui Water System	2-10
2.1.3.2 The MDWS Kula Agricultural Park	2-14
2.1.3.3 The MDWS Nāhiku	2-15
2.1.4 Central Maui Field System	2-15
2.1.5 Phasing and Timing of the Proposed Action	2-19
3. ALTERNATIVES.....	3-1
3.1 Alternatives Considered But Dismissed	3-1
3.1.1 Water Sources Alternatives	3-1
3.1.1.1 Groundwater Alternative	3-2
3.1.1.2 Reclaimed Water	3-3
3.1.1.3 Added Storage Alternative.....	3-3
3.1.2 Aqueduct Ownership	3-4
3.2 Alternative Analysis	3-5
3.2.1 Reduced Water Volume Alternative	3-5
3.2.2 Water Lease With Different Terms	3-5
3.2.2.1 Alternative Lease Duration	3-5
3.2.2.2 Modified Lease Area	3-6
3.3 No Action.....	3-6
3.4 Comparative Evaluation of Reasonable Alternatives	3-7
3.4.1 Topography	3-7
3.4.2 Soils.....	3-7
3.4.3 Surface Waters and Aquatic Environment.....	3-8
3.4.4 Groundwater.....	3-9
3.4.5 Coastal Waters	3-9
3.4.6 Drainage.....	3-10

3.4.7	Natural Hazards	3-10
3.4.8	Flora, Fauna, and Invertebrates	3-12
3.4.9	Historic Resources	3-13
3.4.10	Cultural Resources and Practices	3-14
3.4.11	Social Characteristics	3-15
3.4.12	Economic and Fiscal Resources	3-16
3.4.13	Agricultural and Related Economic Resources	3-19
3.4.14	Recreational Resources	3-23
3.4.15	Visual Resources	3-23
3.4.16	Air Quality	3-24
3.4.17	Noise	3-24
3.4.18	Hazardous Materials	3-25
3.4.19	Traffic	3-25
3.4.20	Public Water Systems	3-26
3.4.21	Public Services and Facilities	3-26

4.	EXISTING ENVIRONMENT, IMPACTS, AND MITIGATION MEASURES	4-1
4.1	Physiography	4-1
4.1.1	Geology and Topography	4-1
4.1.2	Soils	4-6
4.2	Hydrology	4-54
4.2.1	Surface Waters	4-54
4.2.2	Groundwater	4-59
4.2.3	Coastal Waters	4-65
4.2.4	Drainage	4-69
4.3	Natural Hazards	4-70
4.3.1	Climate and Climate Change	4-71
4.3.2	Sea Level Rise	4-75
4.3.3	Flood and Tsunami Hazard	4-82
4.3.4	Hurricanes and Wind Hazard	4-91
4.3.5	Seismic Hazard	4-92
4.4	Natural Environment	4-93
4.4.1	Flora	4-93
4.4.2	Fauna and Invertebrates	4-98
4.5	Historic and Archaeological Resources	4-107
4.6	Cultural Resources and Practices	4-116
4.7	Socio-Economic Characteristics	4-130
4.7.1	Population / Demographics	4-130
4.7.2	Social Characteristics	4-132
4.7.3	Economic and Fiscal	4-146
	4.7.3.1 EMI Operations – Economic and Fiscal Impacts: Baselines and Proposed Action	4-147
	4.7.3.2 East Maui – Economic and Fiscal Impacts: Baselines and Proposed Action	4-151
	4.7.3.1 Upcountry Maui – Economic and Fiscal Impacts: Baselines and Proposed Action	4-152
	4.7.3.1 Central Maui – Economic and Fiscal Impacts: Baseline and Proposed Action	4-156

4.7.4	Agricultural Economy.....	4-160
4.8	Recreational Uses and Park Facilities.....	4-169
4.9	Visual Resources	4-175
4.10	Air Quality.....	4-176
4.11	Noise	4-178
4.12	Hazardous Materials	4-179
4.13	Traffic	4-181
4.14	Public Services and Facilities.....	4-183
4.14.1	Police, Fire, and Medical Services.....	4-183
4.14.2	Education.....	4-185
4.14.3	Solid Waste Collection and Disposal.....	4-187
4.15	Infrastructure and Utilities.....	4-188
4.15.1	Water System	4-188
4.15.2	Wastewater System.....	4-189
4.15.3	Electrical System	4-190
4.16	Secondary and Cumulative Impacts.....	4-191
4.17	Secondary Impacts.....	4-192
4.18	Cumulative Impacts.....	4-192
4.18.1	Cumulative History.....	4-192
4.18.2	CWRM D&O	4-193
4.18.3	Objectives of the Proposed Action.....	4-194
4.18.4	Other Cumulative Impacts	4-194
4.19	Summary of Direct, Secondary, and Cumulative Impacts	4-194
5.	RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS.....	5-1
5.1	State Land Use Plans and Policies	5-1
5.1.1	Hawai'i State Plan.....	5-1
5.1.2	State Functional Plans.....	5-30
5.1.3	State Land Use District.....	5-33
5.1.4	Important Agricultural Lands.....	5-34
5.1.5	Hawai'i Forest Reserves.....	5-39
5.1.6	Hawai'i Natural Area Reserves.....	5-41
5.1.7	Hawai'i Coastal Zone Management Program	5-43
5.2	Governor Ige's Sustainability Initiative.....	5-53
5.3	Hawai'i Environmental Policy Act	5-53
5.4	Maui County Land Use Plans and Policies.....	5-57
5.4.1	Countywide Policy Plan	5-57
5.4.2	Maui Island Plan	5-82
5.5	State of Hawai'i Water Plan.....	5-117
5.5.1	Agricultural Water Use and Development Plan	5-118
5.5.2	Draft Maui Island Water Use & Development Plan.....	5-118
5.6	Maui County Zoning	5-122
5.7	Maui Island Community Plans.....	5-123
5.2.1	Hāna Community Plan.....	5-123
5.2.2	Pā'ia-Ha'ikū Community Plan	5-132
5.2.3	Makawao-Pukalani-Kula Community Plan.....	5-144
5.2.4	Wailuku-Kahului Community Plan	5-159
5.8	Permits and Approvals	5-177
6.	IRRETRIEVABLE AND IRREVERSIBLE COMMITMENTS OF RESOURCES.....	6-1
6.1	Use of Non-Renewable Resources	6-1

6.2	Irreversible Curtailment of the Range of Beneficial Uses	6-2
6.3	Potential for Environmental Accidents.....	6-3
6.4	Unavoidable Impacts	6-3
7.	Relationship Between Local and Short-Term Uses of Humanity’s Environment and the Maintenance and Enhancement of Long-Term Productivity	7-1
7.1	Tradeoffs Among Short- and Long-Term Gains and Losses.....	7-1
7.2	Extent to which the Proposed Action Forecloses Future Options	7-1
7.3	Narrows the Range of Beneficial Uses.....	7-2
7.4	Environmentally Significant Consequences	7-2
7.5	Long-term Risks to Health and Safety.....	7-4
8.	UNRESOLVED ISSUES	8-1
9.	CONSULTATION.....	9-1
9.1	Early Consultation.....	9-1
9.2	Summary of Applicant’s Community Outreach and Consultation Efforts During the EISPN Comment Period.....	9-3
9.3	Draft EIS Consultation	9-13
10.	LIST OF PREPARERS	10-1
11.	REFERENCES.....	11-1

LIST OF FIGURES

	<u>Page</u>
Figure 1-1	EMI Aqueduct System Collection Area..... 1-3
Figure 1-2	Tax Map Keys of License Area..... 1-8
Figure 1-3	CWRM IIFS Decision & Order Map
	1-21
Figure 2-1	EMI Aqueduct – East Maui
	2-6
Figure 2-2	EMI Aqueduct System
	2-7
Figure 2-3	Upcountry Maui Water System Service Area
	2-9
Figure 2-4	Upcountry Maui Water System.....
	2-11
Figure 2-5	Central Infrastructure Map.....
	2-16
Figure 2-6	Mahi Pono Farm Plan.....
	2-20
Figure 4-1	Central Maui Land Cover Map
	4-2
Figure 4-2	USGS East Maui Topography Map
	4-4
Figure 4-3	USGS Upcountry Maui Topography Map
	4-5
Figure 4-4	USGS Central Maui Topography Map.....
	4-7
Figure 4-5	Soil Survey of the State of Hawai’i: Huelo License Area
	4-9
Figure 4-6	Soil Survey of the State of Hawai’i: Honomanū License Area.....
	4-12
Figure 4-7	Soil Survey of the State of Hawai’i: Ke’anae License Area
	4-13
Figure 4-8	Soil Survey of the State of Hawai’i: Nāhiku License Area
	4-16
Figure 4-9	East Maui LSB Map.....
	4-18
Figure 4-10	East Maui ALISH Map
	4-20
Figure 4-11	Upcountry Maui Soil Map
	4-21
Figure 4-12	Upcountry Maui LSB Map.....
	4-37
Figure 4-13	Upcountry Maui ALISH Map
	4-38

Figure 4-14	Central Maui Soil Map	4-40
Figure 4-15	Central Maui LSB Map	4-52
Figure 4-16	Central Maui ALISH Map.....	4-53
Figure 4-17	East Maui Aquifer Sector Map.....	4-60
Figure 4-18	Central Maui Aquifer Sector Map	4-62
Figure 4-19	East Maui Water Quality Classification Map.....	4-62
Figure 4-20	Central Maui Water Quality Classification Map	4-68
Figure 4-21	PacIOOS 3.2ft Sea Level Rise Projection – ‘O‘opuola Stream	4-77
Figure 4-22	PacIOOS 3.2ft Sea Level Rise Projection – Honomanū Stream	4-78
Figure 4-23	PacIOOS 3.2ft Sea Level Rise Projection – East and West Wailua Iki Stream	4-78
Figure 4-24	PacIOOS 3.2ft Sea Level Rise Projection – Kopili‘ula Stream	4-79
Figure 4-25	PacIOOS 3.2ft Sea Level Rise Projection – Waia‘aka Stream.....	4-79
Figure 4-26	PacIOOS 3.2ft Sea Level Rise Projection – Hanawī Stream	4-80
Figure 4-27	Central Maui 3.2 Feet of Sea Level Rise Map.....	4-83
Figure 4-28	East Maui Flood Insurance Rate Map	4-84
Figure 4-29	East Maui Tsunami Evacuation Map.....	4-85
Figure 4-30	Upcountry Flood Insurance Rate Map.....	4-87
Figure 4-31	Upcountry Maui Tsunami Evacuation Map.....	4-88
Figure 4-32	Central Maui Flood Insurance Rate Map.....	4-89
Figure 4-33	Central Maui Tsunami Evacuation Map.....	4-90
Figure 4-34	Critical Habitat Map	4-95
Figure 4-35	Traditional Moku Map	4-110
Figure 4-36	Walker Heiau Sites	4-112
Figure 4-37	Recreational Map	4-171
Figure 4-38	Ko‘olau Forest Reserve Hunting Unit Map	4-173
Figure 5-1	East Maui State Land Use District Map.....	5-35
Figure 5-2	Central Maui State Land Use District Map	5-36
Figure 5-3	Upcountry Maui State Land Use District Map.....	5-37
Figure 5-4	Important Agricultural Lands Map	5-44
Figure 5-5	East Maui Special Management Area Map	5-45
Figure 5-6	Central Maui Special Management Area Map.....	5-46
Figure 9-1	Affidavit of Publication of Scoping Meeting Notice	9-13
Figure 9-2	February 22, 2017 Scoping Meeting Sign-in Sheet and Oral Comments Sign-up Sheet	9-15
Figure 9-3	February 23, 2017 Scoping Meeting Sign-in Sheet and Oral Comments Sign-up Sheet	9-29

LIST OF TABLES

	<u>Page</u>	
Table 1-1	License Area TMKs	1-7
Table 1-2	License Area Streams as presented in Table 1-2 in the EISPN (February, 2017) Reconciled with Stream Names Used in the CWRM D&O (June 20, 2018).....	1-14
Table 1-3	Streams in License Area as Presented in CWRM D&O	1-16
Table 2-1	Mahi Pono Farm Plan.....	2-18
Table 3-1	Mahi Pono No Action/No Lease Farm Plan.....	3-21
Table 3-2	Summary – Comparative Evaluation of Reasonable Alternatives	3-25
Table 4-1	Sustainable Yields for Ko‘olau Aquifer System Areas	4-59
Table 4-2	Pumpage by Well Type for Ko‘olau Aquifer System Areas	4-61

Table 4-3	Sustainable Yields for Central Aquifer System Areas	4-61
Table 4-4	Pumpage by Well Type for Central Aquifer System Areas	4-63
Table 4-5	East Maui Special Status Species	4-99
Table 4-6	Central Maui Special Status Species	4-106
Table 4-7	Demographic Characteristics	4-130
Table 4-8	Usable Acreage in East Maui for Taro Lo'i	4-160
Table 4-9	Central Maui Traffic	4-182
Table 5-1	Hawai'i State Plan Part 1	5-1
Table 5-2	Hawai'i State Plan Part 3	5-22
Table 5-3	State Functional Plans	5-30
Table 5-4	Important Agricultural Plans	5-38
Table 5-5	Hawai'i Forest Reserves	5-40
Table 5-6	Hawai'i Natural Area Reserves	5-42
Table 5-7	Hawai'i Coastal Zone Management Act	5-47
Table 5-8	Hawai'i Environmental Policy Act	5-53
Table 5-9	Countywide Policy Plan	5-57
Table 5-10	Maui Island Plan	5-82
Table 5-11	Ko'olau Aquifer Sector Area Strategies	5-119
Table 5-12	Central Aquifer Sector Area Strategies	5-120
Table 5-13	Hāna Community Plan	5-123
Table 5-14	Pā'ia-Ha'ikū Community Plan	5-132
Table 5-15	Makawao-Pukalani-Kula Community Plan	5-144
Table 5-16	Wailuku-Kahului Community Plan	5-159
Table 9-1	Early Consultation Participants	9-1
Table 9-2	List of Agencies, Organizations, and Individuals Consulted During the 30-Day EISPN Comment Period	9-5

LIST OF APPENDICES

Appendix A	Assessment of Impacts of Stream Diversions Using the Hawaiian Stream Habitat Evaluation Procedure (HSHEP Model)
Appendix B	East Maui Irrigation Assessment of Streams and the Ocean
Appendix C	Terrestrial Flora and Fauna Technical Report
Appendix D	Historical Structure Assessment
Appendix E	Archaeological Literature Review and Field Inspection
Appendix F	Cultural Impact Assessment
Appendix G	Social Impact Assessment
Appendix H	Economic and Fiscal Impact Study
Appendix I	Agricultural and Related Economic Impacts
Appendix J	Pre-Assessment Consultation Correspondence
Appendix K	Scoping Meeting For the Water Lease for the Nāhiku, Ke'anae, Honomanū, and Huelo License Areas EISPN Transcript of Proceedings Wednesday, February 22, 2017
Appendix L	Scoping Meeting For the Water Lease for the Nāhiku, Ke'anae, Honomanū, and Huelo License Areas EISPN Transcript of Proceedings Thursday, February 23, 2017
Appendix M	Scoping Meeting and EISPN Comments and Responses

LIST OF ACRONYMS USED

The following is a list of acronyms and abbreviations used in this Environmental Impact Statement (EIS).

A&B	Alexander and Baldwin, Inc.
AIS	Archeological Inventory Survey
ALISH	Agricultural Land of Importance to the State of Hawai'i
ASCE	American Society of Civil Engineers
BFQ ₅₀	A stream's median base flow
BLNR	Board of Land and Natural Resources
BMP	Best management practice
CDP	Census-Designated Place
cfs	Cubic feet per second
CIA	Cultural Impact Assessment
COL	Conclusions of Law from the CWRM D&O
CSH	Cultural Surveys Hawai'i, Inc.
CWRM	Commission on Water Resources Management
CWRM D&O	The Commission on Water Resources Management Findings of Fact, Conclusion of Law, and Decision and Order in Case CCH-MA13-01, dated June 20,2018
CZM	Coastal Zone Management
CZMP	Coastal Zone Management Program
DAR	Division of Aquatic Resources
DBEDT	Department of Business, Economic Development and Tourism
DEIS	Draft Environmental Impact Statement
DHHL	Department of Hawaiian Home Lands
DLNR	State of Hawai'i Department of Land and Natural Resources
DOE	State of Hawai'i Department of Education
DOH	State of Hawai'i Department of Health
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
EMI	East Maui Irrigation Company, LLC
EMWP	East Maui Watershed Partnership
EPA	Environmental Protection Agency
F	Fahrenheit
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FOF	Findings of Fact from the CWRM D&O
GET	General Excise Tax
GHG	Greenhouse Gas Emissions
GIS	Geographic Information System
gpd	Gallons per day
H ₉₀	64% of the median base flow, which generally represents the flow necessary to restore 90% of the habitat in a stream
HAER	Historic American Engineering Survey
HAR	Hawai'i Administrative Rules
HC&S	Hawaiian Commercial & Sugar Company
HDA	Hawai'i Department of Agriculture
HKLD	Hana very stony silty clay loam

HRS	Hawai'i Revised Statutes
HSA	Historic Structure Assessment
HSHEP	Hawaiian Stream Habitat Evaluation Procedure
HU	Habitat Units
HwC	Honolua silty clay
IAL	Important Agricultural Lands
IFS	Instream Flow Standard
IFSAR	Instream Flow Standard Assessment Reports
IIFS	Interim Instream Flow Standards
IPCC	Intergovernmental Panel on Climate Change
KAP	Kula Agricultural Park
kgal	Thousand gallons
LCA	Land Commission Award
LRFI	Literature Review and Field Inspection
LSB	Hawai'i Land Study Bureau
LUC	State of Hawai'i Land Use Commission
m	Meter
MBTA	Migratory Bird Treaty Act
MCC	Maui Country Code
MDWS	County of Maui Department of Water Supply
MECO	Maui Electric Company
mgd	Million gallons per day
MIP	Maui Island Plan
mm	Millimeter
MMMC	Maui Memorial Medical Center
MRC	Marine Research Consultants, Inc.
MTF	Maui Tomorrow Foundation
mW	Megawatts
NAAQS	National Ambient Air Quality Standards
NAR	Natural Area Reserve
NHLC	Native Hawaiian Legal Corporation
NHO	Native Hawaiian Organizations
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSI	No Significant Impacts
OEQC	Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs
PA	Proposed Action
PacIOOS	Pacific Islands Ocean Observing System
PASH	Public Access Shoreline Hawai'i
PUC	Public Utilities Commission
Q ₉₀	Low flow/drought conditions
RGB	Rural Growth Boundary
RSLC	Rate of sea-level change
rSM	Stony alluvial land
SA	Significantly Adverse
SB	Significant Beneficial Impact
SBR	Service Business/Single Family Residential
SE	Sea Engineering, Inc.
SIA	Social Impact Assessment

SHPD	State Historic Preservation Division
SLC	Sea-level change
SSURGO	Soil Survey Geographic Database
STB	Small Town Boundary under the Maui Island Plan
STEM	Science, Technology, Engineering, and Mathematics
SWCA	SWCA Environmental Consultants
SWPP	State Water Projects Plan
SY	Sustainable Yield
TMK	Tax Map Key
UBC	Uniform Building Code
UGB	Urban Growth Boundary under the Maui Island Plan
UHMC	University of Hawai'i Maui College
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WOC	Wilson Okamoto Corporation
WTP	Water Treatment Plant
WWRF	Wastewater Reclamation Facility

SUMMARY

Project Name:	Proposed Lease (Water Lease) for the Nāhiku, Ke'anae, Honomanū, and Huelo License Areas
Proposing Entity:	Alexander & Baldwin Inc. (A&B) / East Maui Irrigation Company, Limited (EMI), collectively referred to as "A&B"
Approving Agency:	Department of Land and Natural Resources 1151 Punchbowl St., Honolulu, HI 96813 Contact: Mr. Ian Hirokawa
Location:	East Maui
Tax Map Keys:	(2) 1-2-004:005, 007 (por.) (2) 1-1-002:002 (2) 1-1-001:044 (2) 1-1-001:050; (2) 2-9-014:001, 005, 011, 012, 017
Land Area:	33,000 acres (approximate)
Recorded Fee Owner:	State of Hawai'i, Department of Land and Natural Resources
Existing Use:	Native forest, existing EMI Aqueduct System and Infrastructure, otherwise generally undeveloped
State Land Use District:	Conservation
Special Management Area:	License Area is outside of SMA
County of Maui Zoning:	Interim, License Area is completely within the State Conservation District.
Maui Island Plan:	The Maui Island Plan Directed Growth Maps show that there are no Urban, Small Town or Rural Growth areas located within the License Area.
Flood Zone Designation:	Zones X and A
Proposed Action:	Issuance of one long-term lease of State land from the Board of Land and Natural Resources pursuant to Hawai'i Revised Statutes (HRS) Section 171-58(c) for the "right, privilege, and authority to enter and go upon" the State-owned Nāhiku, Ke'anae, Honomanū, and Huelo license areas "for the purpose of developing, diverting, transporting, and using government-owned waters" including the right to go upon those State lands to maintain and repair existing access roads and trails used in connection with the privately owned water aqueduct system.

Impacts: Analysis of the following environmental resource criteria have been addressed in the Draft EIS:

Physiography
Hydrology
Natural Hazards
Natural Environment
Historic and Archaeological Resources
Cultural Resources and Practices
Socio Economic Characteristics
Recreational Uses and Park Facilities
Visual Resources
Air Quality
Noise
Hazardous Materials
Traffic
Public Services and Facilities
Infrastructure and Utilities
Secondary and Cumulative Impacts

Determination: By order dated July 8, 2016, the BLNR instructed that "A&B and EMI should proceed with the preparation of an environmental impact statement (EIS) in an expeditious manner as possible."

The potential for significant environmental impacts requires the preparation of an EIS.

**Agencies Consulted
in EIS Process:**

See Chapter 9

Planning Consultant:

Mr. Earl Matsukawa, AICP
Wilson Okamoto Corporation
Honolulu, Hawai'i 96826
Telephone: (808) 946-2277
Fax: (808) 946-2253